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DEPLOYMENT, ORCHESTRATION AND MANAGEMENT OF SCALABLE, HETEROGENEOUS AND SECURE IOT SERVICES AND CROSS-CLOUD

**APPS** 

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# D7.3 - Open-Source Contributions, Dissemination, Clustering and Workshop Activities Report - Final

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# List of abbreviations

Abbassisti	D. C. iki
Abbreviation	Definition
ACM	Association for Computing Machinery
BDVA	Big Data Value Association
СТО	Chief Technology Officer
DM	Dissemination Mechanism
DO	Dissemination Objective
FA-IFG	Fog Adoption Industrial Focus Group
ICT	Information Communication Technologies
IEEE	Institute of Electrical and Electronics Engineers
ІоТ	Internet of Things
KPI	Key Performance Indicator
SIG	Special Interest Group
SLO	Service Level Objective
SME	Small and Medium-sized Enterprise
TCG	Trusted Computing Group
TNC	Trusted Network Communications
TPM	Trusted Platform Module
URL	Uniform Resource Locator
WP	Work Package



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# **Executive Summary**

This document contains a comprehensive report on RAINBOW's dissemination activities conducted until the end of the project (up to December 22, 2022 - the final numbers of December 2022 with regards to dissemination performance and accomplishments will be included in the dedicated section of the second periodic report to be delivered in early 2023). Although this version of RAINBOW's Open-Source Contributions, Dissemination, Clustering and Workshop Activities is focusing on the second reporting period from July 2021 up to December 2022, it reports on the relevant achievements and milestones throughout the whole duration of the project, to provide a complete overview of the dissemination effort.

Deliverable D7.3 follows the overall dissemination strategy and roadmap that were set in D7.1 "Communication Roadmap and Data Management Plan" and builds on the refinements introduced in D7.2 "Open-Source Contributions, Dissemination, Clustering and Workshop Activities Report – Version 1" along with any new extensions and adjustments that were deemed necessary on the way. It collects the efforts of the consortium on the project's dissemination front and summarizes all actions and outcomes reported through the continuous monitoring mechanism that was set in place from the beginning of the project. Following the structure of specific mechanisms and phases as laid out in the dissemination plan, details are given for every dissemination activity undertaken within the partnership. Furthermore, it reports on the open-source contributions by RAINBOW, the role of the Fog Adoption Industrial Focus Group, as well as the quantitative dissemination assessment with regards to the targets of the Key Performance Indicators.

The evaluation of the activities shows that compared to the first half of the project, the consortium made significant advancements in terms of the dissemination effort aiming at the wide dissemination of RAINBOW's results and focusing on the interaction with the target audience. In overall, RAINBOW organized 5 workshops, attended, or participated in 35 events, performed 14 activities jointly with other projects, and delivered 28 scientific publications, 6 webinars and 14 open-source beyond the state-of-the-art components. All the dissemination and communication activities whether these were performed digitally or in person have an estimated reach over 67,000.



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# 1 Introduction

# 1.1 Purpose of the Report

The present deliverable is prepared in the context of Work Package 7 "Dissemination, Exploitation and Communication" and it is associated with the work being done within tasks T7.1 "Dissemination, Clustering and European-wide Workshops Organization" and T7.5 "Fog Adoption Industrial Focus Group".

WP7 focuses on the planning, coordination and implementation of a sound strategy for RAINBOW's communication, dissemination, and exploitation activities. The goal of WP7 is to raise awareness of the project amongst the research and industrial communities and to achieve wide communication and scientific dissemination of the project innovative results. Thus, ultimately leading to high and measurable impact for the RAINBOW developed concepts and tools in the European and international cloud computing ecosystem. Towards this direction, WP7 also aims to examine the business prospective of the RAINBOW platform and components by elaborating an exploitation plan based on the market needs and the platform's unique features.

This report is the final revision of Deliverable D7.2 "Open-Source Contributions, Dissemination, Clustering and Workshop Activities Report – Version 1", in the context that it encompasses all actions that were conducted by the consortium up until the end of the project while following the dissemination plan, the monitoring process of the dissemination activities, and the fulfilment of the relevant KPI targets.

## 1.2 Field of application - Scope

The carefully targeted dissemination and communication strategy defined in the beginning of the project has been followed to maximise the impact of the project. The identified target groups and key stakeholders along with the dissemination mechanisms, clear objectives and KPIs that were described in the dissemination plan were instrumental for planning and executing the activities realized during the project and included in this report.

In this context, the present report includes the following aspects:

- An overview of the dissemination approach for the second half of the project (Section 2).
- A detailed report on the activities fulfilled under each dissemination mechanism utilized by the project (Section 3).

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- A list of the published project's newsletters (Section 4).
- The open-source contributions of RAINBOW (Section 5).
- The setup and role of the Fog Adoption Industrial Focus Group (Section 6).
- The monitoring process, tracking and results concerning the dissemination KPIs (Section 7).
- Conclusions on the dissemination effort and impact for the whole duration of the project (Section 8)

The deliverable is aligned with the Grant Agreement as signed by the project coordinator GIOUMPITEK MELETI SCHEDIASMOS YLOPOIISI KAI POLISI ERGON PLIROFORIKIS ETAIREIA PERIORISMENIS EFTHYNIS (UBITECH), the rest of the consortium members and the European Commission. The full grant agreement has been made available for partners.



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# 2 Evolution of the dissemination strategy

# 2.1 Dissemination approach

The overall strategy that was laid out in D7.1 and revised under D7.2, has been supporting the planning of all the dissemination activities until the end of the project. According to the dissemination roadmap, during the second period the project completed Phase II by the end of 2021 and then entered the last phase, Phase III, in 2022 (Fig. 1).

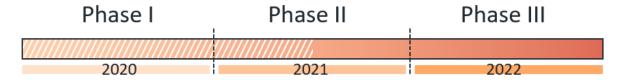


Figure 1: RAINBOW's overall dissemination roadmap

On the second half of Phase II, the project continued pursuing activities that targeted increased engagement and continuous interaction with the stakeholder groups (see Table 1). During the third year and Phase III, the focus shifted on intensifying the dissemination of the more mature project results and reaching to audiences closer to the industry and the market (see Table 2).

Phase II: Engage and interact with targeted stakeholders		
Description	Considers the first results of the project and tries to communicate them in order to provide more information to potential target audiences towards the direction of establishing interactions and collaborations. Aiming at providing stronger connections and better understanding of the project and its benefits directly for the target groups.	
Duration	M13 - M24	
Related dissemination objectives	DO.I: Maximize outreach of the project via appropriate key messages  DO.II: Diffuse the generated scientific and technological knowledge within and beyond the consortium  DO.III: Establish liaisons with other projects and initiatives for knowledge and innovation transfer  DO.IV: Engage audiences to get feedback, validate and ensure broad applicability of results	
Target Audiences	All	

Table 1: Description of Dissemination Phase II

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Phase III: Promote achievements and support mainstreaming of results		
Description	Focused on promoting the actual project results and paving the way for the project's exploitation and take-up. Fosters stakeholders' acceptance and encourages the willingness of the different target groups to take up the project's outcomes, apply them in other settings and incorporate them into their own activities, strategies and policies.	
Duration	M15 - M36	
Related dissemination objectives	DO.I: Maximize outreach of the project via appropriate key messages  DO.II: Diffuse the generated scientific and technological knowledge within and beyond the consortium  DO.III: Establish liaisons with other projects and initiatives for knowledge and innovation transfer  DO.IV: Engage audiences to get feedback, validate and ensure broad applicability of results	
Target Audience	All	

Table 2: Description of Dissemination Phase III

The dissemination team at AUTH, carried on with the process, already established from the previous period to better coordinate and align all actions related with dissemination, communication, standardization and exploitation of the project. This process entailed regular meetings among WP7 task leaders to discuss the progress of ongoing activities and proactively confront all emerging issues. Since February 2021 a total of 37 WP7 meetings were organized. The project plenary meetings, held every 3-4 months and the monthly meetings of WP leaders, provided additional opportunities for assessing the dissemination progress together with the general assembly and co-deciding alternative approaches or corrective actions when necessary. Moreover, AUTH was in constant collaboration with the project coordinator (UBITECH) and the scientific coordinator (UCY), considering the overall progress and major milestones of the development process as well as the availability and individual requirements of the partners, to effectively synchronize and steer the dissemination effort in accordance with the varying project needs over time.

#### 2.2 Targeted Audience

RAINBOW has identified seven groups from various domains that correspond to the target audience for its dissemination and communication activities (Table 3). All dissemination phases aim for a wide reach among these groups. As the project was

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progressing, and especially during its third year, the dissemination activities were increasingly targeting industrial stakeholders and market uptake actors in the Cloud ecosystem (groups A, B, E, F).

Target Groups			
A. Software and	<b>B.</b> ICT Industry	C. Researchers	<b>D.</b> Industry
Application		and Academia	Associations &
Developers			Technology
			Clusters
E. Standardisation	F. Policy-makers	<b>G.</b> General public	
Organisations			

Table 3: RAINBOW's target groups

# 2.3 Targeted Dissemination Actions

The dissemination approach foresees a mixture of activities, channels, and mechanisms to reach the different target groups. These include a) live activities where there is direct engagement with the audience, e.g., demonstrations, webinars, workshops, events and working groups; and b) non-interactives activities, such as publications. Due to the situation induced by the COVID-19 pandemic, up to middle of the project's third year all dissemination activities were realized virtually online. From the summer of 2022 and onwards though, several activities were conducted in person with the RAINBOW partners participating and organizing various dissemination events and demonstrations throughout Europe.

The main goal of the dissemination actions was to maximise the visibility of RAINBOW's outcomes while engaging the identified stakeholder groups in order to closely follow RAINBOW's developments and get involved with future exploitation activities.



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# 3 Dissemination Mechanisms

RAINBOW's dissemination strategy has defined a set of seven dissemination mechanisms, each having a subset of various activities and objectives to be pursued per dissemination phase. For the second reporting period, that spans over the second half of Phase II and the whole period of Phase III, the details of each dissemination mechanism are presented below in Table 4.

Dissemination Mechanism	Phase II	Phase III
<b>DM1</b> Organization of project events	<ul> <li>Organization of workshops in scientific conferences, industry events and fairs</li> <li>Organization of hackathons</li> </ul>	<ul> <li>Organization of workshops in industry events</li> <li>Organization of hackathons and demo events</li> </ul>
DM2 Participation to conference and workshops	<ul> <li>Presentation of project's results to events</li> <li>Representation in booths</li> </ul>	<ul> <li>Presentation of project's results and business cases to events</li> <li>Representation in demo sessions</li> </ul>
DM3 Scientific publications	• Publications of methodology papers in conferences	Publication of overall project's results in journals and industry magazines
DM4 Engagement with stakeholders and community building	<ul> <li>Validation of results with key stakeholders in events or online</li> <li>Interaction with industry communities and networks</li> <li>Invitation to project's events</li> </ul>	<ul> <li>Creation of network of potential users</li> <li>Promotion of application success stories</li> <li>Invitations for demos</li> <li>Training webinars</li> </ul>
DM5 Collaboration and synergies with projects and initiatives	<ul> <li>Periodic bilateral exchange of news and results (cross dissemination)</li> <li>Joint presence in events</li> </ul>	Joint engagement in events / demo days
DM6 Internal dissemination in partners' networks	• Inclusion of project's results in partners' events	<ul> <li>Demonstration of results in partners' premises</li> <li>Training</li> <li>Reuse of results</li> </ul>
<b>DM7</b> Standardization contributions	<ul> <li>Participation to working groups' telcos and events</li> <li>Presentation of project's outcomes</li> </ul>	<ul> <li>Participation to working groups' telcos and events</li> <li>Presentation of project's demonstrations</li> </ul>

Table 4: Dissemination Mechanisms and related activities for Phase II & III

All of the above mechanisms were utilized by the consortium members in order to increase the reach and impact of the project dissemination. A significant part of the effort



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was concentrated towards building better understanding and take-up of the RAINBOW offering by the targeted stakeholders.

## 3.1 Events

AUTH created – and maintained with contributions from all partners – a database of events and activities that are of interest to RAINBOW. The aim of this tool was to track a pool of selected European and international events that were candidates for performing various dissemination activities within the project framework. The list was constantly updated with further additions and new information on upcoming events of interest. During the three years of the project, members of the consortium attended a total of 35 events (conferences, seminars, exhibitions, forums, panels, workshops, etc.) of which 18 included presentations of RAINBOW.

## 3.1.1 Events where RAINBOW has attended or participated

Members of the consortium participated in various events of interest to RAINBOW as listed in Table 5.

Event	Dates	URL	Partner(s) who participated
H-CLOUD webinar "Strengthening EU Cloud Providers: Paving the Way for Edge and Green ICT"	April 24, 2020	h-cloud webinar  STRENGTHENING EU CLOUD PROVIDERS: PAVING THE WAY FOR EDGE AND GREEN ICT  24**April, 2020   15:00 CEST  https://www.eventbrite.com/e/stren gthening-eu-cloud-providers-paving- the-way-for-edge-and-green-ict- registration-102156205962	UBITECH
ACM International Conference on Management of Data (SIGMOD/PODS '20)	June 14- 19, 2020	ACM SIGMOD +PODS 2 0 2 0  Cot SIGMOD PODS International Conference on Management of Deta  https://sigmod2020.org/	AUTH
25 <sup>th</sup> European Symposium on Research in Computer Security (ESORICS 2020)	September 14-18, 2020	Computer Security – ESORICS 2020  25th European Symposium on Research in Computer Security, ESORICS 2020 Guildford, UK, September 14–18, 2020, Proceedings, Part II  https://www.surrey.ac.uk/esorics-	DTU

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1st Workshop on Dependability and Safety Emerging Cloud and Fog Systems (DeSECSyS)	September 17-18, 2020	2020  1ST WORKSHOP ON DEPENDABILITY AND SAFETY EMERGING CLOUD AND FOG SYSTEMS (DESECSYS)  begrinder 17-18, 7270  https://desecsys.futuretpm.eu/	DTU, UBITECH, AUTH
European Big Data Value Forum 2020	November 3-5, 2020	TOWARDS A STRONG EUROPEAN DATA AND AI ECOSYSTEM  https://www.european-big-data- value-forum.eu/	AUTH
5 <sup>th</sup> IEEE/ACM Symposium on Edge Computing (SEC '20)	November 11-13, 2020	The Fifth ACM/IEEE Symposium on Edge Computing Virtual, November 11-13, 2020  http://acm-ieee-sec.org/2020/	UCY
5th International Conference on System- Integrated Intelligence Intelligent, flexible and connected systems in products and production (SYSINT 2020)	November 11-13, 2020	SysInt System-integrated Intelligence  5th International Conference on System-Integrated Intelligence Intelligent, flexible and connected systems in products and production  http://www.sysint-conference.org/	BIBA
13th IEEE/ACM International Conference on Utility and Cloud Computing (UCC 2020)	December 7-10, 2020	13th IEEE/ACM International Conference on Utility and Cloud Computing https://www.cs.le.ac.uk/events/UC C2020/index.htm	UCY
14 <sup>th</sup> IEEE International Conference on Cloud Computing (CLOUD 2021)	May 9-10, 2021	IEEE International Conference on Cloud Computing, CLOUD  https://ieeexplore.ieee.org/xpl/con home/9581278/proceeding	TUW
H-CLOUD Community Event: Open-Source Initiatives for Cloud Computing	June 15, 2021	Community Event Open Source Initiatives for Cloud Computing 15 June 2021, 15:00 - 16:30 CEST online  CCLIPSE Open Nebula Open Nebula https://www.h- cloud.eu/event/horizon-cloud-	AUTH



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7th ACM/IEEE International Conference on Internet of Things Design and Implementation (IoTDI '22)	May 3-6, 2022	IoTDI 2022  The ACM/EEE Conference on internet of thrust begin and hittps://conferences.computer.org/iotDI/2022/	UCY
38th IEEE International Conference on Data Engineering (ICDE 2022)	May 9 – 12, 2022	Non-Black Control bids Programs Call to Carbibdians Whicheas Season State Season Seaso	AUTH
95 <sup>th</sup> IEEE Vehicular Technology Conference (VTC2022-Spring)	June 19 – 22, 2022	VICACZ-Spring  VICACZ-Spring  VICACZ-Spring  Helbusk, federal  19-22 Jane 2022  https://events.vtsociety.org/vtc2022- spring/	POLITO
27th IEEE Symposium on Computers and Communications (ISCC '22)	June 30 - July 3, 2022	27th IEEE Symposium on Computers and Communications (ISCC 2022)  Studes Island: Greece South June - 3rd July 2022  https://iscc2022.unipi.gr/	UCY
3rd IEEE/IET International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP 22)	July 20-22, 2022	TP. REFEIF International Symposium on CONNESS OF CONNES	КЗҮ
15 <sup>th</sup> IEEE/ACM International Conference on Utility and Cloud Computing (UCC '22)	December 6-9, 2022	15th IEEE/ACM International Conference on Utility and Cloud Computing (UCC2022)  December 6-9, 2022 - Vancousee, Washington, USA  https://ucc-conference.org/	TUW
21st IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TRUSTCOM '22)	December 9-11, 2022	http://www.ieee-hust-ncc.org/2022/TrustCom/	IFAT

Table 5: Events where RAINBOW attended or participated during the project lifetime

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# 3.1.2 Events with project's presentation

To assist partners with presenting the project in various events AUTH has created a generic RAINBOW presentation that could be used as the basis for building a customized version towards the specific scope and audiences of each event. Table 6 lists the events and occasions where the RAINBOW project was presented.

Event	Dates	URL	Audience Groups / Reach	Partner(s) who participated
EGI Conference 2020	November 2-5, 2020	EGI CONFERENCE 2020  ZOOM RECORDING  2 - 4 NOVEMBER 2020  https://indico.egi.eu/event/5000/overview	B, C, D / 120	UBITECH
Cloud Computing & Distributed Systems Laboratory, University of Melbourne	November 18, 2020	ACM/IEEE SYMPOSIUM ON EDGE COMPUTING (SEC2020)  Fogify: A Fog Computing Emulation Framework  Moyals Symeonides*, Zacharlas Georgiou*, Demetris Tribinast, George, Pallis*, Marios D. Dikaiakos*  *Copartiment of Computer Scorce University of Opera University of Opera (International Computer Scorce)	C /20	UCY
Seminar talk, University of Pittsburgh, USA	February 16, 2021	Towards Energy and Carbon Footprint Testing for Al-driven loT Services  Demetris Trihinas Department of Computer Steines University of Nicolai University of Nicolai University of Olasgow University	G / 50	UCY
REGAIN Workshop in Data Week 2021	May 27, 2021	PATAWEEK JOIN LEARN SHARE GET VALUE  REGAIN: Big data as key driver for circular digital transformation  27th May 2021  Co-organized by  Data & Was Joines Industry (DMLAR), School of Industrial University of Desisional Williams (Control of Market University of Desisional Williams (Control of Market University of Market University of Desisional Williams (Control of Market University of Market University of Desisional Williams (Control of Market University of Market Un	A, B, C, D, F / 75	AUTH, SUITE5, UCY, UBITECH
16 <sup>th</sup> Internationa I Conference on Availability, Reliability and Security (ARES 2021)	August 17- 20, 2021	ARES Conference International Conference on Availability, Reliability and Security  All-Digital Conference August 17 – 20, 2021  https://2021.ares-conference.eu	B, C / 60	IFAT

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Stand, 4th	June 10-		A, C, D, F,	MSP
annual Internationa I CURPAS Conference	11, 2021	https://curpas.eu/en/projects/grw-network/2021-annual-conference.html	G / 80+	MSF
H-CLOUD Technical Community Event - September 2021	September 29, 2021	H-CLOUD TECHNICAL COMMUNITY EVENT Unleashing the Potential of Cloud, Fog, and Edge Computing in Europe 29th September, 2021   14:00 - 16:00 CET  https://www.h-cloud.eu/event/h- cloud-technical-community-event- unleashing-the-potential-of-cloud-fog- and-edge-computing-in-europe/	A, B, C / 30	UBITECH, UCY
3rd Workshop on Cyber- Security Arms Race 2021 (CYSARM)	November 19, 2021	CYSARM  3 <sup>RD</sup> WORKSHOP ON CYBER-SECURITY ARMS RACE (CYSARM)  19 November, 2021  colocated with time (CH CSS 2001, South Acres - Hydrid News -	A, B, C / 45	DTU, TUW
Workshop AEES Stellantis Town Hall	February 15, 2022	STELLENTIS  STELLENTIS  STELLENTIS  STELLENTIS  STELLENTIS	B, D / 1500	CRF
5 <sup>th</sup> International CURPAS Annual Conference 2022	June 9-10, 2022	Annual Conference CURPAS  Unmanied in Three Dimensions Living, working and mobility of the future  09 and 10 June 2022 Zentrum for Luft- und Rountaint Wildsu  CURPAS  https://curpas.eu/en/projects/grw- network/2022-annual-conference.html	A, C, D, F, G / 100	MSP
4 <sup>th</sup> Summit on Gender Equality in Computing	June 16- 17, 2022	4 <sup>th</sup> Summit on Gender Equality in Computing  Nybrid Event   June 10-17 2022  Autolic Diversity Research Content Thesellotik, Creece <a href="https://gec22.auth.gr/">https://gec22.auth.gr/</a>	A, C, G / 90	UBITECH, AUTH, UCY



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Hybrid Talk, University of Cyprus	June 30, 2022	An emulation framework for IoT, Fog, and Edge Applications  Monday 27 June, 12:00 IIT Lecture Room  University of Cyprus  Skel	C / 40	UCY
17 <sup>th</sup> Internationa I Conference on Availability, Reliability and Security (ARES 2022)	August 23- 26, 2022	ARES Conference International Conference on Availability, Reliability and Security  Vienna, Austria August 23 - 26, 2022  https://2022.ares-conference.eu	B, C / 75	DTU
Poster, 9 <sup>th</sup> Technology Forum 2022, Thessaloniki	September 29, 2022	September, 29 2022 «I. Vellidis» Conference Center Thessaloniki  COTECHNOLOGY FORUM 292 Share II 2grov 292	B, C, D, F, G / 125	AUTH
Stand, leaflets & video, BEYOND 4.0 Expo 2022, Thessaloniki	September 29 – October 1, 2022	HELLO  3E YO ND  29.09-01.10   2022  https://www.beyond-expo.gr	B, D, F, G / 575	AUTH
Stand & leaflets, BEYOND 4.0 Expo 2021, Thessaloniki	October 14-16, 2021	https://www.beyond-expo.gr/beyond-2021/	B, D, F, G / 650	AUTH
Discussion panel & leaflets, European Big Data Value Forum 2022	November 21-23, 2022	BIGDATA VALUE TORM DE STONYMON CHOPMAN SPONSORS  RANSOW  PLEGER  MOSPHENC  MOSPHENC  forum.eu	B, C, D, F / 30	AUTH, UCY, SUITE5



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Table 6: Events with project's presentation

# 3.1.3 Organised workshops

RAINBOW's members organized a total of five scientific workshops with the support of RAINBOW. All these workshops were focused on scientific topics highly relevant to Cloud Computing research and technologies that are part of the core features of the RAINBOW solution.

# 3.1.3.1 3<sup>rd</sup> Workshop on Cyber-Security Arms Race – Organized by DTU

RAINBOW with the collaboration of ASSURED, PUZZLE and C4IIoT EU-funded projects co-organized the **3rd Workshop on Cyber-Security Arms Race** (CYSARM) under the prestigious ACM Conference on Computer and Communications Security (CCS, South Korea, Hybrid Event), on November 19th, 2021. The workshop's website is available at the address: <a href="https://www.cysarm.org">https://www.cysarm.org</a>



Figure 2: 3<sup>rd</sup> Workshop on Cyber-Security Arms Race



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Cybersecurity, a vital aspect of the RAINBOW platform, is a complex ecosystem that is based on several contradicting requirements. For this reason, it is often defined as an arms race between attackers and defenders: for example, when a new security model or algorithm is devised, it could act as a double-edged sword since it might both enhance the security posture of a system and introduce additional vulnerabilities. The CYSARM workshop aims to foster collaboration and discussion among cyber-security researchers and practitioners to better understand the various facets and trade-offs of cybersecurity and how new technologies and algorithms might impact existing or future security models. The topics of interest include next-generation trustworthy computing security solutions, such as TPMs, and attacks against them as well as novel attacks and defences in mobile, IoT, cloud and fog environments.

Although CYSARM is at the early phases (this was the third edition of this workshop), the workshop is fostering collaboration among researchers and practitioners and is offering a valuable opportunity to share ideas with other researchers and practitioners from institutions around the world. Being the first workshop of its kind, CYSARM benefits the cyber-security community by addressing novel (and often controversial) topics in cyber-security, such as trade-offs and double-edged sword techniques.

3.1.3.2 3<sup>rd</sup> & 4<sup>th</sup> International Workshops on Cyber-Security Threats, Trust and Privacy Management in Software-defined and Virtualized Infrastructures — Organized by POLITO

RAINBOW was part of the joint initiative of EU-funded projects ASTRID, CYBER-TRUST, GUARD, SIMARGL, DATAVAULTS, PALANTIR and SPEAR, that co-organized the **3<sup>rd</sup> International Workshop on Cyber-Security Threats, Trust and Privacy Management in Software-defined and Virtualized Infrastructures** (SecSoft 2021) co-hosted at the 7<sup>th</sup> IEEE International Conference on Network Softwarization (NetSoft 2021) that was held from June 28 to July 2, 2021 in Tokyo, Japan. The workshop's website is available at the address: <a href="https://www.secsoft-workshop.org/2021/index2021.html">https://www.secsoft-workshop.org/2021/index2021.html</a>



Figure 3: 3<sup>rd</sup> International Workshop on Cyber-Security Threats, Trust and Privacy Management in Softwaredefined and Virtualized Infrastructures

The **4**th International Workshop on Cyber-Security in Software-defined and Virtualized Infrastructures (SecSoft 2022) was co-hosted at 8th IEEE International

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Conference on Network Softwarization (NetSoft 2022) that was held from June 27 to July 1, 2022 in Milan, Italy. SecSoft 2022 was a joint initiative from EU-funded projects: GUARD, SIMARGL, RAINBOW, PALANTIR, INSPIRE-5Gplus, SIFIS-Home, ELECTRON and SDN-microSENSE. The workshop's website is available at the address: https://www.secsoft-workshop.org



Figure 4: 4<sup>th</sup> International Workshop on Cyber-Security Threats, Trust and Privacy Management in Softwaredefined and Virtualized Infrastructures

IEEE NetSoft has been created as a flagship conference aiming at addressing "Softwarization" of networks and systemic trends concerning the convergence of Cloud Computing, Software-Defined Networking and Network Function Virtualization.

The main purpose of the SecSoft workshops is to integrate the "Security, Safety, Trust and Privacy support in virtualized environments" conference topic. Beyond security mechanisms at the hypervisor or domain level, the softwarization of legacy security appliances, and federation schemes between multiple domains, this Workshop will look ahead to more dynamic, agile, and autonomic forms of detection and reaction of advanced threats, including the persistence ones. The specific focus will be on secure and trustworthy digital services, including pure virtual services as well as cyber-physical systems. The objective is to stimulate a constructive discussion on overall frameworks and specific aspects that are necessary to build wide situational awareness and to timely counter cyber-attacks: pervasive monitoring and deep inspection, cross-correlation in time and space dimensions and detection, automated control and management of complex orchestratable systems, forensics and legal investigation, trustworthiness and privacy.

# 3.1.3.3 Online workshop on "Processing Data in the Fog – The example of the RAINBOW Fog Computing platform" – Organized by AUTH

On 4th of April 2022 the Data & Web Science Laboratory of Aristotle University of Thessaloniki (AUTH) within the framework of its post-graduate studies program "Data & Web Science" and with the support of RAINBOW organized an online workshop on the topic of "Processing Data in the Fog. The example of the RAINBOW Fog Computing



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*platform*". Workshop announcement: <a href="https://dws.csd.auth.gr/events/online-workshop-on-processing-data-in-the-fog-the-example-of-the-rainbow-fog-computing-platform/">https://dws.csd.auth.gr/events/online-workshop-on-processing-data-in-the-fog-the-example-of-the-rainbow-fog-computing-platform/</a>

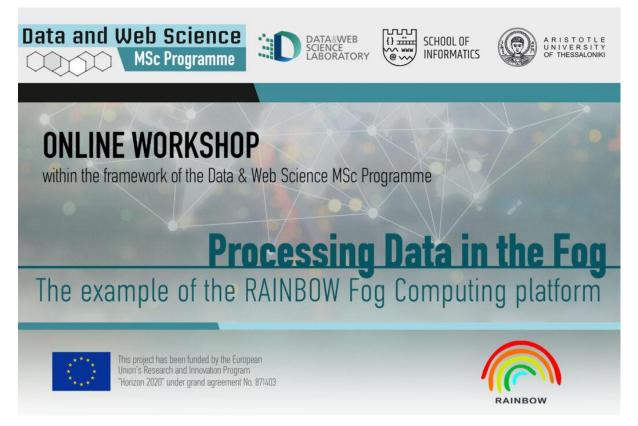


Figure 5: Online workshop on "Processing Data in the Fog - The example of the RAINBOW Fog Computing platform"

During this workshop various members of the research teams of AUTH, UBITECH and UCY presented a series of research challenges in Fog and Edge environments from the scope of data management and distributed data processing, as well as the innovative solutions developed by RAINBOW to address them.

The workshop attracted an audience of 48 participants with 2/3 being from academia (computer science) and 1/4 coming from the ICT industry. According to an anonymous feedback survey the majority of the attendees responded that were very much satisfied with both the organization and the quality of the presentations and content of the workshop. More over its especially interesting to note that the participants rated the potential overall impact of the work done within RAINBOW in Fog/Edge computing from 'significant' to 'strong'.

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#### 3.1.3.4 Online workshop on "Edge Orchestration" – Organized by TUW

On June 21, 2022, the RAINBOW consortium hosted an online workshop on Edge Orchestration. Platforms for managing Cloud-only infrastructures, such as Kubernetes or OpenStack are well known. Recently various platforms for managing the Cloud-Edge continuum have started to emerge. Both, academia and industry, have presented innovative ideas for tackling the challenges of this domain over the past years. The workshop presented platforms for managing Cloud-Edge infrastructures and applications deployed on them. Workshop announcement: <a href="https://rainbow-h2020.eu/rainbow-workshop-on-edge-orchestration/">https://rainbow-h2020.eu/rainbow-workshop-on-edge-orchestration/</a>



Figure 6: Online workshop on "Edge Orchestration"

In the first session, UBITECH presented an overview of the RAINBOW Fog Computing platform and gave the audience a taste of its innovations. Subsequently, TUW presented the Polaris Framework, used for implementing high-level SLOs and elasticity strategies in RAINBOW. This presentation was followed by a live demo of the Polaris CLI, showcasing how easy it makes building new SLO controllers and elasticity strategies. In the fourth session, Futurewei Technologies, USA presented the open-source Centaurus platform for building unified and highly scalable distributed cloud-edge systems. Finally, the workshop concluded with an experts' panel discussion on current questions in fog computing with Prof. George Pallis from the UCY and Deepak Vij from Futurewei Technologies.

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#### 3.1.4 Demo events

Based on the project's strong research and scientific focus the RAINBOW consortium decided to organize local hackathon activities implemented by universities participating in the project. A hackathon-like activity instead of simply demonstrating a technology platform, will enable the participants to dive-in and experience first-hand what is on offer while they are actually using the tools available as a means to develop their own unique solutions. The target audience of these activities, being undergraduate and post graduate students in Computer Science and Informatics departments, were selected for their position as future developers and ICT professionals and possible early adopters of next generation solutions such as the RAINBOW Fog Computing platform. Young developers are a group of stakeholders that will look to expand their expertise, gain knowledge and experience of state-of-the-art technologies and extend their development toolkit in order to better meet the market expectations.

# 3.1.4.1 Hackathon on "Building optimized IoT applications for distributed environments" — Organized by AUTH

On 3rd of December, 2022 the Data & Web Science Laboratory of Aristotle University of Thessaloniki (AUTH), with the support of RAINBOW and within the framework of its Data

& Web Science postgraduate studies program, organized a hackathon activity titled "Building optimized IoT applications for distributed environments". The activity was addressed to undergraduate and master students as well as PhD candidates of the Department of Informatics, Aristotle University of Thessaloniki. In total 16 participants formed 5 groups of 2-4 members, which worked together as a team during the competition.

At the beginning of the activity, the students were introduced to IoT technologies, their respective applications and to RAINBOW's Fog Computing platform that provides a solution beyond thestate-of-the-art for the deployment and management of cross-cloud applications.

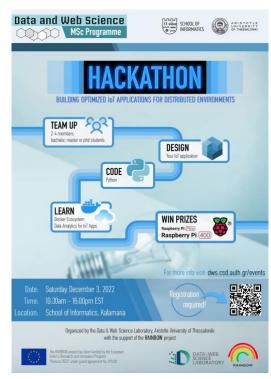


Figure 7: Poster of the hackathon by AUTH

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Figure 8: Photo of the hackathon activity organized by AUTH



Figure 9: Photo of the hackathon activity organized by AUTH

Then, they were provided with a hands-on tutorial of the Docker ecosystem and a demonstration how containerized applications are implemented. In the first part of the hackathon, the participants utilized an IoT application scenario concerning the management of energy consumption data in a distributed environment such as a fog network.



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Figure 10: Photo of the hackathon activity organized by AUTH

The teams had 2 hours to code their application in the language of their choice (Python being the participants' choice) to implement their business logic for the fog node and the cloud service parts. In the next step the participants had 1 hour to build the respective docker images and deploy them in specially prepared virtual machines that fulfilled the roles of fog nodes and the cloud. The fog nodes provided to the participants were running the RAINBOW data management stack with the data monitoring and storage services in place. The outputs requested included some basic data analytics and the detection of possible outliers among the captured measurements.



Figure 11: Photo of the hackathon activity organized by AUTH

While building, deploying and testing their solution the competing teams had to plan their approach so as to satisfy the main challenge which dictated the exploitation of the fog resources in an optimum way in order to minimize the data exchange with the cloud services. In the final phase each team presented and demonstrated live their solution. The



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winning team, a group of 4 undergraduate students in their final year of studies, was chosen based on the results of the demonstration and the quality of the developed solution. All participants received a Raspberry Pi Pico W, a popular low-cost platform for IoT projects, while the best solution won a full Raspberry Pi 400 kit.



Figure 12: Photo of the hackathon activity organized by AUTH

The participants in an anonymous feedback session commented very positively on the user experience and usefulness of the RAINBOW platform for managing and deploying IoT applications based on this first-contact experience with it from a developer perspective.



Figure 13: Photo of the hackathon activity organized by AUTH page  $28 \ \text{of} \ 174$ 

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During the activity experienced researchers Theodoros Toliopoulos, George Vlahavas, Anna-Valentini Michailidou and Vasileios Psomiadis from the Data & Web Science Laboratory (Datalab) supported all the participants. By the motivation provided by the activity challenge as well as the capabilities offered by the RAINBOW platform, the teams were encouraged into developing their own unique solutions by tackling any technical barriers after they have understood the scope and the potential of the offered tools and technologies. Students benefitted by being introduced to the complete pipeline of the development and deployment of modern IoT applications while getting themselves familiarized with the use of docker technology and with RAINBOW's advanced data management stack for handling data processing in distributed topologies with limited resources, such as Fog networks.

#### 3.1.4.2 Hackathon on "Building IoT applications with Docker containers" — Organized by UCY

On the 3rd of December 2022 the Laboratory for Internet Computing of the University of Cyprus (UCY), under the context of RAINBOW, organized a Hackathon Tutorial event titled "Building Internet of Things Applications with Docker Containers". The Hackathon Tutorial was addressed to undergraduate and master students as well as PhD candidates,

of the University of Cyprus, Department of Computer Science, with basic knowledge of coding (in Python) and Linux OS.

The event was kicked off by the Associate Professor George Pallis who made a brief introduction of the project RAINBOW to the participants, to IoT technologies and how specific use cases, like industrial IoT deployments, smart-cities. and surveillance via drones. can transformed to be deployable on a Fog infrastructure. Then, a hands-on tutorial took place, with the participants having the opportunity to be familiarized with the Docker ecosystem and understand concepts like docker containers, images, their creation process, networking, observability, and multi-service/multihost deployments.

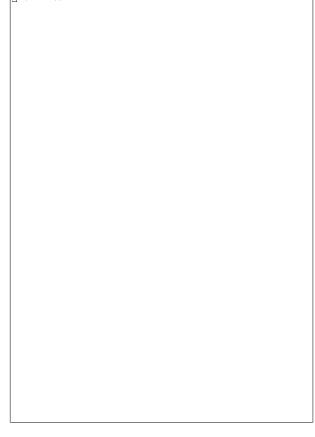


Figure 14: Poster of the hackathon by UCY

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Figure 15: Photo of the hackathon activity organized by UCY

Subsequently, the RAINBOW project was presented as a Fog Computing platform that offers a better solution for the deployment and management of cross-cloud applications than the current state of the art, and presenters highlighted its benefits and usability. Then the participants were divided into several teams. They deployed a distributed ML inference application on Raspberry PIs (we provided six Raspberry PI 4 models) and got familiar with the Fog ecosystem and Docker technologies. The final challenge of the

participants was to deploy the latter application the **RAINBOW** via dashboard. extract user-defined metrics, and design a related analytic Finally, each demonstrated live their deployment and presented the selected application-level metric and the respective analytic query. The team that won completed the deployment faster than the other teams and presented the most useful results. All participants received a Raspberry Pi Pico, gadgets, and a certification of participation.



Figure 16: Photo of the hackathon activity organized by UCY



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Figure 17: Photos of the hackathon activity organized by UCY

During the activity, Moysis Symeonides, Joanna Georgiou, Demetra Katziani and Nikolas Petrou from the Laboratory for Internet Computing (LInC – UCY) supported all the participants. By the motivation provided for the activity challenge as well as the capabilities offered by the RAINBOW platform, the teams were encouraged into developing their own unique solutions by tackling any technical barriers after they have understood the scope and the potential of the offered tools and technologies. Students benefitted by being introduced to the complete pipeline of the development and



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deployment of modern IoT applications while getting themselves familiarized with the use of docker technology and with RAINBOW's advanced data management and analytics stack for Fog networks.

# 3.1.5 RAINBOW representation in sessions

At the initiative of RAINBOW, the EU-funded projects PLEDGER and MORPHEMIC together with RAINBOW organized a sponsored session hosted under the European Big Data Value Forum 2022. The European Big Data Value Forum (EBDVF) is a major ICT event in Europe that brings together big industry, technology professionals, business developers, researchers and policymakers and attracts a large number of visitors. The EBDVF 2022 was organised by the Big Data Value Association (BDVA), IT4Innovations (VSB – Technical University of Ostrava), Plan4all and Charles University in Prague in collaboration with the European Commission (DG CNECT) and has been granted with the Czech Republic Presidency Auspice. The event took place in Prague, Czech Republic on November 21-23, 2022, with the central theme "At the Heart of the Ecosystem for Data and AI" and attracted more than 500 participants all over Europe.

The session, titled "Next-generation platforms for Europe's Cloud continuum" included a live discussion panel by prominent experts from academia and industry. It aimed to highlight the opportunities for the EU innovation landscape offered by the next-generation solutions developed by the 3 projects and to illustrate how the latest Edge, Fog, Cloud Continuum developments can strengthen EU competitiveness.



Figure 18: Experts discussion panel in EBDVF 2022

The session offered motivating discussions along with key take-away ideas with regards to the opportunities provided through the cutting-edge evolution of the Cloud Continuum, by:



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• exploring next-generation Cloud solutions and use cases that can contribute in the data-driven digital transformation of the European innovation ecosystem;

- showcasing beyond the state-of-the-art architectures, advanced platforms and intelligent mechanisms for efficient Cloud orchestration, data management and analytics which benefit the whole cloud ecosystem from infrastructure providers, to service developers and end-users;
- identifying the technologies, skills and competencies that impact the emergence and effectiveness of novel services in today's businesses based on new opportunities offered by the platforms that the 3 projects are developing;
- opening collaboration and dialogues among key stakeholders (industry, SMEs, academia, developers) to encourage synergies and complementary actions to further increase awareness and adoption of the next-generation Cloud solutions offered by the 3 projects.

From RAINBOW's side the experts participating were Prof. George Pallis (UCY), Stefanos Venios (SUITE5) and Dr. Vasileios Psomiadis (AUTH).





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Figure 19: Speakers at EBDVF 2022

## 3.2 Publications

The RAINBOW consortium achieved an impressive number of high-quality scientific publications during the project's life time. These include 21 conference papers (4 of them being open access) and 7 journal papers (4 of them being open access). All available scientific publications were linked with RAINBOW in OpenAIRE (<a href="https://explore.openaire.eu/search/project?projectId=corda\_h2020::e65344d953f1c386adcc81faba03fe52">https://explore.openaire.eu/search/project?projectId=corda\_h2020::e65344d953f1c386adcc81faba03fe52</a>). There were also 4 publications in corporate magazines and 5 others.

## 3.2.1 Conference Papers

#### Published by UCY

- M. Symeonides, Z. Georgiou, D. Trihinas, G. Pallis and M. D. Dikaiakos, "Demo: Emulating Geo-Distributed Fog Services", 2020 IEEE/ACM Symposium on Edge Computing (SEC), 2020, pp. 187-189, DOI: 10.1109/SEC50012.2020.00031
- M. Symeonides, Z. Georgiou, D. Trihinas, G. Pallis and M. D. Dikaiakos, "Fogify: A Fog Computing Emulation Framework", 2020 IEEE/ACM Symposium on Edge Computing (SEC), 2020, pp. 42-54, DOI: 10.1109/SEC50012.2020.00011
- Z. Georgiou, C. Georgiou, G. Pallis, E. M. Schiller and D. Trihinas, "A Self-stabilizing Control Plane for Fog Ecosystems", 2020 IEEE/ACM 13th International Conference on Utility and Cloud Computing (UCC), 2020, pp. 13-22, DOI: 10.1109/UCC48980.2020.00021
- M. Symeonides, D. Trihinas, G. Pallis, M. D. Dikaiakos, C. Psomas and I. Krikidis,
   "5G-Slicer: An emulator for mobile IoT applications deployed over 5G network



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slices", 2022 IEEE/ACM Seventh International Conference on Internet-of-Things Design and Implementation (IoTDI), 2022, pp. 115-127, DOI: 10.1109/IoTDI54339.2022.00008

- M. Symeonides, D. Trihinas, G. Pallis and M. D. Dikaiakos, "Demo: Emulating 5G-Ready Mobile IoT Services", 2022 IEEE/ACM Seventh International Conference on Internet-of-Things Design and Implementation (IoTDI), 2022, pp. 113-114, DOI: 10.1109/IoTDI54339.2022.00026
- J. Georgiou, M. Symeonides, M. Kasioulis, D. Trihinas, G. Pallis and M. D. Dikaiakos, "BenchPilot: Repeatable & Reproducible Benchmarking for Edge Micro-DCs", *2022 IEEE Symposium on Computers and Communications (ISCC)*, 2022, pp. 1-6, DOI: 10.1109/ISCC55528.2022.9912882

# Published by AUTH

- T. Toliopoulos, C. Bellas, A. Gounaris and A. Papadopoulos, "PROUD: PaRallel OUtlier Detection for Streams". *In Proceedings of the 2020 ACM SIGMOD International Conference on Management of Data (SIGMOD '20)*. Association for Computing Machinery, New York, NY, USA, 2717–2720. DOI: 10.1145/3318464.3384688
- T. Toliopoulos, A. -V. Michailidou and A. Gounaris, "Data placement in dynamic fog ecosystems", 2022 IEEE 38th International Conference on Data Engineering Workshops (ICDEW), 2022, pp. 30-37, DOI: 10.1109/ICDEW55742.2022.00009
- C. Bellas, G. Kougka, A. Naskos, A. Gounaris, A. Vakali, C. Xenakis, and A. Papadopoulos. "Facilitating DoS Attack Detection using Unsupervised Anomaly Detection". *In Proceedings of the 2022 34th International Conference on Scientific and Statistical Database Management* (SSDBM '22), July 6, pp. 1-4, DOI: 10.1145/3538712.3538736
- G. Vlahavas, A.-V. Michailidou, T. Toliopoulos, V.G. Psomiadis, A. Gounaris and A. Vakali, "Performance comparison of distributed in memory databases in dynamic fog environments", *2022 IEEE International Conference on Big Data and Cloud Computing (BDCloud)*, 2022, To appear (accepted for publication)

# Published by UCY and AUTH

• M. Symeonides, D. Trihinas, J. Georgiou, M. Kasioulis, G. Pallis, M.D. Dikaiakos, T.

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Toliopoulos, A.-V. Michailidou and A. Gounaris, "Demo: The RAINBOW Analytics Stack for the Fog Continuum", *2022 IEEE Symposium on Computers and Communications (ISCC)*, 2022, pp. 1-3, doi: 10.1109/ISCC55528.2022.9913026

### Published by DTU

- B. Larsen, H.B. Debes and T. Giannetsos "CloudVaults: Integrating Trust Extensions into System Integrity Verification for Cloud-Based Environments". In: *Boureanu I. et al. (eds) Computer Security. ESORICS 2020*. Lecture Notes in Computer Science, vol 12580. Springer, Cham. DOI: 10.1007/978-3-030-66504-3\_12
- H.B. Debes and T. Giannetsos, "ZEKRO: Zero-Knowledge Proof of Integrity Conformance". *In Proceedings of the 17th International Conference on Availability, Reliability and Security (ARES '22)*. Association for Computing Machinery, New York, NY, USA, Article 35, 1–10. DOI: 10.1145/3538969.3539004

#### Published by TUW

- T. Pusztai, F. Rossi and S. Dustdar, "Pogonip: Scheduling Asynchronous Applications on the Edge", *IEEE 14th International Conference on Cloud Computing (CLOUD)*, 2021, DOI: 10.1109/CLOUD53861.2021.00085
- T. Pusztai, S. Nastic, A. Morichetta, V. Casamayor Pujol, P. Raith, S. Dustdar, D. Vij, Y. Xiong, and Z. Zhang "Polaris Scheduler: SLO- and Topology-aware Microservices Scheduling at the Edge", 2022 IEEE/ACM 15th International Conference on Utility and Cloud Computing (UCC), 2022, To appear (accepted for publication)

#### Published by IFAT

- R. Schermann and R. Toegl, "Managing Anonymous Keys in a Fog-Computing Platform", 16th International Conference on Availability, Reliability and Security (ARES 2021). Association for Computing Machinery, New York, NY, USA, Article 110, 1–5. DOI: 10.1145/3465481.3470063
- R. Schermann, R. Urian, R. Toegl and C. Steger, "Enabling Anonymous Authenticated Encryption with a Novel Anonymous Authenticated Credential Key Agreement (AACKA)", 2022 IEEE International Conference on Trust, Security and Privacy in Computing and Communications (Trustcom), 2022, To appear (accepted for publication)



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## Published by BIBA

• K.S. Panambur, S. Desai, A.K. Singh, K.-D. Thoben, "A Hybrid Approach for Digital Representation of Sensors in Real-Time Applications", *Procedia Manufacturing, Volume 52*, 2020, pp. 14-19, ISSN 2351-9789, DOI: 10.1016/j.promfg.2020.11.004

## Published by POLITO

- M. Rapelli, G. S. Pannu, F. Dressler and C. Casetti, "Content Sharing in Pedestrian-based Micro Clouds," *2022 IEEE 95th Vehicular Technology Conference: (VTC2022-Spring)*, 2022, pp. 1-6, DOI: 10.1109/VTC2022-Spring54318.2022.9861008
- G. Di Giacomo, J. Härri and C. F. Chiasserini, "Edge-assisted Gossiping Learning: Leveraging V2V Communications Between Connected Vehicles," 2022 IEEE 25th International Conference on Intelligent Transportation Systems (ITSC), 2022, pp. 3920-3927, DOI: 10.1109/ITSC55140.2022.9921891

## Published by K3Y

G. Amponis, T. Lagkas, V. Argyriou, I. Moscholios, M. Zevgara, S. Ouzounidis and P. Sarigiannidis, "Swarm Mobility Models and Impact of Link State Awareness in Ad Hoc Routing," 2022 13th International Symposium on Communication Systems, Networks and Digital Signal Processing (CSNDSP), 2022, pp. 762-767, DOI: 10.1109/CSNDSP54353.2022.9907951

There is also a number of submissions of scientific papers to various top international conferences by the RANBOW partners that as of yet are waiting to be evaluated:

- T. Toliopoulos, A.-V. Michailidou, M. Symeonides, D. Trihinas, G. Vlahavas, A. Gounaris, A. Vakali, G. Pallis, and M.D. Dikaiakos, "Dynamic data replication on the fog", submitted in EDBT/ICDT 2023, 26<sup>th</sup> International Conference on Extending Database Technology, Ioannina, Greece, March 28-31, 2023
- T. Pusztai, S. Nastic, P. Raith, S. Dustdar, D. Vij, and Y. Xiong, "Polaris: A Distributed Scheduler for the Edge-Cloud Continuum", submitted in CCGRID 2023, 23<sup>rd</sup> IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing, Bangalore, India, May 1-4, 2023
- H.B. Debes, E. Dushku, T. Giannetsos, A. Marandi, "ZEKRA: Zero-Knowledge



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Control-Flow Attestation", submitted in ACM ASIACCS 2023, 18<sup>th</sup> ACM ASIA Conference on Computer and Communications Security, Melbourne, Australia, July 10-14, 2023

## 3.2.2 **Journal Papers**

### Published by POLITO

- A. Abdellatif, C. F. Chiasserini, F. Malandrino, A. Mohamed and A. Erbad, "Active Learning With Noisy Labelers for Improving Classification Accuracy of Connected Vehicles," in IEEE Transactions on Vehicular Technology, vol. 70, no. 4, pp. 3059-3070, April 2021, DOI: 10.1109/TVT.2021.3066210
- F. Malandrino, C. F. Chiasserini and G. M. Dell'Aera, "Edge-powered Assisted Driving For Connected Cars," *in IEEE Transactions on Mobile Computing*, DOI: 10.1109/TMC.2021.3084291
- A. Jame, M. Rapelli, and C. Casetti, "Reducing pollutant emissions through Virtual Traffic Lights", *Computer Communications, Volume 188, Issue C (Apr 2022)*, 167–177. DOI: 10.1016/j.comcom.2022.03.018
- K. Gebru, M. Rapelli, R. Rusca, C. Casetti, C.F. Chiasserini, and P. Giaccone, "Edgebased passive crowd monitoring through WiFi Beacons", *Computer Communications*, Volume 192, Issue C (Aug 2022), 163–170. DOI: 10.1016/j.comcom.2022.06.003
- F. Raviglione, S. Zocca, A. Minetto, M. Malinverno, C. Casetti, C.F. Chiasserini, F. Dovis, "From collaborative awareness to collaborative information enhancement in vehicular networks", Vehicular Communications, Vol. 36, 2022, 100497, ISSN 2214-2096, DOI: 10.1016/j.vehcom.2022.100497
- Z. Limani Fazliu, F. Malandrino, C. F. Chiasserini and A. Nordio, "A Belief Propagation Solution for Beam Coordination in mmWave Vehicular Networks," in IEEE Transactions on Wireless Communications, vol. 21, no. 12, pp. 10809-10823, Dec. 2022, DOI: 10.1109/TWC.2022.3187468

#### Published by AUTH

• T. Toliopoulos and A. Gounaris, "Explainable Distance-Based Outlier Detection in page 38 of 174



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Data Streams," *in IEEE Access, Vol. 10*, pp. 47921-47936, 2022, DOI: 10.1109/ACCESS.2022.3172345

## 3.2.3 Articles in Corporate & Industrial publications

## Published by BIBA

Bremer Institut für Produktion und Logistik 2019/2020 Annual Report. ISSN 2626-9007. Available online for download at: <a href="https://www.biba.uni-bremen.de/fileadmin/user-upload/BIBA-Jahresbericht-2019-20.pdf">https://www.biba.uni-bremen.de/fileadmin/user-upload/BIBA-Jahresbericht-2019-20.pdf</a>

## Published by CRF

- Stellantis Collaboration funded projects eBook 2021
- Stellantis Collaboration funded projects eBook 2022

## Published by UNISYS

Research, Development & Innovation initiatives report - March 2022. Available online at: <a href="https://www.unisystems.com/sites/default/files/2022-04/RDI%2520Initiatives.pdf">https://www.unisystems.com/sites/default/files/2022-04/RDI%2520Initiatives.pdf</a>

#### 3.2.4 Other publications

RAINBOW, as a member of the Future Cloud Cluster (FCC), a pan-European committee of projects and experts in Cloud Computing, has contributed to the FCC's position paper on Federated Cloud Reference Architecture. With this paper, the FCC inputs to the European Commission its vision and rationale for realizing federated clouds comprised of multiple and heterogeneous cloud and edge computing layers, while also highlighting necessary building blocks and features. Most importantly, the FCC identifies key research challenges in cloud computing, relevant to the new Horizon Europe framework. This paper is available here: <a href="https://bit.ly/3kAfn15">https://bit.ly/3kAfn15</a>

RAINBOW's partner DTU has co-supervised a master's degree in Computer Engineering thesis at Politecnico di Torino by post-graduate student Paride D'Angelo on the "Remote Attestation and Integrity Verification Solution in a Cloud Based Environment". Available from here: <a href="https://webthesis.biblio.polito.it/16754/1/tesi.pdf">https://webthesis.biblio.polito.it/16754/1/tesi.pdf</a>



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Additionally, UCY has supervised or co-supervised the following theses related to the research work of RAINBOW:

- Master Thesis, "Workload Generator for IoT Devices for Fog Computing" by Andreas Ioannou, (2020-12-21)
- Computer Science, Bachelor Thesis, "Implementation, Simulation and Evaluation of Monitoring Application Performance from a flight of drones" by Andreas Vasileiou, (2021)
- Computer Science, Bachelor Thesis, "Application of Robotic Arm" by Panayiotis Kyriakou, (2021)

## 3.2.5 Awards

**Best Demo Award** at the 5<sup>th</sup> ACM/IEEE Symposium on Edge Computing on November 11-13, 2020 for:

M. Symeonidis, Z. Georgiou, D. Trihinas, M.D. Dikaiakos, and G. Pallis, "Fogify: A Fog Computing Emulation Framework"

**Best Paper Award** at the 7<sup>th</sup> ACM/IEEE Conference on Internet of Things Design and Implementation, on May 03-06, 2022, for:

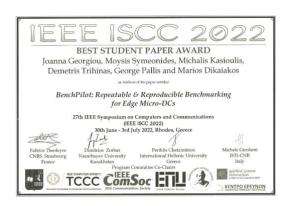
M. Symeonidis, D. Trihinas, G, Pallis, M.D. Dikaiakos, C. Psomas, and I. Krikidis, "5G - Slicer: An emulator for mobile IoT applications deployed over 5G network slices"

**Best Student Paper Award** at the 27<sup>th</sup> IEEE Symposium on Computers and Communications, on July 30-03, 2022, for:

J. Georgiou, M. Symeonidis, M. Kasioulis, D. Trihinas, G. Pallis, and M.D. Dikaiakos, "BenchPilot: Repeatable & Reproducible Benchmarking for Edge Micro-DCs"









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## 3.3 Engagement and community building

Engaging with specific communities and stakeholders within the target audience of RAINBOW is important to raise awareness about the project's vision and concepts. At the same time establishing such open communication channels will help RAINBOW to gain access within the industry and domains where the project's findings and outcomes are applicable. Thus, increasing the visibility of RAINBOW within the market and potential future clients for its solutions.

## 3.3.1 Industrial contact points

To fulfil this goal a list of industrial contact points has been built initially with the help of the RAINBOW consortium. During the second half of the project, where its progress and outcomes enabled the built-up of momentum among the cloud ecosystem, further contacts were added by engaging RAINBOW's followers in the LinkedIn platform. Currently the list includes 268 contacts spanning from software developers and system engineers to CTOs, project managers and founders of various SMEs, large enterprises, and industries active in either national, European or even global level. A number of these industry contacts have contributed to RAINBOW by providing their insights in the stakeholders' requirements questionnaire in WP1. Further interaction with many of them has been established by attending RAINBOW's activities and following project news through social media or a newsletter subscription.

## 3.3.2 Industry communities

By exploiting the collaborations and internal network of communications of the consortium members, news of RAINBOW's progress and outcomes were disseminated to various national / regional communities. A summary of the industry communities that were informed about the project and its activities is provided in Table 7.

Community	Reached through
ICT developers and technology SMEs in Athens	UBITECH
Research & innovation ICT community in	TUW
Vienna	
Research & innovation ICT community in	UCY
Cyprus	
Start-ups ecosystem in Thessaloniki (OK!Thess	AUTH
innovation hub <a href="https://okthess.gr">https://okthess.gr</a> )	
Entrepreneurial and innovation communities	LINKS
in Torino and northern Italy	
Security and trusted computing community	IFAT



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Entrepreneurial and innovation communities in Europe	INTRA
Technology SMEs and ICT systems integrators in Greece	UNISYS
Automotive industry (Stellantis Collaboration)	CRF
Industrial production & logistics communities in Germany	BIBA
Aerial vehicles and flight systems community in Poland and central Europe	MSP

Table 7: Industry communities informed about RAINBOW

## 3.3.3 Organization of webinars

According to the planning made in the first half of the project RAINBOW successfully organized a total of 6 webinars covering various aspects of its technological innovations (technical strand) as well as the use cases that validated its platform (demonstrators strand). The material presented in the webinars along with recordings of the online sessions have been made available through the project's website and YouTube channel. This reference and training material can help to further widen the reach of RAINBOW but also utilized to strengthen its early adoption.

## 3.3.3.1 Technical webinar on Security and Trust in Fog Computing – Organized by IFAT

On February 22, 2022, IFAT with the support of DTU and POLITO also involved in the security and trust for fog and cross-cloud services, organized a webinar to present the outcomes in the context of security and trust within the RAINBOW platform.

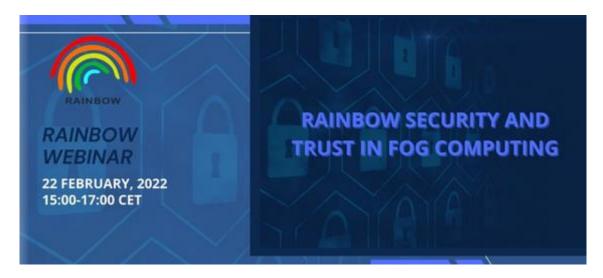


Figure 20: Technical webinar on Security and Trust in Fog Computing

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IFAT gave an overview of cloud and fog computing security and provided arguments, how using a Trusted Platform Module (TPM) may increase the overall system security level. In RAINBOW, the TPM is used as a root of trust and an enabler for privacy-preserving cryptographic protocols.

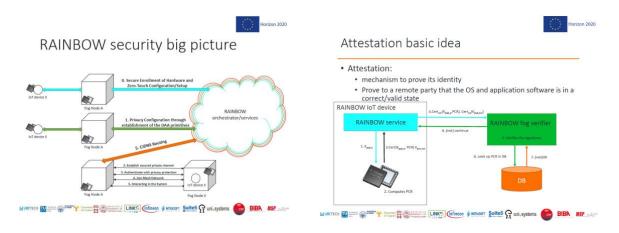


Figure 21: Content from the webinar on Security and Trust in Fog Computing

DTU presented privacy-preserving configuration integrity mechanisms based on the TPM. In the webinar, they explained how the attestation and privacy-preserving mechanisms are used in RAINBOW.

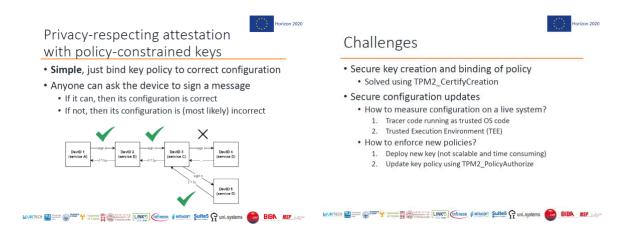


Figure 22: Content from the webinar on Security and Trust in Fog Computing

POLITO showed a formal verification of the used security model. They gave an overview of current results and different tools that are used to verify the RAINBOW security model.



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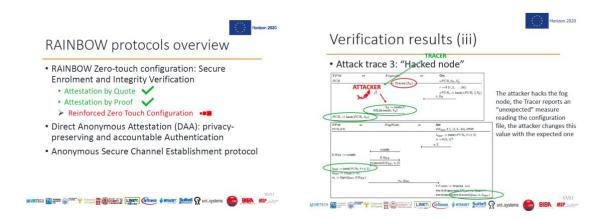


Figure 23: Content from the webinar on Security and Trust in Fog Computing

The webinar content (slides and recordings) can be found in RAINBOW's website: <a href="https://rainbow-h2020.eu/wp2-webinar-rainbow-security-and-trust-in-fog-computing/">https://rainbow-h2020.eu/wp2-webinar-rainbow-security-and-trust-in-fog-computing/</a>

## 3.3.3.2 Technical webinar "The RAINBOW Data Management and Analytics Stack in Action!" – Organized by UCY

On May 27, 2022, WP4 partners gave a webinar showcasing a "hands-on" introduction to in-place data management and distributed data processing for fog computing with the use of the intuitive services comprising the RAINBOW Analytics Stack. These services can derive analytic insights that can be used to enhance QoS and optimize resource management and energy-efficiency.



Figure 24: Technical webinar "The RAINBOW Data Management and Analytics Stack in Action!"



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In their demonstration, UCY and AUTH deployed a realistic use-case for an intelligent transportation service (ITS) along with the RAINBOW's Analytics Stack. Through the use-case, they highlighted how -within minutes- one can install and configure the RAINBOW data analytics services, monitoring agents, and storage fabric. Furthermore, they showcased how the system provides optimized streaming analytics, smart data placement, and resource- and energy-aware continuous analytics job scheduling.

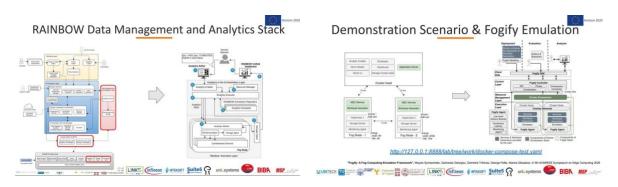


Figure 25: Content from "The RAINBOW Data Management and Analytics Stack in Action!" webinar

Finally, partners quickly submitted streaming ad-hoc RAINBOW analytic queries to the system, explained their results, and highlighted the performance benefits of different RAINBOW-enabled scheduling algorithms. The entire RAINBOW demonstration ran through the Fogify Emulator, which emulated both containerized ITS services and RAINBOW analytics stack.

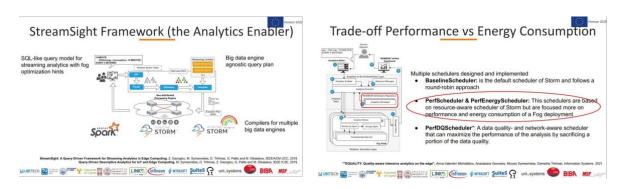


Figure 26: Content from "The RAINBOW Data Management and Analytics Stack in Action!" webinar

The webinar content (slides and recordings) is available in RAINBOW's website: <a href="https://rainbow-h2020.eu/wp4-webinar-the-rainbow-data-management-and-analytics-stack-in-action-2/">https://rainbow-h2020.eu/wp4-webinar-the-rainbow-data-management-and-analytics-stack-in-action-2/</a>

## 3.3.3.3 Technical webinar "Managing Service Level Objectives" – Organized by TUW

On June 15, 2022 the RAINBOW consortium hosted a technical webinar on managing Service Level Objectives (SLOs). The goal was to give an overview of the capabilities of page 45 of 174



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the Polaris Framework, which is used to implement the SLO controllers and elasticity strategies in RAINBOW.



Figure 27: Technical webinar "Managing Service Level Objectives"

RAINBOW member TUW first presented the concepts of the Polaris Framework and its approach to high-level SLOs. Due to the loose coupling between SLOs and elasticity strategies, Polaris and RAINBOW allow end users to choose which elasticity strategy, e.g., horizontal or vertical scaling, to use with an SLO.

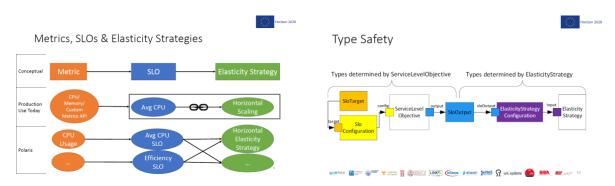


Figure 28: Content from the "Managing Service Level Objectives" webinar

The webinar featured two live demo sessions. First the generation and implementation of composed metric and SLO controllers using the Polaris CLI was showcased, followed by the configuration of an SLO mapping, which associates an SLO to a particular target workload and elasticity strategy. In the second demo session the ability of creating predicted metric controllers using AI prediction models for proactive scaling was presented.



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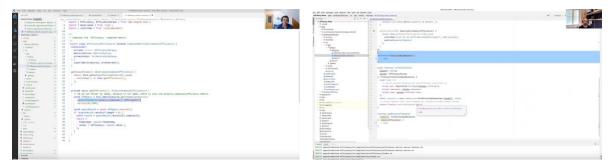


Figure 29: Content from the "Managing Service Level Objectives" webinar

The webinar content (slides and recordings) is available in RAINBOW's website: https://rainbow-h2020.eu/wp3-webinar-managing-service-level-objectives/

#### Use case webinar "Power Line Surveillance via Swarm of Drones" - Organized by MSP 3.3.3.4

On December 2, 2022, MSP conducted a webinar summarizing the Power Line Surveillance via Swarm of Drones Use Case carried out as the part of the RAINBOW project.



Figure 30: Use case webinar "Power Line Surveillance via Swarm of Drones"

The aim of the drone use case was to test fog and cross-cloud services designed and integrated with the drone system, which enable the coordination of the individual drone tasks performing the inspections of power lines infrastructure. The webinar presented the background of the large-scale drone missions, in particular the current limitations associated with these operations, the challenges that need to be overcome and the solutions that are designed and proposed by integrating drone systems with RAINBOW services.



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Figure 31: Content from the "Power Line Surveillance via Swarm of Drones" webinar

Next, the architecture of the integrated system along with the benefits coming from the solution and the support in the form of the automatic system performance tuning with the SLOs were discussed.

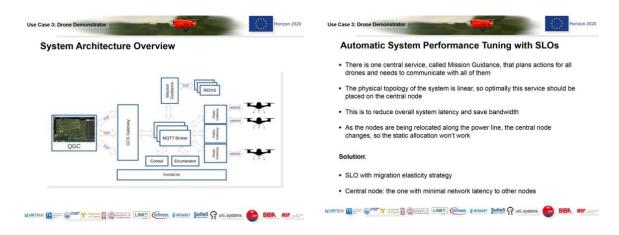


Figure 32: Content from the "Power Line Surveillance via Swarm of Drones" webinar

Finally, the use case test was presented, including characteristics of the planned scenarios, the demonstrators (early-stage virtual and advanced – physical) configuration and operation (including short video of the virtual mission), along with the results of the use case validation.

The webinar ended with the summary of the use case presentation and Q&A session.



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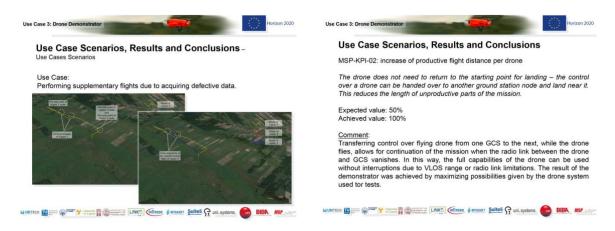


Figure 33: Content from the "Power Line Surveillance via Swarm of Drones" webinar

The webinar content (slides and recordings) is available in RAINBOW's website: <a href="https://rainbow-h2020.eu/rainbow-use-case-3-webinar-power-line-surveillance-via-swarm-of-drones-2/">https://rainbow-h2020.eu/rainbow-use-case-3-webinar-power-line-surveillance-via-swarm-of-drones-2/</a>

## 3.3.3.5 Use case webinar "Digital Transformation of Urban Mobility" – Organized by CRF

On December 6, 2022, CRF, the RAINBOW partner leading the use case on the digital transformation of urban mobility, together with partners LINKS and POLITO hosted a live webinar on the challenges and use of RAINBOW's platform in this application.



Figure 34: Use case webinar "Digital Transformation of Urban Mobility"

The aim of the use case was to explore urban fog mobility scenarios and ecosystems. To reach this objective a hazardous location notification system for urban areas was developed and deployed. The webinar presented the chosen hazardous location notification system "Animal on The Road" (European Telecommunications Standards Institute Standard) and the challenges faced in creating an integrated environment between different city stakeholders.



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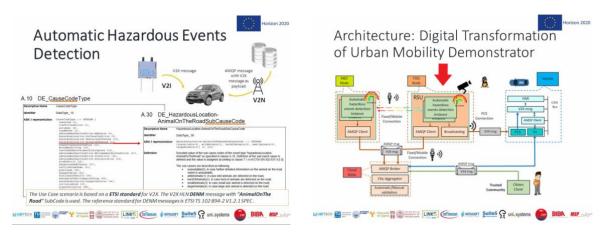


Figure 35: Content from the "Digital Transformation of Urban Mobility" webinar

Detailed sessions during the webinar covered every single subsystem composing the whole scenario and their integration with the RAINBOW platform: (i) the Road Side Unit architecture; (ii) the Rainbow Orchestration capabilities and components adopted; (iii) the Cloud Architecture and the City Aggregator; (iv) the connected Vehicles Architecture.



Figure 36: Content from the "Digital Transformation of Urban Mobility" webinar

The benefits introduced by RAINBOW in the form of the automatic system performance tuning with the SLOs were also explained.

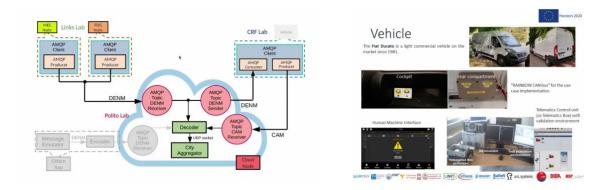


Figure 37: Content from the "Digital Transformation of Urban Mobility" webinar



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The webinar content (slides and recordings) is available in RAINBOW's website: <a href="https://rainbow-h2020.eu/rainbow-use-case-2-webinar-digital-transformation-of-urban-mobility-2/">https://rainbow-h2020.eu/rainbow-use-case-2-webinar-digital-transformation-of-urban-mobility-2/</a>

#### 3.3.3.6 Use case webinar "Human-Robot Collaboration in Industrial Ecosystems" - Organized by BIBA

On December 9, 2022, BIBA, the RAINBOW partner leading the use case on human-robot collaboration system in industrial ecosystems, hosted a live webinar on the challenges and use of RAINBOW's platform in this application.



Figure 38: Use case webinar "Human-Robot Collaboration in Industrial Ecosystems"

First, an introduction was given on the field of human-robot interaction, the various levels of interaction from co-existence and cooperation to collaboration, as well as the principles followed when design robotic systems to ensure safe and smooth interaction in a shared workspace.



Figure 39: Content from the "Human-Robot Collaboration in Industrial Ecosystems" webinar

Then followed a demonstration of how to use the RAINBOW Dashboard to perform the required setup and configuration steps in order to deploy RAINBOW's Fog Computing platform to support the Use Case application

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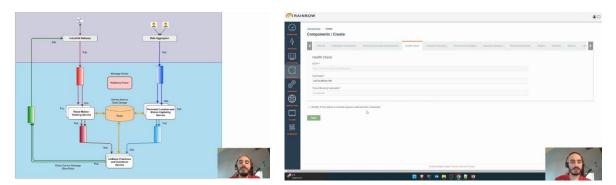


Figure 40: Content from the "Human-Robot Collaboration in Industrial Ecosystems" webinar

Finally, it was demonstrated how the deployed application was controlling real-time the robots present on the workspace based on the movement and proximity of human workers.

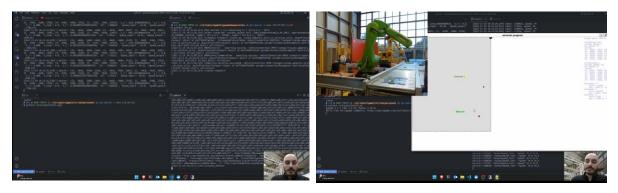


Figure 41: Content from the "Human-Robot Collaboration in Industrial Ecosystems" webinar

The webinar content (slides and recordings) is available in RAINBOW's website: <a href="https://rainbow-h2020.eu/rainbow-use-case-1-webinar-human-robot-collaboration-in-industrial-ecosystems-2/">https://rainbow-h2020.eu/rainbow-use-case-1-webinar-human-robot-collaboration-in-industrial-ecosystems-2/</a>

## 3.4 Clustering and collaboration with other initiatives

The build-up of liaison with other projects relevant to the scope of RAINBOW was an important part of the dissemination effort. This led to the establishment of cooperation with 11 other project and initiatives. Through this connection RAINBOW promoted stakeholder clustering and performed cross-dissemination activities, that enabled the expansion of its reach as well as the targeting of audiences adjacent to cloud computing. The organization and participation in various joint activities helped to disseminate project's outcomes, ensure the exchange of knowledge and best practices to the mutual benefit of all parties involved, and increase visibility of RAINBOW within the market and potential future adopters of its solutions.

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## 3.4.1 Synergies with projects

RAINBOW has established links and synergies with the following projects and initiatives.

**Project/Initiative**: Horizon CLOUD – The Forum for

Strategy Focused Cloud Stakeholders

**URL**: https://www.h-cloud.eu



## **Description**

H-CLOUD leads coordination and support activities for the consolidation and growth of the Cloud Computing research and innovation community in Europe, bringing together innovators, policy makers, cloud computing research, industry and users into an open, participatory and sustainable forum. The H-CLOUD Forum will strengthen collaboration to address challenges and opportunities at research, technological, policy, standardisation and organisational level to unlock the potential of cloud computing for all European stakeholders.

#### Collaboration

RAINBOW was an active member of the H-CLOUD community and regularly participates in the monthly H-CLOUD Task Force meetings. RAINBOW and H-CLOUD engaged in cross-dissemination activities such as project news and outcomes sharing (social media posts, newsletters, blog posts). Additionally, RAINBOW has attended various events organized by H-CLOUD and has participated in an H-CLOUD community event on September 2021 where presented its first platform release.

Table 8: Synergy with the H-CLOUD project

Project/Initiative: PLEDGER

**URL**: http://www.pledger-project.eu/



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## **Description**

PLEDGER aims to deliver a new architectural paradigm that will pave the way for next generation edge computing infrastructures, tackling the modern challenges and coupling the benefits of low latencies on the Edge with the robustness and resilience of cloud infrastructures. It will also allow edge computing users to understand the nature of their applications, research understandable quality of service metrics and optimise the competitiveness of their infrastructures. PLEDGER aims to deliver a set of tools and processes that will enable:

- a) Edge Computing Providers to enhance the stability and performance effectiveness of their edge infrastructures, through modelling the overheads and optimal groupings of concurrently running services, runtime analysis and adaptation,
- b) Edge Computing Adopters to understand the computational nature of their applications, investigate abstracted and understandable QoS metrics, facilitate trust and smart contracting and identify how they can balance their cost and performance to optimise their competitiveness and monitor their SLAs, and
- c) Other industries to act as independent validators of QoS features in IoT applications, enabling new decentralised applications and business models, thus filling a large gap in the emerging Edge/IoT computing market landscape.

#### **Collaboration**

RAINBOW and PLEDGER have followed up on various cross-dissemination actions among projects, that included the following:

- A dedicated section on each project website with references (logo, short description and URL) to the other project
- Shares and retweets of each other posts in social media
- Distribution of each other newsletters
- Exchange of blog posts
- Participation and support of each other events
- RAINBOW together with PLEDGER participated in the H-CLOUD community event on September 2021
- RAINBOW together with PLEDGER and MORPHEMIC co-organized a sponsored session under the European Big Data Value Forum 2022

Table 9: Synergy with the PLEDGER project

**Project/Initiative**: Future Cloud Cluster

**URL**: <a href="https://eucloudclusters.wordpress.com/future-cloud">https://eucloudclusters.wordpress.com/future-cloud</a>



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## **Description**

The aim of Future Cloud Cluster is to provide a forum for discussion and collaboration for research and innovation initiatives that address next generation Cloud Computing challenges and issues, including diverse forms of distributed computing (Cloud, Multi-Cloud, Edge, Fog, Ad-hoc and Mobile computing). The goal of the cluster is to create a critical mass of projects so as to share experiences, collaborate on approaches, discuss challenges for adoption and future research and elaborate a broad EU perspective for cloud technology road mapping.

#### Collaboration

RAINBOW is a member of the Future Cloud Cluster and has contributed to the FCC's position paper on Federated Cloud Reference Architecture for the European Commission.

Table 10: Synergy with the Future Cloud Cluster

**Project/Initiative**: MORPHEMIC

URL: https://www.morphemic.cloud/



#### **Description**

MORPHEMIC is a unique way of adapting and optimizing Cloud computing applications. The project is an extension of MELODIC which is a multi-cloud platform developed in the H2020 project. MELODIC is the simplest and easiest way to use Cross-Cloud. Now this open-source platform is extended to MORPHEMIC with 2 main innovative pillars:

- Polymorphing architecture: when a component can run in different technical forms, i.e., in a Virtual Machine (VM), in a container, as a big data job, or as serverless components.
- Proactive adaptation: aims to forecast future resource needs and possible deployment configurations -adaptation can be done effectively and seamlessly for the users of the application.

#### Collaboration

RAINBOW and MORPHEMIC have followed up on cross-dissemination actions among projects, that include the following:

- A dedicated section on each project website with references (logo, short description and URL) to the other project
- Shares and retweets of each other posts in social media



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- Distribution of each other newsletters
- Exchange of blog posts
- Participation and support of each other events
- RAINBOW together with PLEDGER and MORPHEMIC co-organized a sponsored session under the European Big Data Value Forum 2022

Additionally, the two teams have had a series of meetings to better understand the research challenges and value proposition of each project as well as explore synergies among them.

Table 11: Synergy with the MORPHEMIC project

**Project/Initiative**: DataVaults - Persistent Personal Data Vaults Empowering a Secure and Privacy Preserving Data Storage, Analysis, Sharing and Monetisation Platform



**URL**: https://www.datavaults.eu/

## **Description**

Big Data lay at the core of the strong data economy that is emerging in Europe. Although both large enterprises and SMEs acknowledge the potential of Big Data in disrupting the market and business models, this is not reflected in the growth of the data economy. The lack of trusted, secure, ethical-driven personal data platforms and privacy-aware analytics, hinders the growth of the data economy and creates concerns. The main considerations are related to the secure sharing of personal and proprietary/industrial data, and the definition of a fair renumeration mechanism that will be able to capture, produce, release and cash out the value of data, always for the benefit of all the involved stakeholders.

DataVaults aims to address this kind of concerns that pertain privacy, ethics and intellectual property rights, by allowing individuals to take ownership and control of their data and share them at will, through flexible data sharing and fair compensation schemes with other entities (companies or not).

### Collaboration

RAINBOW and DataVaults have followed up on cross-dissemination actions among projects, that include the following:

- A dedicated section on each project website with references (logo, short description and URL) to the other project
- Shares and retweets of each other posts in social media

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- Distribution of each other newsletters
- Exchange of blog posts
- Participation and support of each other events
- Explore ways that each project outcomes can be utilized for joint exploitation

Table 12: Synergy with the DataVaults project

**Project/Initiative**: HUB4CLOUD

**URL**: <a href="https://www.h-cloud.eu/ict 40-projects/hub4">https://www.h-cloud.eu/ict 40-projects/hub4</a> cloud/



## **Description**

HUB4CLOUD is a Coordination & Support Action project aiming to contribute to transform the current community of Cloud Computing researchers and innovators in Europe into an increasingly cohesive, dynamic, participatory and sustainable ecosystem.

The objective of HUB4CLOUD is to help grow the impact and relevance of Cloud Computing research, innovation, and policy-driven efforts, while accelerating its adoption and deployments in Europe. By running dedicated activities, including road mapping, dissemination, organisation of events, mapping of open-source/ (pre-) standardisation initiatives, and business acceleration activities, HUB4CLOUD will ensure the creation of an open, inclusive, and sustainable ecosystem.

One of the key activities of HUB4CLOUD is to set up a Strategic Coordination Board (SCB), whose main role is to help align on the strategic objectives across the European Cloud Computing (ECC) ecosystem. This strategic body coordinates the contribution of various Cloud Computing (CC) projects, identifies potential synergies, collaboration opportunities, including how to best position next generation CC infrastructures and services for unleashing the potential of outcomes generated within the ECC context.



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#### Collaboration

RAINBOW was invited to join and become a member of the HUB4CLOUD SCB initiative. The main activities of engagement for the SCB members include:

- Participation in regular SCB meeting to keep track of progress, align on priorities and synergise activities across the involved projects within the wider ECC ecosystem
- Development of position papers and other material for the ECC strategic direction
- Organisation a dedicated meeting with the EC, to present the final ECC roadmap and policy recommendations
- Coordination with the HUB4CLOUD Advisory Board and alignment with planned events and common activities to ensure close synergies

RAINBOW has offered expertise and shared outcomes with HUB4CLOUD by responding to requests for feedback through surveys and the exchange of good practices and success stories.

Table 13: Synergy with the HUB4CLOUD project

**Project/Initiative**: GLASS

URL: <a href="https://www.glass-h2020.eu">https://www.glass-h2020.eu</a>



#### Description

GLASS is a Horizon 2020 project funded by the European Union aiming to create a new paradigm for the sharing and transfer of personal information, with the citizen in control. It will provide a distributed framework for sharing common services of public administrations across the EU for citizens, businesses, and governments. GLASS introduces novel governance services facilitating free movement of citizens and businesses, producing strong social, societal, economic, technological, and scientific impact and leading to an advanced e-government solution aligned fully with the EU eGovernment Action Plan 2016-2020 and the EU Digital Single Market strategy.

#### Collaboration

RAINBOW and Glass have followed up on cross-dissemination actions among projects, that include the following:

- A dedicated section on each project website with references (logo, short description and URL) to the other project
- Shares and retweets of each other posts in social media

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- Distribution of each other newsletters
- Exchange of blog posts
- Participation and support of each other events
- Explore ways that each project outcomes can be utilized for joint exploitation

Table 14: Synergy with the GLASS project

**Project/Initiative:** PUZZLE

URL: <a href="https://puzzle-h2020.com">https://puzzle-h2020.com</a>



### **Description**

PUZZLE is a project funded by the EU's Horizon 2020 research and innovation programme, which consists of thirteen partners representing research institutes, universities, technology providers, infrastructure providers (and users) and industrial partners (including eight SMEs & MEs) from eight EC member states and associated countries. PUZZLE will implement a highly usable cybersecurity, privacy and data protection management marketplace targeted at SMEs & MEs that enables them to monitor, forecast, assess and manage their cyber risks through targeted cybersecurity services, increase their cybersecurity awareness through the efficient heterogeneous information processing, the establishment of knowledge sharing with other SMEs & MEs, and extract insights based on advanced analytics.

### Collaboration

RAINBOW and PUZZLE have followed up on cross-dissemination actions among projects, that include the following:

- A dedicated section on each project website with references (logo, short description and URL) to the other project
- Shares and retweets of each other posts in social media
- Distribution of each other newsletters
- Exchange of blog posts
- Participation and support of each other events
- Explore ways that each project outcomes can be utilized for joint exploitation

Table 15: Synergy with the PUZZLE project

Project/Initiative: inGOV

**URL:** <a href="https://ingov-project.eu">https://ingov-project.eu</a>



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## **Description**

inGOV's vision is to provide innovative ICT-supported governance models, where public authorities and relevant stakeholders can collaborate in co-creating inclusive and accessible integrated public services. On one hand, authorities increasingly strive to provide better services to end-users (citizens and businesses), but reality shows a low take-up. On the other hand, end-users don't associate themselves with the offered public e-services, considering them of low value in many respects. inGOV will use multidisciplinary scientific methods, including design science, to suggest how government authorities can exploit co-creation methodology and technologies (i.e., mobile apps, virtual assistance) to improve user experience and take-up rates by offering personalised secure and trustful services, of increased value for the end-user.

#### Collaboration

RAINBOW and inGov have followed up on cross-dissemination actions among projects, that include the following:

- A dedicated section on each project website with references (logo, short description and URL) to the other project
- Shares and retweets of each other posts in social media
- Distribution of each other newsletters
- Exchange of blog posts
- Participation and support of each other events
- Explore ways that each project outcomes can be utilized for joint exploitation

Table 16: Synergy with the inGOV project

Project/Initiative: DataCloud

**URL:** <a href="https://datacloudproject.eu">https://datacloudproject.eu</a>



## **Description**

DataCloud delivers a toolbox of new languages, methods, infrastructures, and prototypes for discovering, simulating, deploying, and adapting Big Data pipelines on heterogeneous and untrusted resources. DataCloud separates the design from the runtime aspects of Big Data pipeline deployment, empowering domain experts to take an active part in their definitions. Its aim is to lower the technological entry barriers for the incorporation of Big Data pipelines in organizations' business processes and make them accessible to a wider set of stakeholders regardless of the hardware infrastructure. DataCloud validates its plan through a strong selection of

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complementary business cases offered by SMEs and a large company targeting higher mobile business revenues in smart marketing campaigns, reduced production costs of sport events, trustworthy eHealth patient data management, and reduced time to production and better analytics in Industry 4.0 manufacturing

#### Collaboration

RAINBOW and DataCloud have agreed up on cross-dissemination actions among projects, that include the following:

- A dedicated section on each project website with references (logo, short description and URL) to the other project
- Shares and retweets of each other posts in social media
- Distribution of each other newsletters
- Exchange of blog posts
- Participation and support of each other events
- Explore ways that each project outcomes can be utilized for joint exploitation

Table 17: Synergy with the DataCloud project

**Project/Initiative**: UNLOCK CEI – Unlocking the Cloud, Edge, IoT demand potential in Europe

**URL**: https://eucloudedgeiot.eu



## **Description**

EUCloudEdgeIoT.eu aims to realise a pathway for the understanding and development of the CEI Continuum by promoting cooperation between a wide range of research projects, developers and suppliers, business users and potential adopters of this new technological paradigm. It will do so by contributing to the coordination of a portfolio of projects in the CEI Computing Continuum funded under the Meta-Operating Systems for the Next Generation IoT and Edge Computing and ensuring consistent exploitation of their outcomes to help regain European competitiveness in core internet infrastructures.

## Collaboration

RAINBOW, being a member of the H-CLOUD and HUB4CLOUD communities, received and accepted the invitation to be a part of the UNLOCK CEI ecosystem. UNLOCK CEI focus on the Cloud-Edge-IoT industrial opportunities and aims to help accelerate the Cloud-Edge-IoT Continuum deployment in Europe. RAINBOW's vision on Fog Computing fits well within this scope and goal.



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RAINBOW and UNLOCK CEI have agreed up on cross-dissemination actions among projects, that include the following:

- A dedicated section on each project website with references (logo, short description and URL) to the other project
- Shares and retweets of each other posts in social media
- Distribution of each other newsletters
- Exchange of blog posts
- Participation in community meetings
- Support of events

Table 18: Synergy with the UNLOCK CEI project

## 3.4.2 Joint activities

RAINBOW and its members have participated in 14 activities together with other projects and initiatives (see Table 19).

Activity description	Date
RAINBOW's technical coordinator, Dr. Panagiotis Gouvas (co-founder	April 24,
and R&D Director of UBITECH) participated in the online webinar called	2020
"Strengthening EU Cloud Providers: Paving the Way for Edge and Green	
ICT" organized by H-CLOUD and provided feedback based on his	
extended experience in Cloud related research projects and his	
expertise in Security, Networks and Cloud/Edge computing.	
Participation in the 1st Workshop on Dependability and Safety	September
Emerging Cloud and Fog Systems 2020 (DeSECSyS)	17, 2020
https://desecsys.futuretpm.eu	
Participating projects: FutureTPM, INCOGNITO, SECONDO, ASTRID,	
CUREX	
RAINBOW provided feedback on the draft of the Green Paper entitled	November
"Cloud Computing in Europe: Landscape Analysis, Adoption Challenges	2020
and Future Research and Innovation Opportunities", developed by the	
H-CLOUD project. To support the European Commission's work on the	
definition of priorities for the upcoming European digitalisation	
programmes, the Green Paper explores the question of how supply and	

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demand can be improved in terms of quality and conditions of use, and increased to boost European innovation in fast-growing cloud computing areas such as federation models, edge computing and green computing. The final paper is available here: https://h-cloud.eu/download/greenpaper/?wpdmdl=764&masterkev=5fad315e7100d Release of a position paper on Federated Cloud Reference Architecture February communicated to the European Commission under the Future Cloud 2021 Cluster initiative. https://drive.google.com/file/d/1Kw6j41bcGw8v\_08KW18TkE0xe4kx BMIR/view?usp=sharing Participating projects: mOSAIC, PHYSICS, CloudButton, BEACON, SPARTA, ACCORDION, SODALITE, PLEDGER, DECENTER, DECIDE, PIACERE, MEDINA, RAINBOW, SWITCH, ARTICONF, FogProtect, SmartCLIDE, Elastest REGAIN Workshop on the topic of "Big Data as key driver for circular May 27, digital transformation" organized during the BDVA/DAIRO Data Week 2021 2021 https://datalab.csd.auth.gr/regain/ Participating projects and initiatives: PTWIST, CUREX, RAINBOW, INCENTIVE, HEART, ENEDI, TERMINET, InoFA, Smart Farming Initiative, BigMedilytics, CLARIFY, P4-LUCAT, unCoVer, POCITYF 3rd International Workshop on Cyber-Security Threats, Trust and June 28 to Privacy Management Software-defined Virtualized July 2, 2021 in and Infrastructures (SecSoft) co-hosted at the 7th IEEE International Conference on Network Softwarization (NetSoft2021). https://www.astrid-project.eu/secsoft/ Participating projects: ASTRID, CYBER-TRUST, GUARD, SIMARGL, DATAVAULTS, RAINBOW, PALANTIR, SPEAR

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RAINBOW contributed in the HUB4CLOUD survey "Collecting experiences and practices for the future" for cloud/edge computing projects	August 2021
RAINBOW together with PLEDGER participated in the H-CLOUD Technical Community Event	September 29, 2021
RAINBOW with the collaboration of ASSURED, PUZZLE and C4IIoT EUfunded projects co-organized the 3rd Workshop on Cyber-Security Arms Race (CYSARM) under the ACM Conference on Computer and	November 19, 2021
Communications Security (CCS 2021). <a href="https://www.cysarm.org">https://www.cysarm.org</a> RAINBOW co-organized an online workshop on Edge Orchestration together with the Linux Foundation Centaurus Infrastructure Project.	June 21, 2022
RAINBOW co-organized the 4 <sup>th</sup> International Workshop on Cyber-Security in Software-defined and Virtualized Infrastructures (SecSoft 2022) co-hosted at the 8 <sup>th</sup> IEEE International Conference on Network Softwarization (NetSoft 2022) <a href="https://www.secsoft-workshop.org">https://www.secsoft-workshop.org</a> Participating project: GUARD, SIMARGL, RAINBOW, PALANTIR, INSPIRE-5Gplus, SIFIS-Home, ELECTRON and SDN-microSENSE	July 1, 2022
RAINBOW contributed to a survey by HUB4CLOUD aiming to measure the progress of the impact of research projects in the cloud/edge landscape. The provided information would be used to elaborate a set of recommendations and best practices for future research projects,	September 2022
RAINBOW contributed a success story about project activities as a response to the request of HUB4CLOUD for information that can be used as the baseline for elaborating recommendations for success for future projects (also shared with the European Commission)	October 2022
RAINBOW together with PLEDGER and MORPHEMIC organized a sponsored session hosted under the European Big Data Value Forum 2022.	November 23, 2022

Table 19: Joint activities

## 3.5 Internal dissemination

Internal dissemination within the RAINBOW partners' networks and channels was important to increase awareness and visibility, as well as ensure that the project maintains a high profile among the consortium's organizations.



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All partners helped in spreading the word by sharing the project's newsletters and news as well as by disseminating internally in their organizations the project developments and outcomes (see Table 20).

Internal dissemination activity	Partner
Remote internal presentation in UBITECH event, presenting key info of the project (2020)	UBITECH
Remote internal presentation in UBITECH event, presenting key info of the project (2021)	
<ul> <li>Presentations and information provided at UCY on the completion of the following theses:</li> <li>Master's Thesis, "Workload Generator for IoT Devices for Fog Computing" by Andreas Ioannou (2020-12-21)</li> <li>Bachelor's Thesis "Implementation, Simulation and Evaluation of Monitoring Application Performance from a flight of drones" by Andreas Vasileiou (2021-5-30)</li> <li>Bachelor's Thesis, "Application of Robotic Arm" by Panayiotis Kyriakou (2021-6-1)</li> </ul>	UCY
Project information shared during the thesis presentation: "Remote Attestation and Integrity Verification Solution in a Cloud Based Environment"	DTU
Project presentation during Laboratory internal general meeting (2021)  Project presentation during Laboratory internal general meeting (2022)  Leaflets and oral presentation during the 1st Open Day of the Faculty of Science in Aristotle University, October, 2022  Project information material shared to the students of the MSc programme "Data and Web Science", Aristotle University of Thessaloniki, that participated in the workshop "Processing Data in the Fog – The example of the RAINBOW Fog Computing platform", April 2022	AUTH
Internal RAINBOW presentation for synergies and collaboration between projects where INTRA is also participating	INTRA

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Internal company presentation of the RAINBOW project in the Limassol offices (September, 2020)	SUITE5
Internal company presentation of the RAINBOW project in the Athens offices (September, 2020)	
RAINBOW developments presented in three Stellantis Design Review meetings during 2022	CRF

Table 20: Internal dissemination activities

An additional indicator for the visibility of the project concerns the mentions and links to the project's official website. The table below provides a list of the pages linking to RAINBOW's website.

Links from within the consortium			
Partner	Link		
AUTH	https://datalab.csd.auth.gr/projects/rainbow-an-open-trusted-fog-computing-platform-facilitating-the-deployment-orchestration-and-management-of-scalable-heterogeneous-and-secure-iot-services-and-cross-cloud-apps/		
BIBA	https://www.biba.uni-bremen.de/forschung/projekte/laufende- projekte.html		
DTU	https://digitalsecurity.dtu.dk/funded-projects		
КЗҮ	https://www.k3y.bg/projects/		
MSP	https://uav.com.pl/en/ 54/ 73		
POLITO	https://www.telematica.polito.it/projects/		
SUITE5	https://www.suite5.eu/rainbow		
TUW	https://dsg.tuwien.ac.at/projects.html		
UBITECH	https://ubitech.eu/research/research-projects/		
UCY	http://linc.ucy.ac.cy/index.php?id=226		
Links from outside the consortium			
Name	Link		
H-CLOUD	https://www.h-cloud.eu/ict-15-projects/rainbow/		
FUTURE CLOUD	https://eucloudclusters.wordpress.com/future-cloud/		
PLEDGER	http://www.pledger-project.eu/content/clustering		
MORPHEMIC	https://www.morphemic.cloud/clustering/		



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DATAVAULTS	https://www.datavaults.eu/material/liaisons-relevant-links/
Connected Autonomed Driving	https://www.connectedautomateddriving.eu/standards/contribution- eu-projects/
GLASS	https://www.glass-h2020.eu/rainbow
DWS MSc Programme	https://dws.csd.auth.gr/news/online-workshop-on-processing-data-in-the-fog-the-example-of-the-rainbow-fog-computing-platform/
PUZZLE	https://puzzle-h2020.com/about/synergies-and-clustering-with- other-projects/
Center for Trustworthy Edge Computing Systems and Applications	https://www.tecosa.center.kth.se/event/edge-orchestration-free-online-workshop/
EBDVF	https://european-big-data-value-forum.eu/2022-edition/sponsors/
IoT for All	https://www.iotforall.com/press-releases/ebdvf-next-generation-platforms-for-europes-cloud-continuum

Table 21: Links to RAINBOW's official website

## 3.6 Standardization contributions

RAINBOW has established contact for possible synergies with a number of organizations and initiatives active in the field of standardization or owning high market potential based on their overall impact in the cloud ecosystem. Moreover, RAINBOW has participated in working group meetings, presented the project progress and results, as well as offered or applied for bringing its own contributions to these efforts.

#### These

• Linux Foundation Edge – Open Horizon, is a platform for managing the service software lifecycle of containerized workloads and related machine learning assets. It enables autonomous management of applications deployed to distributed webscale fleets of edge computing nodes and devices without requiring on-premise administrators. LF Edge is a new umbrella organization of The Linux Foundation that aims to establish open, interoperable frameworks for edge computing independent of hardware, silicon, cloud, or operating system.

Link: <a href="https://www.lfedge.org/projects/openhorizon/">https://www.lfedge.org/projects/openhorizon/</a>

On March 20, 2021 project partners DTU and UCY presented RAINBOW during the LF Edge - Open Horizon Committee meeting in order to discuss collaboration and page 67 of 174



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possible contributions. In the follow up discussions over 2022, RAINBOW offered to Open Horizon to employ the Fogify Emulator and the Polaris SLO framework.

• Trusted Computing Group (TCG), a not-for-profit organization formed to develop, define and promote open, vendor-neutral, global industry specifications and standards, supportive of a hardware-based root of trust, for interoperable trusted computing platforms. TCG's core technologies include specifications and standards for the Trusted Platform Module (TPM), Trusted Network Communications (TNC) and network security and self-encrypting drives. TCG also has work groups to extend core concepts of trust into cloud security, virtualization and other platforms and computing services from the enterprise to the Internet of Things.

Link: <a href="https://trustedcomputinggroup.org">https://trustedcomputinggroup.org</a>

RAINBOW's partner IFAT, leading the WP on security and trust, is an active and long-time member of TCG. Over the last year, IFAT has discussed relevant RAINBOW outcomes in several TCG working group meetings in which is involved (chairing or being a member in 9 working groups within TCG).

• **Linux Foundation** - **Project Centaurus**, is an open-source Distributed Cloud Native Infrastructure umbrella project designed to meet the needs of 5G, AI, IoT and Edge era. Project Centaurus is an overarching open-source cloud infrastructure platform that encompasses other open-source projects as subprojects underneath it as one fully integrated platform. It enables a unified, large-scale distributed cloud infrastructure platform and provides an open-source alternative to the existing cloud infrastructure platforms available today.

Link: <a href="https://www.centauruscloud.io">https://www.centauruscloud.io</a>

Over a series of meetings and discussions among the Centaurus project and TUW, it was agreed to contribute RAINBOW's scheduler. The contribution was completed on December 2022 by the integration of the corresponding RAINBOW code into Centaurus' GitHub repository.

• Eclipse Foundation – Eclipse IoT, is an ecosystem of entities from industry and academia, working together to create a foundation for IoT based exclusively on open-source technologies. The Eclipse IoT community provides open-source projects that developers can use to build their IoT solutions. Their focus remains in the areas of producing open-source implementations of popular IoT standards; creating open-source frameworks and services for building IoT solutions; and developing tools for IoT developers.



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Link: <a href="https://iot.eclipse.org">https://iot.eclipse.org</a>

RAINBOW has initiated the submission of a Secure Admission Control Protocol for Kubernetes in Mobile Ad-Hoc Networks as an Eclipse IoT Project.

A detailed report of RAINBOW's activities towards standardization contributions is available in deliverable D7.5 "Standardization Activities Report - Final" led by TUW.



 $\begin{array}{lll} D7.3-Open\mbox{-}Source\mbox{ Contributions, Dissemination, Clustering and Workshop\mbox{ Activities\ Report\mbox{-}Final} \end{array}$ 

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## 4 Newsletters

While newsletters are part of the project's communication quiver, the approach taken in RAINBOW exploits them as a tool servicing both the dissemination and communication needs of the project. As was detailed in D7.2 "Open-Source Contributions, Dissemination, Clustering and Workshop Activities Report - Version 1", AUTH is responsible for generating the newsletter content aligned with the progress of the project's research, the delivery of outcomes and the accomplishments of major milestones. Additional content and news of project activities and events are also part of each issue. K3Y, which caters for RAINBOW's communication activities, is responsible for publishing and driving the diffusion of the newsletters through the project's communication channels.

During the second half of the project an additional 8 issues were published, bringing the total number of RAINBOW newsletters to 12 (see Table 22).

Phase	Newsletter	Release	Content
I (M1-M12)	Issue 1	July 2020	Contains an introduction of the project as well as a reference to RAINBOW's main
			stakeholder groups.
	Issue 2	November 2020	Provides an overview of RAINBOW's high-level architecture and its value propositions.
II (M13-M24)	Issue 3	February 2021	Includes presentations of the use cases and their challenges. Also, an introduction of RAINBOW's Advisory Board.
	Issue 4	May 2021	Presents RAINBOW's security and trust attestation model and design.
	Issue 5	October 2021	Presents the first release of RAINBOW's Fog Computing platform, a series of supported events and the first RAINBOW official video.
	Issue 6	December 2021	Focuses on the 3 virtual demonstrations of RAINBOW and covers current project events.
III (M26-M36)	Issue 7	March 2022	Describes the evaluation methodology and framework that RAINBOW used to test the early-stage of its 3 demonstrators. Also covers the current project activities and collaborations.
	Issue 8	May 2022	Presents the second release of RAINBOW's Fog Computing platform, covers a series of supported events and introduces the second RAINBOW official video.



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Phase	Newsletter	Release	Content
	Issue 9	July 2022	Focuses on the events and training activities
			that RAINBOW organized or participated in.
	Issue 10	November	Presents RAINBOW's physical demonstrator
		2022	setups for each of the 3 use cases. Also
			announces RAINBOW's participation in the
			European Big Data Value Forum 2022
	Issue 11	December	Covers the webinars and hackathon activities
		2022	that RAINBOW partners organized in the
			current period.
	Issue 12	January	Covers RAINBOW's achievements and
		2023	overall impact during the project lifetime.

Table 22: Published newsletters



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## 5 Open-Source Contributions

RAINBOW aspires to provide an open as possible and applicable-by-anyone solution in the market, contributing in practice to the competence of the whole EU software industry, with additional emphasis to cloud and edge/fog computing domains. RAINBOW already capitalizes on and benefits from open-source projects and frameworks (with some of those developed by the consortium members themselves) and thus part of its research efforts are towards extending the open-source ecosystem with high-quality contributions tailored to the unique requirements of fog and cross-cloud execution environments. This is also evident in the significant scientific and research advances made by many consortium members, with academic partners having the lead, that usually were accompanied by open-source code.

The availability of open-source contributions not only helped to increase the awareness of RAINBOW's efforts among the developers and cloud communities but also can play a pivotal role post-project to the adoption of the project's solution.

## 5.1 Open-source repositories of RAINBOW components

The modular RAINBOW solution utilizes a total of 31 components, 24 of which have been developed by the consortium. 14 components out of these are open source under the Apache License 2.0 and their git repositories are publicly available (see Table 23). A snapshot of the latest available version on December 2022 has been also uploaded to Zenodo and linked with RAINBOW through OpenAIRE (Error! Hyperlink reference not valid.).

RAINBOW Component / Parent Layer	Maintained by	Public repository DOI
Analytics Interpreter / Orchestration Layer - Backend Services	UCY	https://gitlab.com/rainbow-project1/rainbow-analytics  10.5281/zenodo.7473116
Pre-Deployment constraint solver / Orchestration Layer	TUW	https://gitlab.com/rainbow- project1/rainbow- orchestration 10.5281/zenodo.7473153
Deployment Manager / Orchestration Layer - Logically Centralized Orchestration	TUW	https://gitlab.com/rainbow- project1/rainbow- orchestration 10.5281/zenodo.7473153



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RAINBOW Component / Parent	Maintained	Public repository
Layer	by	DOI
Layer	Бу	https://gitlab.com/rainbow-
Policy Manager (Runtime constraint		project1/rainbow-
Solver) / Orchestration Layer -	TUW	orchestration
Orchestration Lifecycle Manager		<u> </u>
, o		10.5281/zenodo.7473153
		https://gitlab.com/rainbow-
Application Lifecycle Manager /		project1/rainbow-
Orchestration Layer - Orchestration	TUW	<u>orchestration</u>
Lifecycle Manager		
		10.5281/zenodo.7473153
		https://gitlab.com/rainbow-
Scheduler / Orchestration Layer -		project1/rainbow-
rchestration Lifecycle Manager		<u>orchestration</u>
, o		10.5281/zenodo.7473153
		https://gitlab.com/rainbow-
Analytics Service / Data Management	******	project1/rainbow-analytics
and Analytics layer	UCY, AUTH	
		10.5281/zenodo.7473116
		https://gitlab.com/rainbow-
Data Storage and Sharing / Data	AUTH	project1/rainbow-storage
Management and Analytics layer	710 111	10.70011
		10.5281/zenodo.7473213
Conveite Englisher Configuration		https://gitlab.com/rainbow-
Security Enablers: Configuration integrity verification / RAINBOW Edge	DTU, POLITO	<pre>project1/rainbow- attestation/-/tree/main/CIV</pre>
Stack	DIO, IOLIIO	attestation/-/tree/main/Civ
Stack		10.5281/zenodo.7473287
		https://gitlab.com/rainbow-
Security Enablers: TPM initialization		project1/rainbow-
scripts and tools / RAINBOW Edge	IFAT	attestation/-
Stack		/tree/main/KMT
Stack		10 F201 /zanada 7472400
		10.5281/zenodo.7473409 https://gitlab.com/rainbow-
		project1/rainbow-
Security Enablers: Control-flow		attestation/-
attestation / RAINBOW Edge Stack	DTU, POLITO	/tree/main/CFA
, , , , , , , , , , , , , , , , , , , ,		
		10.5281/zenodo.7473350
		https://gitlab.com/rainbow-
Security Enablers: Direct anonymous	DTU, POLITO	project1/rainbow-
attestation / RAINBOW Edge Stack	Б10,10ш10	attestation/-
		<u>/tree/main/DAA</u>



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RAINBOW Component / Parent Layer	Maintained by	Public repository DOI
		10.5281/zenodo.7473377
Storage Agent / RAINBOW Edge Stack	AUTH	https://gitlab.com/rainbow-project1/rainbow-storage  10.5281/zenodo.7473213
Monitoring Agent / RAINBOW Edge Stack	UCY	https://gitlab.com/rainbow- project1/rainbow- monitoring  10.5281/zenodo.7473259

Table 23: Open-source repositories of RAINBOW components

### 5.2 Other open-source contributions

Contribution:	Fogify: A Fog Computing Emulation Framework
Responsible partner:	University of Cyprus (UCY)
Link to public repository:	https://ucy-linc-lab.github.io/fogify/
License:	Apache License 2.0
Description:	Fogify is an emulation Framework easing the modelling, deployment and experimentation of fog testbeds. Fogify provides a toolset to: model complex fog topologies comprised of heterogeneous resources, network capabilities and QoS criteria; deploy the modelled configuration and services using popular containerized infrastructure-as-code descriptions to a cloud or local environment; experiment, measure and evaluate the deployment by injecting faults and adapting the configuration at runtime to test different "what-if" scenarios that reveal the limitations of a service before introduced to the public.
Target groups:	IoT service developers especially those with big data services to be deployed in geo-distributed environments.
	Fogify is used by RAINBOW partners to rapidly design experimentation testbeds in order to test their software in an emulated fog environment.
Contribution:	PROUD: PaRallel OUtlier Detection for streams
Responsible partner:	Aristotle University of Thessaloniki (AUTH)



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Link to public	https://github.com/tatoliop/PROUD-PaRallel-OUtlier-Detection-for-
repository:	<u>streams</u>
License:	Apache License 2.0
Description:	PROUD is an open-source high-throughput distributed outlier
	detection engine for intense data streams that is implemented in Scala
	on top of the Apache Flink framework. It supports distance-based
	outlier detection algorithms while providing two different ways of partitioning incoming data with an automated adaptive mechanism to
	balance the workload of each node.
Target groups:	IoT service developers and operators especially those with big data services to be deployed in distributed environments.
Relevance to	PROUD is used in analytics to help identify anomalies over the
	monitoring metrics of fog/edge nodes.
Contribution:	Linux TPM2 & TSS2 Software
Responsible	Infineon (IFAT)
partner:	
Link to public	https://github.com/tpm2-software
repository:	
License:	BSD 2-Clause "Simplified" License
Description:	This project is a developer community for those implementing APIs
	and infrastructure from the Trusted Computing Group Software Stack 2.0 specification.
Target groups:	TPM users and implementors of TPM libraries.
	IFAT contributed a bugfix to the OSS project. The bug was found when
RAINBOW:	implementing RAINBOW task T2.3. See https://github.com/tpm2-
	software/tpm2-tools/issues/3115#issuecomment-1222996762

Table 24: Other open-source contributions by RAINBOW

### 5.3 Open-source roadmap

On the first year of the project the technical team established a RAINBOW group in GitLab (<a href="https://gitlab.com/rainbow-project1">https://gitlab.com/rainbow-project1</a>) to allow for agile software development, issue tracking, generation of software documentation and managing the continuous integration and continuous deployment of the platform components (see Fig. 42). This group along with its public repositories, as described in Table 24, is accessible by anyone without authentication. The choice of hosting the open-source components in GitLab, an entirely open-source, cloud-native, high-performance and popular git environment,

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enables all interested developers to benefit and easily contribute through GitLab's feature rich collaboration tools.

The open-source components are provided almost exclusively by RAINBOW's academic partners. These institutions, which are highly interested in the scientific exploitation of the RAINBOW results, are committed on improving, extending and maintaining the open repositories in line with the progress of their ongoing academic research and scientific work on the fields of edge, fog and cloud computing. In this way, the third-party developers that are interested in RAINBOW's solutions will continue to receive updates and support, even post-project, from the experienced teams and researchers that initially developed these components.

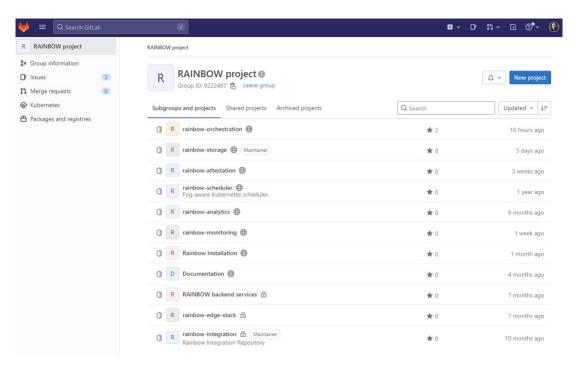


Figure 42: The RAINBOW project group in GitLab



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## 6 Fog Adoption Industrial Focus Group

RAINBOW has established a Special Interest Group (SIG), called Fog Adoption Industrial Focus Group (FA-IFG).

As already defined in the RAINBOW proposal, members of the FA-IFG shall be:

- Digital SMEs and Start-ups,
- Cloud and IoT services and platforms providers,
- Fog-enabled application developers and end-user organizations,
- Fog and Cloud experts, companies, and institutes.

As leader of task T7.5, Infineon Technologies Austria (IFAT) was in charge of operating and maintaining the FA-IFG together with the RAINBOW consortium. The group's scope, objectives and timeline have been aligned and two invitation rounds to potential FA-IFG members have been done. In total, eight positive feedbacks have been received.

#### 6.1 Mission and responsibilities

The RAINBOW consortium agreed upon the scope and objectives of the FA-IFG as follows:

- The FA-IFG shall be mainly an information hub for its members. This can be accomplished e.g., by provisioning of restricted reports, favoured and insider access to the RAINBOW platform, information via mailing list and blogs as well as invitations to project's webinars and workshops. In this way, the FA-IFG members will be able to follow and monitor the RAINBOW project's research and development activities compared to the public more closely.
- Even if there is no concrete need seen now, the consortium is also open for inputs from the FA-IFG members which could be used e.g., for further validation of the RAINBOW concepts and tools. In any case, feedback is very valuable since it constitutes a form of guidance to the RAINBOW project by industrial stakeholders directly involved in the market.

#### 6.2 Core membership

During task T1.1 the RAINBOW consortium compiled a list of SMEs, start-ups and research institutes in the domain which interests RAINBOW. These stakeholders filled a questionnaire or participated in an interview and showed in this way their interest in the



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RAINBOW project. Therefore, IFAT decided together with the partners to invite them to join also the FA-IFG. Based on the experience gained in another EU funding project the necessary legal documents (consent form) have been set up and invitations have been sent out. In the end, RAINBOW received positive answers from:

- Andreas Menychtas, BioAssist SA, Greece
- Stavros Tekes, Draxis Environmental SA, Greece
- Emmanuel Kafetzakis, Eight Bells (8BELLS) Ltd, Cyprus
- Tilemahos Efthimiadis, EU Science Hub, the Netherlands
- Erkuden Rios Velasco, Tecnalia, Spain

In the further course of the RAINBOW project the consortium was able to extend this list and started a second invitation round, with positive feedback from:

- Stratos Arampatzis, Ortelio Ltd, United Kingdom
- Mariza Konidi, Uni Systems, Greece
- George Suciu, Beia Consult International, Romania

RAINBOW consortium decided to accept all eight stakeholders as members of the FA-IFG. All accepted members have signed an informed consent form that communicated the project and the scope of their participation.

#### 6.3 Engagement and post-project planning

The FA-IFG members have been involved into the RAINBOW project e.g., by inviting them personally to Webinars and Workshops, providing them information via blogs, and by this to help with the exploitation of RAINBOW. Aside from that, some more information about the FA-IFG members has been published on RAINBOW's website (<a href="https://rainbow-h2020.eu/fog-adoption-industrial-focus-group-fa-ifg/">https://rainbow-h2020.eu/fog-adoption-industrial-focus-group-fa-ifg/</a>).

The post-project activities of the FA-IFG will stay in responsibility of the Sustainability Board defined in the Grant Agreement.



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## 7 Monitoring and Reporting

Throughout the project's lifetime the RAINBOW consortium followed the methodology, guidelines and tools established in the first period of the project with regards to monitoring and reporting the combined dissemination effort. All partners have contributed within the various dissemination mechanisms defined in the dissemination strategy and reported back their efforts using their individual dissemination logs (see Annex I).

#### 7.1 Evaluation of the dissemination Key Performance Indicators

The Key Performance Indicators (KPIs) related with dissemination as were defined in RAINBOW's dissemination plan, were constantly tracked by AUTH during the implementation of the project. Their evolution and progress towards the goals set for these indicators were discussed in the frequent WP7 online meetings and summarized over the project plenary meetings. There is also an important additional indicator (KPI.3) that relates with the open-source contributions of RAINBOW which is monitored towards achieving parts of the Strategic Impacts of the Work Programme. The status of all the above KPIs on M36 (December 2022) is reported on Table 25.

Mechanism	КРІ	Target Value (M36)	Achieved Value (M36)
DM1	Workshops organized	3	5
DM1	Demo events / hackathons	1	2
	Attended events	>20	35
DM2	Events with project's presentation	>10	18
	Project's demo booths	1	1
	Conference papers	>15	21
DM3	Journal papers	>5	7
	Articles in corporate magazines	>4	4
	Industry contact points	200	268
DM4	<ul> <li>Industry communities informed about the project</li> </ul>	10	11
	Webinars	6	6



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Mechanism	КРІ	Target Value (M36)	Achieved Value (M36)
DMC	Synergies with projects	>8	11
DM5	Joint activities	>2	14
DMC	Internal partners' events	12	16
DM6	Links to the project's website	12	20
	Working groups	3	9
DM7	<ul> <li>Project's presentations in standardization meetings</li> </ul>	1	2
Strategic Impact	Open-source contributions	4	17

Table 25: Status of dissemination KPIs on M36

#### 7.2 Observations and comments

Based on the dissemination planning and strategy compared to what the project achieved on dissemination effort during its lifetime the following observations can be made:

#### • Indicators related to events (DM1 & DM2)

Despite the initial impact of the pandemic to several scheduled events in the first half of the project, RAINBOW managed to participate into a total of 35 events, with 18 of those also including a project presentation. It should be noted that this total of events does not consider the webinars and workshops organized by RAINBOW as well as the internal partners' events. Additionally, RAINBOW organized 2 successful hackathons and a joint panel session with the PLEDGER and MORPHEMIC cloud computing projects under the prestigious European Big Data Value Forum 2022.

#### • Indicators related to publications (DM3)

RAINBOW has achieved an impressive number of scientific publications, reaching 21 conference and 7 journal papers. There are also another 3 papers that have been submitted to scientific conferences and are expected to be published post-project. All publications are in well-known international venues which attract quality submissions. The best paper awards that were awarded to some of those publications highlight even further the high-quality of the scientific work realized in RAINBOW.

#### • Indicators related to stakeholders' engagement (DM4)



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The shift to online and virtual activities during the first 2 years of the project has narrowed down the interaction options with its audiences. To mitigate the effects of this RAINBOW established a strong digital presence (see D7.7 "Communication Activities Report – Final") and mobilized its consortium networks to engage stakeholders and communities. The project organized a series of 6 webinars that provided in-depth presentations of its key technical outcomes and use cases while at the same time delivering training material useful for researchers, developers, and early adopters. Key stakeholders and communities were invited and participated in project's events and other activities to witness and discuss RAINBOW's project as well as to provide their feedback. This increased engagement helped to further grow RAINBOW's reach and increase its impact.

#### • Indicators related to synergies (DM5)

From its first year RAINBOW sought to establish collaboration with other EU-funded projects, especially from the ICT15 cloud computing topic. It was actively involved with the H-CLOUD and HUB4CLOUD communities providing input, sharing news, participating in events and other community activities. Also, it joined the task force of the UNLOCK CEI CSA project that kicked off in the summer of 2022. Beyond cross-dissemination and cross-communication actions RAINBOW exchanged knowledge and experiences with other projects and co-organized or participated in several joint activities such as contributions in joint papers, workshops, and demo sessions.

#### • Indicators related to internal dissemination (DM6)

The RAINBOW consortium communicated all project's news and activities within their own networks and channels as well as shared the project's newsletters. Moreover, the teams involved in the project, disseminated and reported the project's progress and outcomes inside their own organizations and on several occasions during internal events and activities.

#### • Indicators related to standardization (DM7)

RAINBOW has established collaboration with two groups, namely Project Centaurus and Open Horizon, working on delivering impactful open-source solutions for the cloud and edge ecosystems. Moreover, it has already managed to integrate one component of its platform within the Project Centaurus and has offered two of its components to Open Horizon, which has expressed interest in integrating them. Another very important aspect of RAINBOW's standardization activities concerns the involvement and participation of IFAT in several working groups of TCG, where they have presented the security advancements of RAINBOW in fog computing environments. Finally, RAINBOW applied for an open-source contribution to Eclipse

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IoT based on RAINBOW's secure admission control protocol. A detailed report of RAINBOW's standardization contributions is available in the deliverable D7.5 "Standardization Activities Report - Final", led by TUW.

#### Indicators related to open-source contributions

14 components of RAINBOW's platform are open-source and already available under the Apache License 2.0 in a very well-organized and documented GitLab repository (see D5.4 "RAINBOW Integrated Platform and Unified Dashboard - Final Release"). RAINBOW members have developed and made available additional open-source frameworks that were used to supplement the platform's testing and evaluation activities. Finally, partners have contributed to other open-source tools to extend them with fog computing features and RAINBOW-aware functionality.



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## 8 Summary of RAINBOW's dissemination effort

The present report provides a detailed overview of the dissemination actions performed during the whole period of the project along with the various clustering activities, a summary of the standardization actions, the open-source contributions, as well as the involvement of the Fog Adoption Industrial Focus Group. All these were key factors in widening RAINBOW's reach, engaging with its targeted stakeholder groups, and sustaining continuous interaction with the project followers. Compared with the first half of the project important advancements have been made not only in term of the quantifiable indicators, but also with regards to the quality of the dissemination effort and the impact of the activities organized by the project. According to the dissemination logs the total estimated reach of the digital and physical activities is more than 67,000.

Looking retrospectively at the strategy and the tools utilized to facilitate dissemination and taking into account the ramifications of the pandemic crisis in than the first two years of the project, it is clear that the followed approach has proved effective in both guiding the consortium and achieving the objectives set for the overall project dissemination effort. A driver that provided impetus to the dissemination actions was the target KPI goals for each dissemination mechanism. These measures enhanced coordination and timely planning while allowed for internal corrective actions during periodic checks. The dissemination activities realized in the second half of the project aimed at showcasing the project's outcomes and had focused on the engagement and interaction with targeted groups. With a series of events dedicated to RAINBOW, such as workshops, webinars, and hackathons, that were realized in the final year, the project succeeded to broadly demonstrate its results and progress along with the potential of its solution.

The strong research character of RAINBOW is made evident by the impressive number of scientific publications that were achieved during the project and the mobilization even of non-academic partners in this direction. These include 28 conference and journal papers and 3 more submitted and awaiting acceptance. This effect is complimented by the open-source licence of several components of the RAINBOW platform. By contributing to the open-source community RAINBOW not only provides useful resources to edge/fog application developers but also enables the advancement of its own solutions, as the open-source community may jump in to fix bugs, enhance reliability, extend functionality, improve interoperability and compatibility with third-party solutions. With researchers having also access to study the code and documentation provided in the open repositories, RAINBOW encourages further ideas and technical innovation and facilitates greater collaboration among the scientific community.

Finally, the contributions of all RAINBOW partners in the successful dissemination of the project must be appreciated. From the beginning of the project, it was emphasized that  $_{page\ 83\ of\ 174}$ 

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successful dissemination requires a collective effort and active participation by all project beneficiaries. The mobilization and involvement of the networks and communities of each partner was crucial in building the critical mass required to achieve the desired impacts.

The RAINBOW consortium is willing to continue keeping on with the dissemination of project outcomes even beyond the project lifetime to ensure better uptake and sustainability of the project results. Such activities include maintenance of the open-source repositories, further scientific and academic dissemination, presentation and promotion of RAINBOW's solutions to collaborators and potential adopters. Moreover, thanks to the partners' dissemination efforts and the provision of making available project assets online (e.g., publications, source-code, documentation, videos, presentations), RAINBOW will keep being on the radar of edge, fog and cloud computing stakeholders and making impact last long after the completion of the project.



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## Annex I – Dissemination Logs

Instructions for completing the logs:

- ACTIVITIES: Type of activity (selected from a predefined list).
- DESCRIPTION: Few words concerning the activity (e.g., for a conference the title and its website URL).
- DATES: Dates of the activity (DD/MM/YYYY). Also, the end date should be provided only if the activity had a duration larger than 1 day.
- PLACE: Location (City, Country) where the activity took place (use 'Online' for non-physical locations).
- LEVEL: The scope / level of reach of the activity.
- AUDIENCE: Characteristics of the activity's target audience. Please use target groups A, B, C, D, E, F and G as defined in the Dissemination Plan.
- REACH: The activity's reach or an approximation if the exact number is not known (for example the size of the audience).

#### III.1 UBITECH

Referen ce	Activities	Short description (name, title, URL, etc.)	<b>Date</b> (start date - end date)	Place	Level  (L = local / R = regional / N = national / E = EU / W = worldwide)				W =	Audience (characteristics of the target group)	Reach  (size / no of organisations / persons reached approximately)
R1	Conferences / Seminars	Present Rainbow project in EGI Conference 2020 https://indico.egi.eu/event/500 0/sessions/4525/#20201104	4/11/2020	Online	L	R	N	E	x	В, С, D	120
R2	Presentations / Demos	Internal Presentation in UBITECH event, presenting key info of the project	2/2020	Physical Internal event	х					А, В, С	65
R3	Presentations / Demos	Internal Presentation in UBITECH event, presenting key info of the project	4/2021	Remote internal event	х					А, В, С	85
R4	Seminars	Poster presented in the 4th Summit on Gender Equality in Computing https://gec22.auth.gr/	6/2022	Thessaloniki				х		B, C, D	300
R5	Internet / Social Media	Share of RAINBOW's posts via LinkedIn	2020-2022						х	G	

# RAINBOW

#### Project No 871403 (RAINBOW)

D7.3 – Open-Source Contributions, Dissemination, Clustering and Workshop Activities Report - Final Date: 31.12.2022

Dissemination Level: PU

#### III.2 TUW

		Short description	Date				Level			Audience	Reach
Referen ce	Activities	(name, title, URL, etc.)	(start date - end date)	Place		tiona	/ R = re al / E = orldwid	EU /	-	(characteristics of the target group)	(size / no of organisations / persons reached
					L	R	N	E	w		approximately)
R1	Internet / Social Media	Share of RAINBOW's stakeholders questionnaire post using personal Facebook account	09/07/2020	Online					х	G	
R2	Internet / Social Media	Share of RAINBOW's 1st newsletter post using personal LinkedIn account	31/07/2020	Online					х	G	
R3	Internet / Social Media	Link to RAINBOW's 1st newsletter in the news section of the website of the TUW Distributed Systems Group (https://dsg.tuwien.ac.at/news /2020/09/14/jobs.html)	14/09/2020	Online					Х	C	
R4	Internet / Social Media	Listing and short description of RAINBOW on the active projects page of the TUW Distributed Systems Group (https://dsg.tuwien.ac.at/proje cts.html)	14/09/2020	Online					х	С	
R5	Internet / Social Media	Share of RAINBOW's post using personal LinkedIn account	15/09/2020	Online					х	G	
R6	Internet / Social Media	Share of RAINBOW's 2nd newsletter post using personal LinkedIn account	03/12/2020	Online					х	G	
R7	Internet / Social Media	Share of RAINBOW's 2nd newsletter post using personal Facebook account	03/12/2020	Online					х	G	
R8	Internet / Social Media	Link to RAINBOW's 2nd newsletter in the news section of the website of the TUW Distributed Systems Group (https://dsg.tuwien.ac.at/news /2020/12/09/news.html)	09/12/2020	Online					Х	С	
R9	Internet / Social Media	Share of RAINBOW's post about 3rd plenary meeting using personal LinkedIn account	10/02/2021	Online					х	G	
R10	Internet / Social Media	Share of RAINBOW's blog post announcement using personal LinkedIn account	26/02/2021	Online					х	G	
R11	Internet / Social Media	Share of RAINBOW's 3rd newsletter announcement using personal LinkedIn account	01/03/2021	Online					Х	G	



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		Link to RAINBOW's 3rd			Г		 		
R12	Internet / Social Media	newsletter in the news section of the website of the TUW Distributed Systems Group (https://dsg.tuwien.ac.at/news/2021/03/01/news.html)	01/03/2021	Online			х	С	
R13	Internet / Social Media	Write RAINBOW LinkedIn post about SLOs and share it using personal LinkedIn account	18/03/2021	Online			Х	G	
R14	Internet / Social Media	Write RAINBOW Facebook post about SLOs and share it using personal Facebook account	18/03/2021	Online			Х	G	
R15	Internet / Social Media	Write RAINBOW Twitter post about SLOs and share it using official Twitter account	18/03/2021	Online			х	G	
R16	Presentations / Demos	Present RAINBOW to Open Horizon Project of Linux Foundation Edge (https://www.lfedge.org/projec ts/openhorizon/)	29/03/2021	Online			х	D	
R17	Internet / Social Media	Write official RAINBOW Blog post about "Fog Orchestration Mechanisms" (https://rainbow- h2020.eu/fog-orchestration- mechanisms-an-overview/)	14/05/2021	Online			х	G	
R18	Internet / Social Media	Share of RAINBOW's annoncement of R17 blog post using personal LinkedIn account	15/05/2021	Online			х	G	
R19	Internet / Social Media	Share of RAINBOW's annoncement of R17 blog post using personal Facebook account	15/05/2021	Online			х	G	
R20	Internet / Social Media	Share of RAINBOW's post about 4th plenary meeting using personal LinkedIn account	18/05/2021	Online			х	G	
R21	Internet / Social Media	Share of RAINBOW's post about 4th plenary meeting using personal Facebook account	18/05/2021	Online			х	G	
R22	Internet / Social Media	Share of RAINBOW's 4th newsletter announcement using personal Facebook account	31/05/2021	Online			х	G	
R23	Internet / Social Media	Share of RAINBOW's 4th newsletter announcement using personal LinkedIn account	31/05/2021	Online			х	G	
R24	Internet / Social Media	Link to RAINBOW's 4th newsletter in the news section of the website of the TUW Distributed Systems Group (https://dsg.tuwien.ac.at/news /2021/06/01/news.html)	01/06/2021	Online			х	С	



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R25	Conferences / Seminars	Presentation of scheduler paper (R26) at 2021 IEEE 14th International Conference on Cloud Computing (CLOUD)	05-10/09/2021	Online		-	W	G	
R26	Scientific Publications	Pogonip: Scheduling Asynchronous Applications on the Edge, 2021 IEEE 14th International Conference on Cloud Computing (CLOUD) - https://doi.org/10.1109/CLOU D53861.2021.00085	10/09/2021	Online		ı	w	G	
R27	Internet / Social Media	Write official RAINBOW Blog post about "From a RAINBOW to the Horizon" (https://rainbow-h2020.eu/from-a-rainbow-to-the-horizon/)	23/07/2021	Online		-	W	G	
R28	Internet / Social Media	Share of RAINBOW's annoncement of R27 blog post using personal LinkedIn account	27/07/2021	Online		-	W	G	
R29	Internet / Social Media	Share of RAINBOW's press release about the first release using personal LinkedIn account	16/09/2021	Online		-	W	G	
R30	Internet / Social Media	Share of RAINBOW's announcement of the HCLOUD-RAINBOW Technical Community Event "Unleashing the Potential of Cloud, Fog, and Edge Computing in Europe" on Sept. 29, 2021 using personal LinkedIn account	24/09/2021	Online		-	W	G	
R31	Internet / Social Media	Share of RAINBOW's post about Use Case 3 using personal LinkedIn account	24/09/2021	Online		-	W	G	
R32	Internet / Social Media	Write RAINBOW LinkedIn post about scheduler paper at IEEE CLOUD 2021	05/10/2021	Online			W	G	
R33	Internet / Social Media	Write RAINBOW Facebook post about scheduler paper at IEEE CLOUD 2021	05/10/2021	Online		ı	W	G	
R34	Internet / Social Media	Write RAINBOW Twitter post about scheduler paper at IEEE CLOUD 2021	05/10/2021	Online		-	W	G	
R35	Internet / Social Media	Share of RAINBOW's 5th newsletter announcement using personal LinkedIn account	20/10/2021	Online		-	W	G	
R36	Internet / Social Media	Share of RAINBOW's 5th newsletter announcement using personal Facebook account	20/10/2021	Online		-	W	G	



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		Link to RAINBOW's 5th							
R37	Internet / Social Media	newsletter in the news section of the website of the TUW Distributed Systems Group (https://dsg.tuwien.ac.at/news /2021/10/20/news.html)	20/10/2021	Online		-	W	С	
R38	Internet / Social Media	Share of RAINBOW's post about its stakeholder analysis using personal LinkedIn account	12/11/2021	Online		-	W	G	
R39	Workshops	Presentation of RAINBOW at the 2021 CYSARM Workshop (https://www.cysarm.org)	19/11/2021	Online		-	W	С	
R40	Internet / Social Media	Write RAINBOW LinkedIn post about project presentation at 2021 CYSARM Workshop	19/11/2021	Online		-	W	G	
R41	Internet / Social Media	Write RAINBOW Facebook post about project presentation at 2021 CYSARM Workshop	19/11/2021	Online		-	W	G	
R42	Internet / Social Media	Write RAINBOW Twitter post about project presentation at 2021 CYSARM Workshop	19/11/2021	Online		-	W	G	
R43	Internet / Social Media	Write official RAINBOW Blog post "RAINBOW Scheduler Contributed to Linux Foundation's Centaurus Project" (https://rainbow-h2020.eu/rainbow-scheduler-contributed-to-linux-foundations-centaurus-project/)	08/02/2022	Online			8	G	
R44	Internet / Social Media	Share of RAINBOW's annoncement of R43 blog post using personal LinkedIn account	09/02/2022	Online		-	W	G	
R45	Internet / Social Media	Share of RAINBOW's annoncement of R43 blog post using personal Facebook account	09/02/2022	Online		-	W	G	
R46	Internet / Social Media	Write and share RAINBOW LinkedIn post about SLOs and Polaris Framework	04/03/2022	Online		-	W	G	
R47	Internet / Social Media	Write and share RAINBOW Facebook post about SLOs and Polaris Framework	04/03/2022	Online		-	W	G	
R48	Internet / Social Media	Write RAINBOW Twitter post about SLOs and Polaris Framework	04/03/2022	Online		-	W	G	
R49	Internet / Social Media	Share of RAINBOW's post about 6th plenary meeting using personal LinkedIn account	17/03/2022	Online		-	w	G	



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		Share of RAINBOW's post			I	Ī			
R50	Internet / Social Media	about 6th plenary meeting using personal Facebook account	17/03/2022	Online		-	w	G	
R51	Internet / Social Media	Share of RAINBOW's 7th newsletter announcement using personal LinkedIn account	17/03/2022	Online		-	w	G	
R52	Internet / Social Media	Share of RAINBOW's 7th newsletter announcement using personal Facebook account	17/03/2022	Online		-	W	G	
R53	Internet / Social Media	Link to RAINBOW's 7th newsletter in the news section of the website of the TUW Distributed Systems Group (https://dsg.tuwien.ac.at/news /2022/03/17/news.html)	17/03/2022	Online		-	w	С	
R54	Internet / Social Media	Share of RAINBOW's announcement of the 2nd video using personal LinkedIn account	04/05/2022	Online		-	W	G	
R55	Internet / Social Media	Share of RAINBOW's announcement of the 2nd video using personal Facebook account	04/05/2022	Online		-	w	G	
R56	Internet / Social Media	Write official RAINBOW blog post about the upcoming WP3 webinar and workshop	18/05/2022	Online		-	W	G	
R57	Internet / Social Media	Write RAINBOW LinkedIn post about upcoming WP3 webinar and workshop and share it using personal LinkedIn account	19/05/2022	Online		-	w	G	
R58	Internet / Social Media	Write RAINBOW Facebook post about upcoming WP3 webinar and workshop and share it using personal Facebook account	19/05/2022	Online		-	w	G	
R59	Internet / Social Media	Link to RAINBOW's 8th newsletter in the news section of the website of the TUW Distributed Systems Group (https://dsg.tuwien.ac.at/news /2022/06/03/news.html)	03/06/2022	Online		-	w	С	
R60	Internet / Social Media	Link to RAINBOW's 9th newsletter in the news section of the website of the TUW Distributed Systems Group (https://dsg.tuwien.ac.at/news /2022/08/16/news.html)	16/08/2022	Online		-	w	С	
R61	Scientific Publications	T. Pusztai, S. Nastic, A. Morichetta, V. Casamayor Pujol, P. Raith, S. Dustdar, D. Vij, Y. Xiong, and Z. Zhang "Polaris Scheduler: SLO- and Topology-aware Microservices Scheduling at the Edge", 15th IEEE/ACM International Conference on Utility and Cloud Computing (UCC2022), Dec 2022.	15/10/2022	Online		-	w	G	



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R62	Internet / Social Media	Link to RAINBOW's 10th newsletter in the news section of the website of the TUW Distributed Systems Group (https://dsg.tuwien.ac.at/news /2022/11/14/news.html)	14/11/2022	Online		-	W	C	
R63	Internet / Social Media	Write blog post about the upcoming presentation of Polaris Scheduler paper (R61) at the UCC2022 conference	14/11/2022	Online		·	W	G	
R64	Conferences / Seminars	Presenatation of the Polaris Scheduler paper (R61) at the 15th IEEE/ACM International Conference on Utility and Cloud Computing (UCC2022)	07/12/2022	Vancouver, WA, USA		-	W	G	

## III.<sub>3</sub> POLITO

Referen ce	Activities	Short description (name, title, URL, etc.)	Date (start date - end date)	Place	Level  (L = local / R = regional / N = national / E = EU / W = worldwide)  L R N E W			W =	Audience (characteristics of the target group)	Reach (size / no of organisations / persons reached approximately)	
R1	Internet / Social Media	Dissemineation of Issue 1 of Proejct Newsletter on social media	August 4, 2020	LinkedIn		К	N	E	×	A; B; C; D; G	200
R2	Scientific Publications	Active Learning with Noisy Labelers for Improving Classification Accuracy of Connected Vehicles	March 11, 2021	IEEE Transaction s on Vehicular Technology			-		х	B,C	
R2	Scientific Publications	Edge-powered Assisted Driving For Connected Cars	May 25, 2021	IEEE Transaction s on Mobile Computing					х	В,С	
R4	Internet / Social Media	Facebook/LinkedIn and Twitter posts on RAINBOW-related technical issues	March 1, 2021	Facebook, LinkedIn, Twitter					х	A; B; C; D; G	350
R5	Workshops	Organization of NetSoft workshop (SecSOFT) with RAINBOW involvement	July 2, 2021	Virtual					х	A; B; C; D; G	150
R6	Internet / Social Media	Contribution to writing of Issue 4 of Project Newsletter and its dissemination on social media	May 21, 2021	LinkedIn					x	A; B; C; D; G	285
R7	Workshops	Preparation of the 2022 edition of the NetSoft workshop (SecSOFT) with RAINBOW involvement	July 2022	TBD					*	A; B; C; D; G	190



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Dissemination Level: PU

R8	Scientific Publications	Content Sharing in Pedestrian- based Micro Clouds	19-22 June 2022	Helsinki, Finland				A; B; C; D; G	340
R9	Internet / Social Media	Writing of Blog Post on "RAINBOW City Aggregator"	11 February 2022	Facebook, LinkedIn, Twitter			*	A; B; C; D; G	363
R10	Internet / Social Media	Writing of Blog Post on "Microclouds in pedestrian environments"	3 June 2022	Facebook, LinkedIn, Twitter			*	A; B; C; D; G	382
R11	Internet / Social Media	Writing of Blog Post on "Verifying the RAINBOW Security Model"	3 October 20ss	Facebook, LinkedIn, Twitter			*	A; B; C; D; G	374
R12	Scientific Publications	Kalkidan Gebru, Marco Rapelli, Riccardo Rusca, Claudio Casetti, Carla Fabiana Chiasserini and Paolo Giaccone, "Edge-based Passive Crowd Monitoring Through WiFi Beacons"	July 2022	Elsevier Computer Communica tions			*	B,C	

### III.4 UCY

Referen ce	Activities	Short description (name, title, URL, etc.)	Date (start date - end date)	Place	Level  (L = local / R = regional / N = national / E = EU / W = worldwide)  L R N E W		Audience (characteristics of the target group)	Reach  (size / no of organisations / persons reached approximately)			
R1	Internet / Social Media	Post on our new lab website http://linc.ucy.ac.cy/index.php ?id=226	20/07/2020	Online	-	ĸ	IV	E	X	G	
R2	Internet / Social Media	Post on CS UCY facebook account https://www.facebook.com/cs deptucy/posts/3196193930442 590	08/07/2020	Online					х	G	
R2	Internet / Social Media	Retweet of RAINBOW's post NEWSLETTER ISSUE 1 via LInC's account	31/07/2020	Online					х	G	
R4	Internet / Social Media	Retweet of RAINBOW's post on datalab's-Drones and #EdgeComputing- via LInC's account	29/09/2020	Online					х	G	
R5	Internet / Social Media	Retweet of RAINBOW's post on datalab's-Drones and #EdgeComputing- via LInC's account	15/09/2020	Online					х	G	
R6	Internet / Social Media	Post on LInC's Twitter account FOGIFY demo	14/10/2020	Online					х	G	



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		<u> </u>				 			
R7	Internet / Social Media	Post on LInC's YouTube account FOGIFY demo https://www.youtube.com/wat ch?v=PthMM6rC89o	14/10/2020	Online			х	G	
R8	Internet / Social Media	Retweet of Edge Computing/The SEC20 - Best Demo Award/Emulating Geo- Distributed Fog Services	13/11/2020	Online			х	G	
R9	Internet / Social Media	Retweet of Rainbow's post - UCY Best Demo Award/Emulating Geo- Distributed Fog Services	13/11/2021	Online			Х	G	
R10	Internet / Social Media	Post on LInC's YouTube account FOGIFY presentation - A Fog Computing Emulation Framework https://www.youtube.com/wat ch?v=d_6bJzJidas	13/11/2020	Online			x	G	
R11	Internet / Social Media	Retweet of RAINBOW's post NEWSLETTER ISSUE 2 via LInC's account	2/12/2020	Online			х	G	
R12	Internet / Social Media	Retweet Rainbow's consortium progressing discussions during the 2nd plenary project meeting with our demonstrator partners BIBA Bremer Institut für Produktion und Logistik, Centro Ricerche Fiat, MSP & K3Y presenting the developments in their use cases	24/11/2020	Online			х	G	
R13	Conferences / Seminars	A Self-stabilizing Control Plane for Fog Ecosystems, Proceedings of the 13th IEEE/ACM International Conference on Utility and Cloud Computing" (IEEE/ACM UCC '20), 2020	7-10/12/2020	Online Leicester, UK			Х	G	
R14	Conferences / Seminars	Demo: Emulating Geo- Distributed Fog Services Proceedings of the 5th ACM/IEEE Symposium on Edge Computing" (SEC '20), San Jose, CA, USA Association for Computing Machinery, New York, NY, USA, 2020	11-13/11/2020	Online			х	G	
R14(B)	Conferences / Seminars	Fogify: A Fog Computing Emulation Framework, Proceedings of the 5th ACM/IEEE Symposium on Edge Computing" (SEC '20), San Jose, CA, USA Association for Computing Machinery, New York, NY, USA, 2020	11-13/11/2021	Online			х	G	
R15	Internet / Social Media	Retweet Rainbow's consortium progressing discussions during the <b>3rd</b> plenary project meeting	11/2/2021	Online			х	G	
R16	Internet / Social Media	Retweet Rainbows' post @datalab_auth has published a distributed outlier detection engine for data streams, called PROUD	3/3/2021	Online			х	G	



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R17	Internet / Social Media	Retweet Rainbow's post Modern cars are equipped with numerous sensors which #EdgeComputing can make use of. Some examples of decentralized applications are: predictive maintenance, traffic management, vehicle security and remote sensing	8/3/2021	Online			х	G	
R18	Internet / Social Media	Retweet Rainbow's post from blog post #RAINBOW_H2020. It's about a new position paper entitled "Federated Cloud Reference Architecture" from Future Cloud Cluster (FCC).	10/3/2021	Online			X	G	
R19	Internet / Social Media	Retweeted Rainbow's post @dsg_tuwien together with Futurewei have published the SLOC project  https://slocloud.github.io/SLOC to bring high-level Service Level Objectives and complex elasticity strategies to the cloud. As part of #RAINBOW_H2020, it will do so in #FogComputing as well	17/3/2021	online			x	G	
R20	Internet / Social Media	Retweeted Rainbow's post on Methodologies and techniques for extracting functional and non-functional requirements used for RAINBOW project.	29/3/2021	Online			Х	G	
R21	Internet / Social Media	Retweeted post re: the public deliverable "Data Management Services – Early Release". The aim of this Deliverable is to provide a comprehensive overview and documentation report for the early release of the #RAINBOW_H2020 Data Management Services https://rainbow-h2020.eu/deliverables/#EdgeComputing	05/04/2021	Online			х	G	
R22	Internet / Social Media	Retweeted post for Mark Gilmour, Global Head of 5G, Colt Technology Services, in @rcrwirelessnews , explains why complementary 5G and #EdgeComputing technologies will optimize businesses. https://bit.ly/3gfGqyJ	14/04/2021	Online			х	G	
R23	Internet / Social Media	Retweeted post on the collaboration prospect between @RainbowH2020 and morphemic The MORPHEMIC project is an extension of MELODIC, which is a multi-cloud platform developed in the H2020 project	19/04/2021	Online			Х	G	
R24	Internet / Social Media	Retweeted post to join the webinar hosted by @morphemic and watch some very interesting presentations	23/04/2021	Online			х	G	



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					1		,			
		regarding #Multicloud								
		computing								
R25	Internet / Social Media	Retweeted post on updated website of #RAINBOW_H2020. Changes occured in the landing page, while more details about the @RainbowH2020 Platform relating to the project's Motivation, Impact, Open Challenges plus Mission & Vision were added. https://rainbow-h2020.eu #FogComputing	05/05/2021	Online				Х	G	
R26	Internet / Social Media	Retweeted post re: new blog post which presents key concepts driving the innovative technological axes of the #RAINBOW_H2020: Scalable trust establishment & attestation and Geo-distributed data processing	07/05/2021	Online				х	G	
R27	Internet / Social Media	Retweeted post on #RAINBOW_H2020 evaluation framework (led by our partners from @suite5eu ), aims to assess the actual added value of the RAINBOW methodology and platform, whereas its elaboration is based on the principles of V. & V. methodologies of software products (IEEE Standard 1012-2016)	10/05/2021	Online				х	G	
R28	Internet / Social Media	Retweeted post of colleagues from @Pledgerproject who shared an interesting analysis that is describing 5 ways developers can get the most out of #EdgeComputing platforms.	11/05/2021	Online				х	G	
R29	Internet / Social Media	Retweeted blog post from Rainbow which presents an overview of Fog Orchestration Mechanisms	14/05/2021	Online				х	G	
R30	Internet / Social Media	Retweeted: Edge #AI is the combination of #EdgeComputing and #artificialintelligence (AI). Our colleagues from the @Pledgerproject have shared an interesting analysis that is trying to investigate applications of Edge AI.	17/05/2021	Online				Х	G	
R31	Internet / Social Media	Retweeted post related to the 4th plenary meeting of the project. The technical teams presented the progress of their components towards the first release of RAINBOW's #FogComputing platform.	18/05/2021	Online				х	G	



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		<u> </u>			, ,	 	 		
R32	Internet / Social Media	Retweeted: post from the @Pledger who have shared an interesting analysis presenting 4 reasons why #EdgeComputing is relevant for #Industry40	26/05/2021	Online			х	G	
R33	Internet / Social Media	Retweeted press release post related to the 4th Plenary Meeting of the Rainbow Project that took place virtually on 18- 19th of May 2021.	28/05/2021	Online			х	G	
R34	Internet / Social Media	Retweeted post on the 4th issue of Rainbow's newsletter	31/05/2021	Online			Х	G	
R35	Internet / Social Media	Retweeted post to Join the #DevOps #conference and workshop organized by the colleagues of the @_morphemic_ project. The topic is: "Proactive and polymorphic adaptation of multi-cloud deployments"	04/06/2021	Online			х	G	
R36	Internet / Social Media	Retweeted post REGAINDataWeek workshop @datalab_auth @suite5eu highlighted the example of #RAINBOW_H2020 and the importance of #EdgeComputing #FogComputing acting as enablers in the circular transformation. Find the REGAIN outcomes: indexhttps://datalab.csd.auth.g	09/06/2021	online			x	G	
R37	Internet / Social Media	Retweeted 3rd #SecSoft workshop: July 2, 2021 in Tokyo Cyclone. A joint initiative from EU #CyberSecurity projects, among them is #RAINBOW H2020	11/06/2021	Online			x	G	
R38	Internet / Social Media	Retweeted post that Rainbow will co-chair the 3rd Workshop on Cyber-Security Arms Race (CYSARM) (CCS, South Korea, Hybrid Event), on November 19th, 2021.	14/06/2021	Online			х	G	
R39	Internet / Social Media	Retweeted post Rainbow attended the community event organized by @HCLOUD_Project where insightful presentations were given on the value of opensource to the future of the cloudcomputing ecosystem!	15/6/2021	Online			х	G	
R40	Presentations / Demos	Seminar talk given at the Univerisity of Pittsburgh by Demetris Trihinas providing an overview of self-adaptive monitoring techniques tackling data management and energy- efficiency for the internet of things: 'Low-Cost Approximate and Adaptive Monitoring Techniques' -	16/2/2021	Online			х	G	



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		https://www.slideshare.net/De metrisTrihinas							
R41	Presentations / Demos	Presentation of Fogify to Rajkumar Buyya and his Laboratiory at the University of Melbourne, Australia	18/11/2020	Online, zoom			х	С	
R42	Presentations / Demos	Presentation of a Master's Thesis at UCY by Andreas Ioannou, Workload Generator for IoT Devices for Fog Computing (2020-12-21)	21/12/2020	Online	х			С	
R43	Presentations / Demos	Presentation of a Bachelor's Thesis at UCY by Andreas Vasileiou, 'Implementation, Simulation and Evaluation of Monitoring Application Performance from a flight of drones' (ΥΛΟΠΟΙΗΣΗ ΠΡΟΣΟΜΟΙΩΣΗ ΚΑΙ ΑΞΙΟΛΟΓΗΣΗ ΑΠΟΔΟΣΗΣ ΕΦΑΡΜΟΓΗΣ ΠΑΡΑΚΟΛΟΥΘΗΣΗΣ ΑΠΟ ΕΝΑ ΣΜΗΝΟΣ ΑΠΟ DRONES)	30/05/2021	Online	x			С	
R44	Presentations / Demos	Presentation of a Bachelor's Thesis at UCY by Panayiotis Kyriakou, 'Application of Robotic Arm' (ΕΦΑΡΜΟΓΕΣ ΡΟΜΠΟΤΙΚΟΥ ΒΡΑΧΙΟΝΑ)	01/06/2021	Online	x			С	
R45	Internet / Social Media	Retweet post of The PLEDGER reference architecture flyer that is now available on their website.	21/07/2021	Online			V	G	
R46	Internet / Social Media	Retweeted post of The first VIDEO of #RAINBOW_H2020 RAINBOW's consortium releases the first video of the project entitled "RAINBOW Approach".	26/07/2021	Online			V	G	
R47	Internet / Social Media	Retweet post that the 1st version of the #RAINBOW_H2020 platform has been realised!	04/08/2021	Online			V	G	
R48	Internet / Social Media	Retweet post of the @GLASS_H2020_EU Project who published their 1st newsletter	24/08/2021	Online			V	G	
R49	Internet / Social Media	Retweet post re:Storage for edge computing is the next frontier for IoT	26/08/2021	Online			V	G	
R50	Internet / Social Media	Retweet post re: #TPM-based #KeyManagement for the @RainbowH2020 platform presented by our partners from @Infineon at @ARES_Conference (August 17th to 20th), published at ACM https://dl.acm.org/doi/10.1145 /3465481.3470063	30/08/2021	Online			V	G	



D7.3 – Open-Source Contributions, Dissemination, Clustering and Workshop Activities Report - Final Date: 31.12.2022

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R51	Internet / Social Media	Retweet post RE: First version of the RAINBOW platform – Press release	14/09/2021	Online			V	G	
R52	Internet / Social Media	Retweet post RE - Big Data Conferene - "Complex AI Forecasting Methods for Investments Portfolio Optimization" and more, by the colleagues of the @_morphemic: https://bigdataconference.eu/	21/09/2021	Online			V	G	
R53	Internet / Social Media	Retweet post re:  @HCLOUD_Project workshop, the #RAINBOW_H2020 project will demonstrate the advanced features included in the first release of its #FogComputing platform and present an inside view on the approach for pushing "intelligence" to the #networkedge	23/09/2021	Online			٧	G	
R54	Internet / Social Media	Linc UCY Tweet post regarding HCLOUD Project workshop, tUnleashing the Potential of Cloud, Fog, and Edge Computing in Europe" feat RAINBOW project	24/09/2021	Online			٧	G	
R55	Internet / Social Media	Retweet post re: partners from MSP are preparing the integration of distributed UAV ground control stations with the fog services of the RAINBOW H2020 architecture, allowing for coordination of collective extensive job of a group of drones, increasing the efficiency and #secureIoT	24/09/2021	Online			>	G	
R56	Internet / Social Media	Retweet post to Join the 5G Made Together conference and watch very interesting presentations about the main challenges of ML/AI in the Beyond 5G open-RAN networks, by the colleagues of the MORPHEMIC	13/10/2021	Online			٧	G	
R57	Internet / Social Media	Retweet post from the GLASS_H2020_EU project who published a new blog post. It's about state-of-the-art practices and best-of-breed technologies in eGovernment	14/10/2021	Online			V	G	
R58	Internet / Social Media	Retweet post on Rainbow's Newsletter Release - 5th Issue	19/10/2021	Online			V	G	
R59	Internet / Social Media	Retweet post on WHY IS EDGE-COMPUTING AN IMPERATIVE FOR INNOVATION IN A DATA-DRIVEN WORLD? https://www.analyticsinsight.n et/why-is-edge-computing-an-	20/10/2021	Online			V	G	



 $\label{eq:D7.3-Open-Source Contributions} Dissemination, Clustering and Workshop Activities Report - Final$ 

Date: 31.12.2022 Dissemination Level: PU

	KA	INBOW							
		imperative-for-innovation-in-a- data-driven-world/							
R60	Internet / Social Media	Retweet post to join he @HCLOUD_Project #event "Proactive and Polymorphic Adaptation of #MultiCloud Deployments"	22/10/2021	Online			V	G	
R61	Internet / Social Media	Retweet post on Nora Winkens who presents 4 key technologies that are driving loTdevelopment, one of them highly related with RainbowH2020 is CloudComputing https://ai.plainenglish.io/4-keytechnologies-that-are-driving-iot-development-3c68c1b17434	26/10/2021	Online			٧	G	
R62	Internet / Social Media	Retweet post to check out the GLASS Value Chain which our colleagues from the GLASS_H2020_EU Project have provided.	29/10/2021	Online			٧	G	
R63	Internet / Social Media	Retweet Blog Post on RAINBOW_H2020 finalizing the early release of the three virtual demonstrators: Human Robot Collaboration, DigitalTransformation of Urban Mobility & PowerLine Surveillance use cases, to evaluate the first version of the RAINBOW platform	01/11/2021	Online			٧	G	
R64	Internet / Social Media	Retweet post that In RAINBOW_H2020 FogComputing platform a DataAnalytics pipeline is continuously monitoring and analysing metadata using lightweight agents running on fog nodes. Results are collected and visualised to provide insights for the fog cluster and the well-being of user services.	03/11/2021	Online			V	G	
R65	Internet / Social Media	Retweet post on ICICT 2022, the colleagues from the Pledger project are organising a special session entitled "Unleashing the potential of #EdgeComputing in Europe".	08/11/2021	Online			V	G	
R66	Internet / Social Media	Tweet post on 3rd Workshop on Cyber-Security Arms Race (CYSARM)	09/11/2021	Online			٧	G	
R67	Internet / Social Media	Retweet post Fogify is an open- source FogComputing emulation framework that enables modelling, deployment and experimentation of IoT services under realistic environment assumptions, faults and uncertainties.	23/11/2021	Online			V	G	



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R68	Internet / Social Media	Retweet post for new blog post regarding "#Automation of massive #deployment of #blockchain #network nodes on #fog and #edge environments"	24/11/2021	Online		V	G	
R69	Internet / Social Media	Retweet post The 5th Plenary Meeting of the RAINBOW_H2020 took place on the 16th and 19th of November 2021. Following a hybrid approach, a team of partners met physically in Athens with others joining online	26/11/2021	Online		V	G	
R70	Internet / Social Media	Retweet post As part of Stellantis, our partners from CRF, are working on their connected vehicle to make it compatible with the RAINBOW_H2020 architecture. CRF communication system employs cutting-edge communication technologies.	29/11/2021	Online		V	G	
R71	Internet / Social Media	Retweet post to join the HorizonCloudSummit 2021 virtual event 8-9 Dec. The event aims at gathering innovators & researchers, Cloud adopters, policymakers, as well as Cloud initiatives and opensource projects to shape the EU digitaltransition.	02/12/2021	Online		V	G	
R72	Internet / Social Media	Retweet post LInC_UCY implemented Fogify, a FogComputing emulation framework https://rainbow- h2020.eu/fogify-in-rainbow/	02/12/2022	Online		V	G	
R73	Internet / Social Media	Retweet post PLEDGER Webinar: Augmented reality engineering powered by Edge Computing 21st December 2021	14/12/2021	Online		V	G	
R74	Internet / Social Media	Retweet post for new blogpost regarding "RAINBOW_H2020 Privacy-Respecting Configuration Integrity Verification" https://rainbow-h2020.eu/rainbow-privacy-respecting-configuration-integrity-verification/	13/12/2021	Online		V	G	
R75	Internet / Social Media	Retweet post re The validation of PLEDGER's use case for enhancing the safety of vulnerable road users includes the integration between simulated road users' locations and physical devices	16/12/2021	Online		V	G	
R76	Internet / Social Media	Retweet post re the Coordination and Support Action that is part of the @HCLOUD_Project initiative, as part of its Interview Series "European	17/12/2021	Online		V	G	



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		#Cloud Stakeholders on the Spot", presents another interesting interview!							
R77	Internet / Social Media	Tweet post The 6th issue of RAINBOW's Newsletter	23/12/2021	Online			V	G	
R78	Internet / Social Media	Retweet post re new blogpost why integration and development process are important for @RainbowH2020 project https://rainbow-h2020.eu/why-integration-and-development-process-are-important-for-rainbow-project/	14/01/2022	Online			V	G	
R79	Internet / Social Media	Retweet post re DatalabAUTH with RainbowH2020 organize the workshop "Processing Data in the Fog - The example of the RAINBOW_H2020 FogComputing platform"	29/03/2022	Online			V	G	
R80	Internet / Social Media	Retweet post Webinar: "The RAINBOW Data Management and Analytics Stack in Action!" organized by LINC and Datalab Auth	06/05/2022	Online			V	G	
R81	Internet / Social Media	Retweet post re host a technical webinar on creating and managing high- level SLOs with the Polaris Framework on June 15, 15:00 – 16:10 CEST.	18/05/2022	Online			V	G	
R82	Internet / Social Media	Retweet post re host a workshop on Edge Orchestration on June 21 17:30 – 20:00 CEST.	19/05/2022	Online			V	G	
R83	Internet / Social Media	Retweet post re blogpost from @RainbowH2020 which introduces the RAINBOW_H2020 Privacy-Preserving Control-Flow Attestation Component. https://rainbow-h2020.eu/introducing-therainbow-privacy-preserving-control-flow-attestation-component/	16/05/2022	Online			V	G	
R84	Internet / Social Media	Retweet post re hosting a technical webinar titled "The RAINBOW DataManagement and Analytics Stack in Action".	23/05/2022	Online			٧	G	
R85	Internet / Social Media	Retweet post re 8th issue of Rainbow's newsletter	25/05/2022	Online			V	G	
R86	Internet / Social Media	Retweet post re online workshop on Edge Orchestration on 21/06/2022	16/06/2022	Online			٧	G	



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R87	Internet / Social Media	Retweet post on Workshop on: "Edge Orchestration"	20/06/2022	Online			V	G	
R88	Conferences / Seminars	Demo: The Rainbow Analytics Stack For the Fog Continuum", Moysis Symeonides, Demetris Trihinas, Joanna Georgiou, Michalis Kasioulis, George Pallis, Marios D. Dikaiakos, Theodoros Toliopoulos, Anna- Valentini Michailidou, Anastasios Gounaris, "Proceedings of the 27th IEEE Symposium on Computers and Communications" (ISCC '22), 2022	30/06/- 03/07/2022	Rhodes Island, Greece			V	G	
R89	Flyers / Posters	"BenchPilot: Automated Benchmarking for Edge Micro- DCs", Joanna Georgiou, Moysis Symeonides, Michalis Kasioulis, Demetris Trihinas, George Pallis, Marios Dikaiakos, 4th Summit on Gender Equality in Computing organized by csdauthgr and the GreekAcm	16-17/06/2022	Thessaloniki , Greece.				G	
R90	Conferences / Seminars	"BenchPilot: Repeatable & Reproducible Benchmarking for Edge Micro-DCs", Joanna Georgiou, Moysis Symeonides, Michalis Kasioulis, Demetris Trihinas, George Pallis, Marios D. Dikaiakos "Proceedings of the 27th IEEE Symposium on Computers and Communications" (ISCC '22), 2022	30/06/- 03/07/2022	Rhodes Island, Greece				G	
R91	Conferences / Seminars	5G-Slicer: An emulator for mobile IoT applications deployed over 5G network slices', Moysis Symeonides, Demetris Trihinas, George Pallis, Marios D. Dikaiakos, Constantinos Psomas, Ioannis Krikidis, "Proceedings of the 7th ACM/IEEE Conference on Internet of Things Design and Implementation" (IoTDI '22), 2022.	03/05/ - 06/05/2022	Milan, Italy				G	
R92	Presentations / Demos	"Demo: Emulating 5G-Ready Mobile IoT Services", Moysis Symeonides, Demetris Trihinas, George Pallis, Marios D. Dikaiakos, "Proceedings of the 7th ACM/IEEE Conference on Internet of Things Design and Implementation" (IoTDI '22), 2022.	03/05/ - 06/05/2023	Milan, Italy				G	
R93	Internet / Social Media	Tweet post"5G-Slicer: An emulator for mobile #IoT applications deployed over 5G network slices", won Best Paper Award at ACM/IEEE #IoTDi2022.	16/05/2022	Online			V	G	



 $\begin{array}{l} D7.3 - Open\mbox{-Source Contributions, Dissemination, Clustering and Workshop Activities Report - Final \\ Date: 31.12.2022 \end{array}$ 

R94	Internet / Social Media	Retweet post re: blogpost about the "Development of geo-referenced alert services in #urban areas"	23/06/2022	Online			٧	G	
R65	Internet / Social Media	Retweet post on ICICT 2022, the colleagues from the Pledger project are organising a special session entitled "Unleashing the potential of #EdgeComputing in Europe".	08/11/2021	Online			V	G	
R66	Internet / Social Media	Tweet post on 3rd Workshop on Cyber-Security Arms Race (CYSARM)	09/11/2021	Online			V	G	
R67	Internet / Social Media	Retweet post Fogify is an open- source FogComputing emulation framework that enables modelling, deployment and experimentation of IoT services under realistic environment assumptions, faults and uncertainties.	23/11/2021	Online			V	G	
R68	Internet / Social Media	Retweet post for new blog post regarding "#Automation of massive #deployment of #blockchain #network nodes on #fog and #edge environments"	24/11/2021	Online			V	G	
R69	Internet / Social Media	Retweet post The 5th Plenary Meeting of the RAINBOW_H2020 took place on the 16th and 19th of November 2021. Following a hybrid approach, a team of partners met physically in Athens with others joining online	26/11/2021	Online			٧	G	
R70	Internet / Social Media	Retweet post As part of Stellantis, our partners from CRF, are working on their connected vehicle to make it compatible with the RAINBOW_H2020 architecture. CRF communication system employs cutting-edge communication technologies.	29/11/2021	Online			V	G	
R71	Internet / Social Media	Retweet post to join the HorizonCloudSummit 2021 virtual event 8-9 Dec. The event aims at gathering innovators & researchers, Cloud adopters, policymakers, as well as Cloud initiatives and opensource projects to shape the EU digitaltransition.	02/12/2021	Online			٧	G	
R72	Internet / Social Media	Retweet post LInC_UCY implemented Fogify, a FogComputing emulation framework https://rainbow- h2020.eu/fogify-in-rainbow/	02/12/2022	Online			V	G	



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R73	Internet / Social Media	Retweet post PLEDGER Webinar: Augmented reality engineering powered by Edge Computing 21st December 2021	14/12/2021	Online			V	G	
R74	Internet / Social Media	Retweet post for new blogpost regarding "RAINBOW_H2020 Privacy-Respecting Configuration Integrity Verification" https://rainbow-h2020.eu/rainbow-privacy-respecting-configuration-integrity-verification/	13/12/2021	Online			V	G	
R75	Internet / Social Media	Retweet post re The validation of PLEDGER's use case for enhancing the safety of vulnerable road users includes the integration between simulated road users' locations and physical devices	16/12/2021	Online			V	G	
R76	Internet / Social Media	Retweet post re the Coordination and Support Action that is part of the @HCLOUD_Project initiative, as part of its Interview Series "European #Cloud Stakeholders on the Spot", presents another interesting interview!	17/12/2021	Online			V	G	
R77	Internet / Social Media	Tweet post The 6th issue of RAINBOW's Newsletter	23/12/2021	Online			V	G	
R78	Internet / Social Media	Retweet post re new blogpost why integration and development process are important for @RainbowH2020 project https://rainbow-h2020.eu/why-integration-and-development-process-are-important-for-rainbow-project/	14/01/2022	Online			V	G	
R79	Internet / Social Media	Retweet post re DatalabAUTH with RainbowH2020 organize the workshop "Processing Data in the Fog - The example of the RAINBOW_H2020 FogComputing platform"	29/03/2022	Online			V	G	
R80	Internet / Social Media	Retweet post Webinar: "The RAINBOW Data Management and Analytics Stack in Action!" organized by LINC and Datalab Auth	06/05/2022	Online			V	G	
R81	Internet / Social Media	Retweet post re host a technical webinar on creating and managing high- level SLOs with the Polaris Framework on June 15, 15:00 – 16:10 CEST.	18/05/2022	Online			V	G	



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R82	Internet / Social Media	Retweet post re host a workshop on Edge Orchestration on June 21 17:30 – 20:00 CEST.	19/05/2022	Online			V	G	
R83	Internet / Social Media	Retweet post re blogpost from @RainbowH2020 which introduces the RAINBOW_H2020 Privacy-Preserving Control-Flow Attestation Component. https://rainbow-h2020.eu/introducing-the-rainbow-privacy-preserving-control-flow-attestation-component/	16/05/2022	Online			V	G	
R84	Internet / Social Media	Retweet post re hosting a technical webinar titled "The RAINBOW DataManagement and Analytics Stack in Action".	23/05/2022	Online			٧	G	
R85	Internet / Social Media	Retweet post re 8th issue of Rainbow's newsletter	25/05/2022	Online			V	G	
R86	Internet / Social Media	Retweet post re online workshop on Edge Orchestration on 21/06/2022	16/06/2022	Online			<b>V</b>	G	
R87	Internet / Social Media	Retweet post on Workshop on: "Edge Orchestration"	20/06/2022	Online			V	G	
R88	Conferences / Seminars	Demo: The Rainbow Analytics Stack For the Fog Continuum", Moysis Symeonides, Demetris Trihinas, Joanna Georgiou, Michalis Kasioulis, George Pallis, Marios D. Dikaiakos, Theodoros Toliopoulos, Anna- Valentini Michailidou, Anastasios Gounaris, "Proceedings of the 27th IEEE Symposium on Computers and Communications" (ISCC '22), 2022	30/06/- 03/07/2022	Rhodes Island, Greece			V	G	
R89	Flyers / Posters	"BenchPilot: Automated Benchmarking for Edge Micro- DCs", Joanna Georgiou, Moysis Symeonides, Michalis Kasioulis, Demetris Trihinas, George Pallis, Marios Dikaiakos, 4th Summit on Gender Equality in Computing organized by csdauthgr and the GreekAcm	16-17/06/2022	Thessaloniki , Greece.				G	
R90	Conferences / Seminars	"BenchPilot: Repeatable & Reproducible Benchmarking for Edge Micro-DCs", Joanna Georgiou, Moysis Symeonides, Michalis Kasioulis, Demetris Trihinas, George Pallis, Marios D. Dikaiakos "Proceedings of the 27th IEEE	30/06/- 03/07/2022	Rhodes Island, Greece				G	



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		Symposium on Computers and							
		Communications" (ISCC '22), 2022							
R91	Conferences / Seminars	5G-Slicer: An emulator for mobile IoT applications deployed over 5G network slices', Moysis Symeonides, Demetris Trihinas, George Pallis, Marios D. Dikaiakos, Constantinos Psomas, Ioannis Krikidis, "Proceedings of the 7th ACM/IEEE Conference on Internet of Things Design and Implementation" (IoTDI '22), 2022.	03/05/ - 06/05/2022	Milan, Italy				G	
R92	Presentations / Demos	"Demo: Emulating 5G-Ready Mobile IoT Services", Moysis Symeonides, Demetris Trihinas, George Pallis, Marios D. Dikaiakos, "Proceedings of the 7th ACM/IEEE Conference on Internet of Things Design and Implementation" (IoTDI '22), 2022.	03/05/ - 06/05/2023	Milan, Italy				G	
R93	Internet / Social Media	Tweet post"5G-Slicer: An emulator for mobile #IoT applications deployed over 5G network slices", won Best Paper Award at ACM/IEEE #IoTDi2022.	16/05/2022	Online			>	G	
R94	Internet / Social Media	Retweet post re: blogpost about the "Development of geo-referenced alert services in #urban areas"	23/06/2022	Online			V	G	
R95	Internet / Social Media	Retweet post re 7th Plenary Meeting	28/06/2022	Online			٧	G	
R96	Others	Post Hybrid Talk: An emulation framework for IoT, Fog, and Edge Applications - Moysis Symeonides, University of Cyprus. Organised by @iit_demokritos SKEL   The Al Lab.	30/06/2022	Online			V	G	
R97	Internet / Social Media	Retweet blogpost from H2020Puzzle, titled "Analysing #encrypted traffic to identify security	01/07/2022	Online			٧	G	
R98	Scientific Publications	BenchPilot: Repeatable & Reproducible Benchmarking for Edge Micro-DCs" won Best Student Paper Award at IEEE ISCC 2022	04/07/2022	Online			٧	С	
R99	Internet / Social Media	Post paper "BenchPilot: Repeatable & Reproducible Benchmarking for Edge Micro- DCs" won Best Student Paper Award at IEEE #ISCC 2022	04/07/2022	Online			٧	G	



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R100	Internet / Social Media	Retweet post that RAINBOWH2020 has successfully held its 3rd technical webinar on 15 June 2022. Project's partners from @tu_wien provided an overview of the capabilities of the Polaris Framework which is used to implement the SLO controllers & elasticity strategies in RAINBOW	06/07/2022	Online			٧	G	
R101	Internet / Social Media	Retweet post re blogpost from H2020Puzzle titled "Real-time Monitoring and Complex Event Processing in PUZZLE"	11/07/2022	Online			V	G	
R102	Internet / Social Media	Retweet blogpost from #RAINBOW_H2020. It presents an analysis on why Fog/Edge Computing is needed in Decentralized Indoor Localization Systems for Manufacturing Environments and what RAINBOW provides.	17/07/2022	Online			٧	G	
R103	Internet / Social Media	Retweet blog post that introduces RAINBOW's platform 2nd release	21/07/2022	Online			V	G	
R104	Internet / Social Media	Retweet blogpost that presents an initial approach on RAINBOW's roadmap to impact assessment	19/07/2022	Online			٧	G	
R105	Internet / Social Media	Retweet blogpost, titled "Techonologies Behind the PUZZLE Project".	22/07/2022	Online			>	G	
R106	Internet / Social Media	Retweet blogpost, titled "inGOV: Pilots planning and initial evaluation – Milestone 3".	20/07/2022	Online			٧	G	
R107	Internet / Social Media	Retweet post for 9th issue of our newsletter	25/07/2022	Online			>	G	
R108	Internet / Social Media	Retweet post for delivering the 2nd version of RAINBOW integrated fog computing platform.	26/07/2022	Online			V	G	
R109	Internet / Social Media	Retweet blogpost on RAINBOW_H2020 website: "RAINBOW 2nd release - Service Graph Editor & Analytics Editor".	28/09/2022	Online			٧	G	
R110	Internet / Social Media	Retweet blogpost of H2020PUZZLE which presents the "PUZZLE Framework Architecture"	03/08/2022	Online			٧	G	
R111	Internet / Social Media	Retweet post Hasan Selman article presentation in @DataconomyMedia about the basics on FogComputing	30/08/2022	Online			V	G	



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R112	Internet / Social Media	Retweet inGov blogpost regarding the Austrian pilot of the project.	24/08/2022	Online			V	G	
R113	Internet / Social Media	Retweet The second version of RAINBOW's brochure	02/09/2022	Online			<	G	
R114	Internet / Social Media	Retweet blogpost from the @H2020Puzzle project, titled "Supporting Security Analysts via the PUZZLE Monitoring Dashboard and Collective and Interactive Data Visualiser".	05/09/2022	Online			٧	G	
R115	Internet / Social Media	Retweet the second version of RAINBOW's flyer	08/09/2022	Online			V	G	
R116	Internet / Social Media	Retweet Rainbow's blogpost the main purpose of a Service- Level Objective (SLO) is ensuring that the system remains in optimal (or near- optimal) condition for the duration of its desired duty cycle.	09/09/2022	Online			٧	G	
R117	Internet / Social Media	Retweet blogpost from H2020Puzzle, titled "Bringing a cybersecurity platform to life: The PUZZLE story".	21/09/2022	Online			V	G	
R118	Internet / Social Media	Retweet Rainbow's blogpost on website: "Verifying the RAINBOW Security Model".	03/10/2022	Online			٧	G	
R119	Internet / Social Media	Retweet blogpost about Data Placement techniques for the Fog Continuum.	28/09/2022	Online			٧	G	
R120	Internet / Social Media	Retweet post of datalab_auth during the poster session of the 9th technforum in Thessaloniki	04/10/2022	Online			٧	G	
R121	Internet / Social Media	Retweet post from the H2020Puzzle project who have published a new blogpost, which presents the "Trust Assurance services in the PUZZLE framework	07/10/2022	Online			V	G	
R122	Internet / Social Media	Retweet post newblogpost on RAINBOW_H2020 website: "Drone Swarm Mobility Models".	11/10/2022	Online			٧	G	
R123	Internet / Social Media	Retweet The #RAINBOW_H2020 roll-up banner	19/10/2022	Online			V	G	



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R124	Internet / Social Media	LINC tweet post - The 1st day of Rainbow's 8th Plenary meeting in Cyprus	20/10/2022	Online			V	G	
R125	Internet / Social Media	Retweet Rainbow's post re: The 8th plenary meeting of the RAINBOW_H2020 project has kicked off today. The meeting is taking place in Nicosia, Cyprus	20/10/2022	online			V	G	
R126	Internet / Social Media	LINC tweet post - 2nd day of Rainbow's 8th Plenary meeting in Cyprus	21/10/2022	Online			V	G	
R127	Internet / Social Media	LinkediN repost Rainbow 8th Plenary Meeting in Nicosia, Cyprus	21/10/2022	Online			٧	G	
R128	Internet / Social Media	Retweet and Repost on LinkedIN UCY blogpost on RAINBOW_H2020 website: "5G Network Slicing Emulation for Fog applications".	24/10/2022	Online			V	G	
R129	Internet / Social Media	Retweet and Repost on LinkedIN The RAINBOW_H2020 poster	26/10/2022	Online			V	G	
R130	Internet / Social Media	Retweet The future of cloud is converging towards a cloud, edge #iot continuum, often called as the computing continuum.  Learn more about it via HUB4CLOUD's activities across its various activities & events	01/11/2022	Online			V	G	
R131	Internet / Social Media	LINC tweet and Repost on Linkedin RAINBOW (8th Plenary Meeting in Nicosia, Cyprus   PressRealease	04/11/2022	Online			٧	G	
R132	Internet / Social Media	LINC Tweet and LinkedIN Post Rainbow's 10th issue of newsletter is now published!	07/11/2022	Online			٧	G	
R133	Flyers / Posters	LINC UCY#Rainbow Hackathon   Building Internet of Things Applications with Docker Containers	08/11/2022						
R134	Internet / Social Media	LINC Tweet and LinkedIN Post Rainbow Hackathon Event for 03 December 2022	08/11/2022				٧	G	
R135	Internet / Social Media	Retweet post: RAINBOW_H2020 partners from Infineon will present a new paper at the TrustCom 2022 conference in Wuhan, China CN Enabling Anonymous Authenticated Encryption with a Novel Anonymous Authenticated Credential Key Agreement (AACKA)	09/11/2022				٧	G	



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R136	Internet / Social Media	Retweet post: ung So-yeon presents in Korea IT Times an article about: "The Power of the Cloud in the Automotive Industry"	10/11/2022			V	G	
R137	Internet / Social Media	Retweet post: RAINBOW_H2020 together with the EU-funded projects @Pledgerproject & @_morphemic_ will host the session "Next- generation platforms for Europe's Cloud continuum" under the prestigious @BDVA_eu in Prague, on November 23.	11/11/2022			٧	G	
R138	Internet / Social Media	Retweet post: RAINBOW_H2020 partners from @tu_wien will present a paper at the @ucc_bdcat conference in Vancouver,Washington,USA usPolaris Scheduler: SLO- and Topology-aware Microservices Scheduling at the Edge	14/11/2022			V	G	
R139	Internet / Social Media	Retweet post: Use Case 3 Webinar: Power Line Surveillance via Swarm of Drones	15/11/2022			>	G	
R140	Internet / Social Media	Retweet post: The EU-funded research and innovation projects RAINBOW_H2020, Pledgerproject & morphemic are hosting a session under the prestigiousEBDVF22	16/11/2022			V	G	
R141	Flyers / Posters	5G-Slicer:An emulation framework for 5g-enabled IoT applications	30/11/2022					
R142	Internet / Social Media	LINC Tweet: RAINBOW participation at the 7th Innovation & Entrepreneurship Forum,https://c4e.org.cy/ief20 22/ with '5G-Slicer:An emulation framework for 5g- enabled IoT applications'	30/11/2022			V	G	
R143	Internet / Social Media	LINC Tweet: LINC (UCY) Rainbow Hackathon - 03 December 2022! M.Symeonides introduced the IoT technologies/containerization/ RAINBOW Platform via a hands-on tutorial/deploy an application using the latter technologies on a cluster with Raspberry Pis.	05/12/2022			>	G	
R144	Internet / Social Media	Retweet Rainbow's post: Under the context of RAINBOW_H2020, project's partners from LInC_UCY organised succesfully	06/12/2022			V	G	



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Dissemination Level: PU

		ahackathon event on the3rd of December						
R145	Internet / Social Media	LinkediN LINC post: LInC (UCY),RAINBOW Project - H2020 Hackathon held on 03 December 2022! Moysis Symeonides introduced to the audience the IoT technologies, containerization, and RAINBOW Platform via a hands-on tutorial. Finally, the participants had the opportunity to deploy an application using the latter technologies on a cluster with Raspberry Pis.	05/12/2022			V	G	
R146	Meetings	8th Plenary Meeting, Nicosia Cyprus	20-21/10/2022				С	
R147	Presentations / Demos	Presentation of Fogify Emulator	21/4/2022				С	
R148	Lobbying / Networking	7th Innovation & Entrepreneurship Forum,https://c4e.org.cy/ief20 22/ with '5G-Slicer:An emulation framework for 5g- enabled IoT applications' Prof. M. Dikaiakos Panelist	30/11/2022				G	
R149	Conferences / Seminars	EBDVF2022 Forum, Prague 2022 George Pallis Panelist	21-23/11/2022				В	

# III.5 DTU

	Referen ce	Activities	Short description (name, title, URL, etc.)	Date (start date - end date)	Place	•	Level  (L = local / R = regional / N = national / E = EU / W = worldwide)  L R N E W				Audience (characteristics of the target group)	Reach  (size / no of organisations / persons reached approximately)
•	R1	Conferences / Seminars	CloudVaults: Integrating Trust Extensions into System Integrity Verification for Cloud- based Environments, Proceedings of ESORICS 2020	14-18/09/2020	Online					х	G	150
	R2	Scientific Publications	Remote Attestation and Integrity Verification Solution in a Cloud Based Environment	12/2020	Online	х					С	



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Dissemination Level: PU

R2	Conferences / Seminars	SecSoft Workshop 2021 - to be organized together with NetSoft 2021	07/2021	Online			х	G	140
R4	Conferences / Seminars	CYSARM 2021 - to be organized together with CCS 2021	14-19/11/2021	Online			х	G	120
R5	Conferences / Seminars	ZEKRO: Zero-Knowledge Proof of Integrity Conformance	23-26/08/2022	Physical			x	G	165

# III.6 AUTH

Referen ce	Activities	Short description (name, title, URL, etc.)	Date (start date - end date)	Place	Level  (L = local / R = regional / N = national / E = EU / W = worldwide)  L R N E W				W =	Audience (characteristics of the target group)	Reach  (size / no of organisations / persons reached approximately)
R1	Internet / Social Media	Post about RAINBOW project in Datalab's official Facebook page	22/5/2020	Online	_				х	G	306
R2	Internet / Social Media	Post about RAINBOW project in Datalab's official Facebook page	27/5/2020	Online			-		х	G	176
R2	Internet / Social Media	Post about RAINBOW project in Datalab's official LinkedIn account	2/6/2020	Online					х	G	779
R4	Internet / Social Media	Retweet of RAINBOW's post by personal account	10/6/2020	Online					х	O	22
R5	Internet / Social Media	Post about RAINBOW project in Datalab's official Facebook page	10/6/2020	Online					х	G	140
R6	Conferences / Seminars	Demo paper in ACM SIGMOD/PODS International Conference on Mangement of Data (https://dl.acm.org/doi/10.114 5/3318464.3384688)	14/6/2020 - 19/6/2020	Online					х	С	160
R7	Internet / Social Media	Share of RAINBOW's post by LinkedIn personal account	16/6/2020	Online					х	G	103
R8	Internet / Social Media	Post about RAINBOW project in Datalab's official LinkedIn account	16/6/2020	Online					х	G	421
R9	Internet / Social Media	Retweet of RAINBOW's post by personal account	17/6/2020	Online					х	G	22
R10	Internet / Social Media	Post about RAINBOW in LinkedIn personal account	18/6/2020	Online					х	G	39



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		1		Ì		1 1			l I
R11	Internet / Social Media	Share of RAINBOW's post by Datalab's official LinkedIn account	18/6/2020	Online			x	G	124
R12	Lobbying / Networking	Post in H-CLOUD community forum	7/7/2020	Online			х	C, D	27
R13	Internet / Social Media	Share of RAINBOW's post by Datalab's official Facebook account	8/7/2020	Online			х	G	157
R14	Internet / Social Media	Share of RAINBOW's post by Datalab's official LinkedIn account	9/7/2020	Online			x	G	618
R15	Internet / Social Media	Share of RAINBOW's post in LinkedIn personal account	9/7/2020	Online			х	G	46
R16	Internet / Social Media	Retweets of RAINBOW's posts by personal account	9-10/7/2020	Online			х	G	54
R17	Internet / Social Media	Post about the 1st issue of RAINBOW's newsletter by Datalab's official Facebook account	31/7/2020	Online			x	G	150
R18	Internet / Social Media	Post about the 1st issue of RAINBOW's newsletter by Datalab's official LinkedIn account	1/8/2020	Online			х	G	639
R19	Internet / Social Media	Post about the 1st issue of RAINBOW's newsletter in LinkedIn personal account	1/8/2020	Online			x	G	48
R20	Internet / Social Media	Tweet about the 1st issue of RAINBOW's newsletter in personal account	1/8/2020	Online			х	G	270
R21	Lobbying / Networking	Post in H-CLOUD community forum	1/8/2020	Online			х	C, D	27
R22	Internet / Social Media	Post about the 1st issue of RAINBOW's newsletter by Datalab's official webpage	3/8/2020	Online			х	С	276
R23	Internet / Social Media	Share of RAINBOW's participation in the DeSECSys Workshop on Datalab's official Facebook page	3/9/2020	Online			x	G	158
R24	Internet / Social Media	Share of RAINBOW's participation in the DeSECSys Workshop on Datalab's official LinkedIn page	5/9/2020	Online			х	G	270
R25	Internet / Social Media	Share of RAINBOW's post on Datalab's official Facebook page	8/9/2020	Online			х	G	144
R26	Internet / Social Media	Share of RAINBOW's post on Datalab's official LinkedIn page	8/9/2020	Online			х	G	269
R27	Internet / Social Media	Share of RAINBOW's post on Datalab's official Facebook page	16/9/2020	Online			х	G	135
R28	Internet / Social Media	Share of RAINBOW's post on Datalab's official LinkedIn page	16/9/2020	Online			х	G	334



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R29	Workshops	Attendance of the 1st Workshop on Dependability and Safety Emerging Cloud and Fog Systems (DeSECSys) organized under the ESORICS 2020 Conference	17/9/2020	Online		x		С	45
R30	Internet / Social Media	Share of RAINBOW's post on Datalab's official Facebook page	29/9/2020	Online			х	G	138
R31	Internet / Social Media	Share of RAINBOW's post on Datalab's official LinkedIn page	29/9/2020	Online			х	G	333
R32	Internet / Social Media	Share of RAINBOW's post on Datalab's official Twitter account	29/9/2020	Online			х	G	99
R33	Internet / Social Media	Posts and shares about RAINBOW in Datalab's members social media personal accounts	1/10/2020	Online			х	G	351
R34	Scientific Publications	Publication in the proceedings of the 2020 ACM SIGMOD International Conference on Management of DataJune 2020 (https://doi.org/10.1145/33184 64.3384688)	18/10/2020	Online			х	C	187
R35	Conferences / Seminars	Attendance of the European Big Data Value Forum 2020	5/11/2020	Online		х		A, B, C, D, F	154
R36	Internet / Social Media	Post about RAINBOW's 2nd plenary meeting by Datalab's official Linkedin account	24/11/2020	Online			х	G	337
R37	Internet / Social Media	Post about RAINBOW's 2nd plenary meeting by Datalab's official Facebook account	24/11/2020	Online			х	G	161
R38	Internet / Social Media	Post about the 2nd issue of RAINBOW's newsletter by Datalab's official Twitter account	2/12/2020	Online			x	G	144
R39	Internet / Social Media	Post about the 2nd issue of RAINBOW's newsletter by Datalab's official Linkedin account	2/12/2020	Online			x	G	269
R40	Internet / Social Media	Post about the 2nd issue of RAINBOW's newsletter by Datalab's official Facebook account	2/12/2020	Online			х	G	109
R41	Internet / Social Media	Post about the 2nd issue of RAINBOW's newsletter by Datalab's official webpage	2/12/2020	Online			х	С	364
R42	Lobbying / Networking	Post in H-CLOUD community forum	3/12/2020	Online			х	C, D	61
R43	Internet / Social Media	Share of RAINBOW's posts by the AUTH team members personal social media accounts	5/12/2020	Online			х	G	946
R44	Internet / Social Media	Post about RAINBOW's 3rd plenary meeting by Datalab's official Facebook page	10/2/2021	Online			х	G	137
R45	Internet / Social Media	Post about RAINBOW's 3rd plenary meeting in Facebook personal account	10/2/2021	Online			х	G	71



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R46	Internet / Social Media	Post about RAINBOW's 3rd plenary meeting in Facebook personal account	10/2/2021	Online			х	G	104
R47	Internet / Social Media	Post about RAINBOW's 3rd plenary meeting by Datalab's official LinkedIn account	10/2/2021	Online			х	G	578
R48	Internet / Social Media	Post about RAINBOW's 3rd plenary meeting in LinkedIn personal account	10/2/2021	Online			х	G	79
R49	Internet / Social Media	Post about RAINBOW's 3rd plenary meeting in LinkedIn personal account	10/2/2021	Online			х	G	475
R50	Internet / Social Media	Post about RAINBOW's launch of a series of blog posts by Datalab's official Facebook account	25/2/2021	Online			x	G	139
R51	Internet / Social Media	Post about RAINBOW's launch of a series of blog posts by Datalab's official LinkedIn account	25/2/2021	Online			x	G	205
R52	Internet / Social Media	Post about RAINBOW's launch of a series of blog posts by Datalab's official Twitter account	25/2/2021	Online			x	G	103
R53	Internet / Social Media	Post about RAINBOW's 3rd newsletter by Datalab's official Facebook page	28/2/2021	Online			х	G	119
R54	Internet / Social Media	Post about RAINBOW's 3rd newsletter by Datalab's official LinkedIn account	28/2/2021	Online			х	G	285
R55	Internet / Social Media	Post about RAINBOW's 3rd newsletter by Datalab's official Twitter account	28/2/2021	Online			х	G	77
R56	Lobbying / Networking	Post in H-CLOUD community forum	28/2/2021	Online			х	C, D	61
R57	Internet / Social Media	Post about the 3rd issue of RAINBOW's newsletter by Datalab's official webpage	2/3/2021	Online			х	С	351
R58	Internet / Social Media	Post about the 3rd issue of RAINBOW's newsletter in Facebook personal account	3/3/2021	Online			х	G	56
R59	Internet / Social Media	Post about RAINBOW's blog by Datalab's official LinkedIn account	8/3/2021	Online			х	G	170
R60	Internet / Social Media	Post about RAINBOW's blog in LinkedIn personal account	10/3/2021	Online			х	G	86
R61	Internet / Social Media	Post about the cooperation among RAINBOW and MORPHEMIC projects in LinkedIn personal account	16/3/2021	Online			x	G	73
R62	Internet / Social Media	Post about RAINBOW's use cases by Datalab's official LinkedIn account	23/3/2021	Online			х	G	201
R63	Internet / Social Media	Post about RAINBOW's use cases by Datalab's official Facebook page	30/3/2021	Online			х	G	123



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R64	Internet / Social Media	Post about RAINBOW's use cases by LinkedIn personal account	30/3/2021	Online			x	G	178
R65	Internet / Social Media	Post about RAINBOW's blog by Datalab's official Facebook page	5/4/2021	Online			х	G	102
R66	Internet / Social Media	Post about RAINBOW's blog by Datalab's official LinkedIn page	5/4/2021	Online			х	G	191
R67	Internet / Social Media	Post about RAINBOW's blog by Datalab's official Twitter account	5/4/2021	Online			х	G	104
R68	Internet / Social Media	Post about RAINBOW's blog by LinkedIn personal account	6/4/2021	Online			х	G	396
R69	Internet / Social Media	Post about RAINBOW's blog by Datalab's official LinkedIn page	6/4/2021	Online			x	G	212
R70	Internet / Social Media	Post about the cooperation among RAINBOW and MORPHEMIC projects by DATALAB's official LinkedIn page	19/4/2021	Online			х	G	256
R71	Internet / Social Media	Post about the cooperation among RAINBOW and MORPHEMIC projects by DATALAB's official Facebook page	19/4/2021	Online			х	G	125
R72	Internet / Social Media	Post about the cooperation among RAINBOW and MORPHEMIC projects by DATALAB's official Twitter account	19/4/2021	Online			х	G	119
R73	Internet / Social Media	Post about RAINBOW's blog by LinkedIn personal account	28/4/2021	Online			x	G	59
R74	Internet / Social Media	Post about RAINBOW's blog by DATALAB's official Twitter account	28/4/2021	Online			х	G	44
R75	Internet / Social Media	Post about the launch of RAINBOW's updated website by DATALAB's official LinkedIn page	5/5/2021	Online			х	G	186
R76	Internet / Social Media	Post about the launch of RAINBOW's updated website by personal Twitter account	5/5/2021	Online			х	G	21
R77	Internet / Social Media	Post about the launch of RAINBOW's updated website by DATALAB's official Facebook page	5/5/2021	Online			х	G	93
R78	Internet / Social Media	Post about the launch of RAINBOW's updated website by personal LinkedIn account	6/5/2021	Online			х	G	48
R79	Internet / Social Media	Post about RAINBOW's blog by personal LinkedIn account	13/5/2021	Online			х	G	6
R80	Internet / Social Media	Post about RAINBOW's blog by Datalab's official Twitter account	15/5/2021	Online			х	G	55
R81	Internet / Social Media	Post about RAINBOW's blog by Datalab's official Facebook page	17/5/2021	Online			х	G	94



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R82	Internet / Social Media	Share of RAINBOW's 4th plenary meeting by Datalab's official LinkedIn page	19/5/2021	Online			х	G	154
R83	Internet / Social Media	Share of RAINBOW's 4th plenary meeting by Datalab's official Twitter account	19/5/2021	Online			х	G	50
R84	Workshops	Organization of the workshop "REGAIN: Big data as key driver for circular digital transformation" under the BDVA/DAIRO Data Week 2021 event	27/5/2021	Online		х		A, B, C, D, F	75
R85	Internet / Social Media	Post about RAINBOW's 4th newsletter by Datalab's official Facebook page	31/5/2021	Online			х	G	108
R86	Internet / Social Media	Post about RAINBOW's 4th newsletter by Datalab's official Twitter account	31/5/2021	Online			х	G	26
R87	Internet / Social Media	Post about RAINBOW's 4th newsletter by Datalab's official LinkedIn account	31/5/2021	Online			х	G	156
R88	Internet / Social Media	Post about the 4th issue of RAINBOW's newsletter by Datalab's official webpage	31/5/2021	Online			х	G	318
R89	Internet / Social Media	Post about RAINBOW's presentation in the REGAIN workshop by Datalab's official Facebook page	11/6/2021	Online			х	G	102
R90	Internet / Social Media	Post about RAINBOW's presentation in the REGAIN workshop by Datalab's official LinkedIn account	11/6/2021	Online			х	G	136
R91	Internet / Social Media	Post about RAINBOW's presentation in the REGAIN workshop by personal LinkedIn account	11/6/2021	Online			х	G	56
R92	Internet / Social Media	Post about RAINBOW's presentation in the REGAIN workshop by Datalab's official Twitter account	11/6/2021	Online			x	G	25
R93	Internet / Social Media	Post about RAINBOW co- organizing the CYSARM workshop by Datalab's official Facebook page	15/6/2021	Online			x	G	69
R94	Internet / Social Media	Post about RAINBOW co- organizing the CYSARM workshop by Datalab's official Twitter account	15/6/2021	Online			х	G	121
R95	Workshops	AUTH attended the H-CLOUD Open Source Cloud Initiatives Community Event	15/6/2021	Online		x		A, C, D	41
R96	Internet / Social Media	Post about RAINBOW's use case on urban mobility by Datalab's official Facebook page	29/6/2021	Online			х	G	113
R97	Internet / Social Media	Post about RAINBOW co- organizing the CYSARM workshop by Datalab's official Facebook page	5/7/2021	Online			х	G	107



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R98	Internet / Social Media	Post about the H-CLOUD newsletter featuring the early release of RAINBOW's Fog Computing platform by Datalab's official LinkedIn account	12/7/2021	Online			х	G	231
R99	Internet / Social Media	Post about RAINBOW and the European Alliance for Industrial Data, Edge & Cloud by Datalab's official Twitter account	22/7/2021	Online			х	G	148
R100	Internet / Social Media	Post about RAINBOW and the European Alliance for Industrial Data, Edge & Cloud by Datalab's official LinkedIn account	22/7/2021	Online			х	G	205
R101	Internet / Social Media	Post about RAINBOW and the European Alliance for Industrial Data, Edge & Cloud by Datalab's official Facebook page	22/7/2021	Online			х	G	151
R102	Internet / Social Media	Share of post about RAINBOW's first video by Datalab's official LinkedIn account	26/7/2021	Online			x	G	161
R103	Internet / Social Media	Share of post about RAINBOW's first video by Datalab's official Twitter account	26/7/2021	Online			х	G	172
R104	Internet / Social Media	Share of post about RAINBOW's first video by Datalab's official Facebook page	26/7/2021	Online			х	G	113
R105	Internet / Social Media	Share of H-CLOUD post along with RAINBOW mention by Datalab's official Twitter account	1/8/2021	Online			х	G	79
R106	Internet / Social Media	Post about the early release of RAINBOW's Fog Computing platform by Datalab's official LinkedIn account	5/8/2021	Online			х	G	169
R107	Internet / Social Media	Post about the early release of RAINBOW's Fog Computing platform by Datalab's official Twitter account	5/8/2021	Online			х	G	122
R108	Internet / Social Media	Post about the early release of RAINBOW's Fog Computing platform by Datalab's official Facebook page	5/8/2021	Online			х	G	131
R109	Internet / Social Media	Post about RAINBOW's vision and IoT by Datalab's official Facebook page	18/8/2021	Online			х	G	111
R110	Internet / Social Media	Post about IoT & Edge Computing along with RAINBOW mention by Datalab's official Twitter account	9/9/2021	Online			x	G	59
R111	Internet / Social Media	Post about IoT & Edge Computing article along with RAINBOW mention by Datalab's official Facebook page	9/9/2021	Online			х	G	98
R112	Internet / Social Media	Share of RAINBOW's post about the early release of its Fog Computing platform by	15/9/2021	Online			х	G	157



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		Datalab's official LinkedIn account							
		account							
R113	Internet / Social Media	Post about open source and RAINBOW by Datalab's official Facebook page	21/9/2021	Online			х	G	99
R114	Internet / Social Media	Share of post about RAINBOW & open source by Datalab's official Twitter account	22/9/2021	Online			х	G	91
R115	Internet / Social Media	Post about RAINBOW's participation in the H-CLOUD September Technical Community Event by Datalab's official Twitter account	23/9/2021	Online			х	G	37
R116	Internet / Social Media	Post about RAINBOW's participation in the H-CLOUD September Technical Community Event by Datalab's official LinkedIn account	23/9/2021	Online			х	G	85
R117	Internet / Social Media	Post about RAINBOW's participation in the H-CLOUD September Technical Community Event by Datalab's official LinkedIn account	23/9/2021	Online			х	G	83
R118	Internet / Social Media	Reminder about RAINBOW's participation in the H-CLOUD September Technical Community Event by Datalab's official Twitter account	28/9/2021	Online			х	G	93
R119	Internet / Social Media	Reminder about RAINBOW's participation in the H-CLOUD September Technical Community Event by Datalab's official LinkedIn account	28/9/2021	Online			х	G	76
R120	Flyers / Posters	Participation in Beyond 4.0 Exhibition, Thessaloniki under AUTH's booth with promotional material that included RAINBOW information	14-16/10/2021	Online		х		B, C, D, G	180
R121	Internet / Social Media	Post about RAINBOW's 5th newsletter by Datalab's official official LinkedIn account	21/10/2021	Online			х	G	134
R122	Internet / Social Media	Post about RAINBOW's 5th newsletter by Datalab's official Twitter account	21/10/2021	Online			х	G	38
R123	Internet / Social Media	Post about RAINBOW's 5th newsletter by Datalab's official Facebook page	21/10/2021	Online			х	G	84
R124	Internet / Social Media	News item about RAINBOW's 5th newsletter by Datalab's official website	21/10/2021	Online			х	С	336
R125	Internet / Social Media	Post about RAINBOW's data analytics pipeline by Datalab's official Twitter account	3/11/2021	Online			х	G	17
R126	Internet / Social Media	Post about RAINBOW's data analytics pipeline by Datalab's official LinkedIn account	3/11/2021	Online			х	G	98
R127	Internet / Social Media	Post about RAINBOW's data analytics pipeline by Datalab's official Facebook page	3/11/2021	Online			х	G	164
R128	Internet / Social Media	Post about RAINBOW's 5th plenary meeting by Datalab's official Facebook page	16/11/2021	Online			х	G	215



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1										
	Internet /	Post about RAINBOW's 5th								
R129	Social Media	plenary meeting by Datalab's	16/11/2021	Online				х	G	126
	Jocial Wieula	official LinkedIn account								
		AUTH attended the 3rd								
		Workshop on Cyber-Security								
R130	Workshops	Arms Race (CYSARM)	19/11/2021	Online				Х	A, C	21
		co-located with the ACM CCS								
		2021								
	Internet /	Post about RAINBOW's								
R131	Social Media	participation in the 3rd	19/11/2021	Online				х	G	121
	Social Media	CYSARM workshop by Datalab's official Facebook page								
		Post about RAINBOW's								
	Internet /	participation in the 3rd								
R132	Social Media	CYSARM workshop by Datalab's	19/11/2021	Online				Х	G	142
		official LinkedIn account								
		Post about RAINBOW's								
R133	Internet /	participation in the 3rd	19/11/2021	Online				х	G	42
K133	Social Media	CYSARM workshop by Datalab's	19/11/2021	Offilite				^	ď	42
		official Twitter account								
	Internet /	Share of RAINBOW's blog post								
R134	Social Media	by Datalab's official Facebook	25/11/2021	Online				х	G	152
	,	page								
	Internet /	Share of RAINBOW's blog post								
R135	Social Media	by Datalab's official Twitter	25/11/2021	Online				х	G	26
		account								
	Internet /	Post about RAINBOW's 6th								
R136	Social Media	Newsletter in Datalab's official	22/12/2021	Online				Х	G	83
		Facebook page								
	Internet /	Post about RAINBOW's 6th								
R137	Social Media	Newsletter in Datalab's official	22/12/2021	Online				Х	G	190
		LinkedIn page								
	Internet /	Post about RAINBOW's 6th								
R138	Social Media	Newsletter by Datalab's official	22/12/2021	Online				Х	G	25
		Twitter account								
	Internet /	News item about RAINBOW's	/ /						-	
R139	Social Media	6th newsletter by Datalab's	23/12/2021	Online				Х	С	308
		official website					$\vdash \vdash$			
B	Internet /	Share of RAINBOW's blog post	42/1/2255	0 "					•	22
R140	Social Media	by Datalab's official Twitter account	12/1/2022	Online				Х	G	32
							1			
D4.44	Internet /	Share of RAINBOW's blog post	1 1 1 1 2 2 2 2	0 - 11 -					•	200
R141	Social Media	by Datalab's official Facebook	14/1/2022	Online				Х	G	288
		page					$\vdash$			
D4.42	Internet /	Share of RAINBOW's blog post	14/1/2022	0-1:					•	346
R142	Social Media	by Datalab's official LinkedIn	14/1/2022	Online				х	G	216
		page					$\vdash$			
D143	Internet /	Share of RAINBOW's blog post	14/1/2022	Online				.,	C	27
R143	Social Media	by Datalab's official Twitter account	14/1/2022	Online				Х	G	27
							$\vdash$			
D144	Internet /	Share of RAINBOW's blog post	25 /1 /2022	Online				.,	6	153
R144	Social Media	by Datalab's official Facebook	25/1/2022	Online				х	G	153
		page					$\vdash$			
D1 45	Internet /	Share of RAINBOW's blog post	25 /1 /2022	Online				.,	C	242
R145	Social Media	by Datalab's official LinkedIn page	25/1/2022	Online				Х	G	243
							$\vdash$			
D146	Internet /	Share of RAINBOW's blog post	25 /1 /2022	On!:				.,	6	20
R146	Social Media	by Datalab's official Twitter account	25/1/2022	Online				Х	G	20
							$\vdash$			
D147	Internet /	Share of RAINBOW's blog post	10/2/2022	Online				.,	6	104
R147	Social Media	by Datalab's official Facebook	10/2/2022	Online				Х	G	104
		page				<u> </u>				



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B115	Internet /	Share of RAINBOW's blog post	40/2/255	0 "					474
R148	Social Media	by Datalab's official LinkedIn page	10/2/2022	Online			Х	G	171
R149	Internet / Social Media	Share of RAINBOW's blog post by Datalab's official Twitter account	10/2/2022	Online			х	G	68
R150	Internet / Social Media	Share of RAINBOW's Webinar by Datalab's official Facebook page	21/2/2022	Online			х	G	68
R151	Internet / Social Media	Share of RAINBOW's Webinar by Datalab's official LinkedIn page	21/2/2022	Online			х	G	85
R152	Internet / Social Media	Share of RAINBOW's Webinar by Datalab's official Twitter account	21/2/2022	Online			х	G	34
R153	Internet / Social Media	Share of RAINBOW's post on ongoing Webinar by Datalab's official LinkedIn page	22/2/2022	Online			х	G	108
R154	Internet / Social Media	Post on the forthcoming RAINBOW workshop by Datalab's official Facebook page	3/3/2022	Online			x	G	401
R155	Internet / Social Media	Post on the forthcoming RAINBOW workshop by Datalab's official LinkedIn page	3/3/2022	Online			х	G	333
R156	Internet / Social Media	Post on the forthcoming RAINBOW workshop by Datalab's official Twitter account	3/3/2022	Online			x	G	44
R157	Internet / Social Media	Share of RAINBOW's blog post by Datalab's official Twitter account	8/3/2022	Online			х	G	8
R158	Internet / Social Media	Post about RAINBOW's 7th Newsletter in Datalab's official Facebook page	14/3/2022	Online			х	G	107
R159	Internet / Social Media	Post about RAINBOW's 7th Newsletter in Datalab's official LinkedIn page	14/3/2022	Online			х	G	134
R160	Internet / Social Media	Post about RAINBOW's 7th Newsletter by Datalab's official Twitter account	14/3/2022	Online			х	G	110
R161	Internet / Social Media	News item about RAINBOW's 7th newsletter by Datalab's official website	15/3/2022	Online			х	С	284
R162	Internet / Social Media	News item about RAINBOW's workshop on "Processing Data in the Fog" by Datalab's official website	17/3/2022	Online			x	С	312
R163	Internet / Social Media	Post about RAINBOW's workshop on "Processing Data in the Fog" in Datalab's official Facebook page	29/3/2022	Online			x	G	151
R164	Internet / Social Media	Post about RAINBOW's workshop on "Processing Data in the Fog" in Datalab's official LinkedIn page	29/3/2022	Online			x	G	99
R165	Internet / Social Media	Post about RAINBOW's workshop on "Processing Data in the Fog" by Datalab's official Twitter account	29/3/2022	Online			x	G	98
R166	Internet / Social Media	Post about RAINBOW's workshop on "Processing Data	1/4/2022	Online			х	G	307



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		in the Fog" in Datalab's official							
		Facebook page							
		Post about RAINBOW's							
	Internet /	workshop on "Processing Data							
R167	Social Media	in the Fog" in Datalab's official	1/4/2022	Online			Х	G	130
		LinkedIn page							
		Post about RAINBOW's							
R168	Internet /	workshop on "Processing Data	1/4/2022	Online			х	G	95
	Social Media	in the Fog" by Datalab's official							
		Twitter account Post about RAINBOW's							
	Internet /	workshop on "Processing Data							
R169	Social Media	in the Fog" in Datalab's official	4/4/2021	Online			Х	G	45
		Facebook page							
		Post about RAINBOW's							
R170	Internet /	workshop on "Processing Data	4/4/2021	Online			х	G	57
	Social Media	in the Fog" in Datalab's official LinkedIn page							
		Post about RAINBOW's							
D474	Internet /	workshop on "Processing Data	4/4/2024	Owline				6	112
R171	Social Media	in the Fog" by Datalab's official	4/4/2021	Online			х	G	113
		Twitter account							
		Online workshhop on							
		"Processing Data in the Fog - The example of the RAINBOW							
R172	Workshops	Fog Computing platform"	4/4/2021	Online		Х		A, B, C	48
		organized by AUTH and							
		supported by RAINBOW							
		Post about RAINBOW's							
R173	Internet /	workshop on "Processing Data	6/4/2022	Online			х	G	620
	Social Media	in the Fog" in Datalab's official Facebook page							
		Post about RAINBOW's							
D474	Internet /	workshop on "Processing Data	6/4/2022	0.1				6	463
R174	Social Media	in the Fog" in Datalab's official	6/4/2022	Online			х	G	463
		LinkedIn page							
	Intornat /	Post about RAINBOW's workshop on "Processing Data							
R175	Internet / Social Media	in the Fog" by Datalab's official	6/4/2022	Online			х	G	93
	Jocial Micala	Twitter account							
	l=1====== /	Post about RAINBOW's WP4							
R176	Internet / Social Media	technical webinar in Datalab's	5/5/2022	Online			х	G	64
	Jocial Media	official Facebook page							
	Internet /	Post about RAINBOW's WP4							
R177	Social Media	technical webinar in Datalab's	5/5/2022	Online			х	G	101
		official LinkedIn page							
D170	Internet /	Post about RAINBOW's WP4	2E /E /2022	Onlin -			.,	6	112
R178	Social Media	technical webinar in Datalab's official Facebook page	25/5/2022	Online			Х	G	113
		Post about RAINBOW's WP4							
R179	Internet /	technical webinar in Datalab's	25/5/2022	Online			х	G	109
	Social Media	official LinkedIn page	, -,					-	
	1	Post about RAINBOW's WP4							
R180	Internet / Social Media	technical webinar by Datalab's	25/5/2022	Online			х	G	23
	Social Media	official Twitter account							
	Internet /	Post about RAINBOW's 8th							
R181	Social Media	Newsletter by Datalab's official	27/5/2022	Online			х	G	18
		Twitter account		ļ					
B465	Internet /	Post about RAINBOW's 8th	20/5/2555					•	70
R182	Social Media	Newsletter in Datalab's official Facebook page	28/5/2022	Online			х	G	76
		i deebook page							



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R183	Internet / Social Media	Post about RAINBOW's 8th Newsletter in Datalab's official LinkedIn page	28/5/2022	Online			x	G	67
R184	Internet / Social Media	News item about RAINBOW's 8th newsletter by Datalab's official website	31/5/2022	Online			x	С	279
R185	Internet / Social Media	Post about RAINBOW's WP3 technical webinar in Datalab's official Facebook page	9/6/2022	Online			х	G	144
R186	Internet / Social Media	Post about RAINBOW's WP3 technical webinar in Datalab's official LinkedIn page	9/6/2022	Online			х	G	35
R187	Internet / Social Media	Post about RAINBOW's WP3 technical webinar by Datalab's official Twitter account	9/6/2022	Online			х	G	25
R188	Internet / Social Media	Repost about RAINBOW's WP4 technical webinar results in Datalab's official Facebook page	11/6/2022	Online			х	G	72
R189	Internet / Social Media	Repost about RAINBOW's WP4 technical webinar results in Datalab's official LinkedIn page	11/6/2022	Online			х	G	40
R190	Internet / Social Media	Repost about RAINBOW's WP4 technical webinar results by Datalab's official Twitter account	11/6/2022	Online			x	G	56
R191	Internet / Social Media	Post about RAINBOW's workshop on "Edge Orchestration" in Datalab's official LinkedIn page	20/6/2022	Online			х	G	60
R192	Internet / Social Media	Post about RAINBOW's workshop on "Edge Orchestration" by Datalab's official Twitter account	20/6/2022	Online			х	G	18
R193	Internet / Social Media	Repost about RAINBOW's 7th plenary meeting in Athens by Datalab's official Facebook page	28/6/2022	Online			х	G	104
R194	Internet / Social Media	Repost about RAINBOW's 7th plenary meeting in Athens by Datalab's official LinkedIn page	28/6/2022	Online			х	G	319
R195	Internet / Social Media	Repost about RAINBOW's 7th plenary meeting in Athens by Datalab's official Twitter account	28/6/2022	Online			х	G	48
R196	Internet / Social Media	Share of RAINBOW's 9th newsletter by Datalab's official Facebook page	26/7/2022	Online			х	G	83
R197	Internet / Social Media	Repost about RAINBOW'sRAINBOW's 9th newsletter by Datalab's official LinkedIn page	26/7/2022	Online			х	G	190
R198	Internet / Social Media	Repost about RAINBOW'sRAINBOW's 9th newsletter by Datalab's official Twitter account	26/7/2022	Online			х	G	32
R199	Internet / Social Media	News item about RAINBOW's 9th newsletter by Datalab's official website	26/7/2022	Online			х	С	217
R200	Internet / Social Media	Post about Datalab participation in the Beyond Expo 2022 in Thessaloniki with RAINBOW's presentation by	28/9/2022	Online			х	G	634



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		Datalab's official Facebook								
		page								
R201	Internet / Social Media	Post about Datalab participation in the Beyond Expo 2022 in Thessaloniki with RAINBOW's presentation by Datalab's official LinkedIn page	28/9/2022	Online				х	G	630
R202	-	Post about Datalab participation in the Beyond Expo 2022 in Thessaloniki with RAINBOW's presentation by Datalab's official Twitter account	28/9/2022	Online				х	G	117
R203	Flyers / Posters	Participation in the 9th Technology Forum in Thessaloniki with a RAINBOW poster	29/9/2022	Thessaloniki		x			A, B, D, F	268
R204	-	Post about Datalab participation in the Beyond Expo 2022 in Thessaloniki with RAINBOW's presentation by Datalab's official Facebook page	29/9/2022	Online				х	G	653
R205	Internet /	Post about Datalab participation in the Beyond Expo 2022 in Thessaloniki with RAINBOW's presentation by Datalab's official LinkedIn page	29/9/2022	Online				х	G	1258
R206	Presentations / Demos	Participation in the International BEYOND Expo in Thessaloniki with RAINBOW presentation	29/9/2022 - 1/10/2022	Thessaloniki			x		B, C, D, F, G	500
R207		Participation in the 1st Open Day of the Faculty of Science in Aristotle University of Thessaloniki with RAINBOW flyers	5/10/2022	Thessaloniki	x				С	85
R208		Post about Datalab's participation in the 1st Open Day of the Faculty of Science in Aristotle University of Thessaloniki with RAINBOW flyers by Datalab's official Facebook page	5/10/2022	Online				x	G	389
R209	Internet / Social Media	Post about Datalab's participation in the 1st Open Day of the Faculty of Science in Aristotle University of Thessaloniki with RAINBOW flyers by Datalab's official LinkedIn page	5/10/2022	Online				х	G	848
R210	Internet / Social Media	Post about Datalab's participation in the 1st Open Day of the Faculty of Science in Aristotle University of Thessaloniki with RAINBOW flyers by Datalab's official Twitter account	5/10/2022	Online				x	G	68
R211	Internet / Social Media	Retweet about RAINBOW's 8th plenary meeting in Cyprus by Datalab's official Twitter account	22/10/2022	Online				х	G	29
R212	Internet / Social Media	Post about the 10th issue of RAINBOW's newsletter by	4/11/2022	Online				х	G	157



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Dissemination Level: PU

		Datalab's official Facebook page								
R213	Internet / Social Media	Post about the 10th issue of RAINBOW's newsletter by Datalab's official LinkedIn page	4/11/2022	Online				х	G	187
R214	Internet / Social Media	Post about the 10th issue of RAINBOW's newsletter by Datalab's official Twitter account	4/11/2022	Online				х	G	13
R215	Internet / Social Media	Post about the 10th issue of RAINBOW's newsletter in Datalab's official website	7/11/2022	Online				х	G	229
R216	Internet / Social Media	Post about RAINBOW's joint session in EBDFV 2022 by Datalab's official Twitter account	14/11/2022	Online				x	G	33
R217	Internet / Social Media	Post about the AUTH RAINBOW hackathon in Data & Web Scince MSc programme official website	3/11/2022	Online				x	G	187
R218	Internet / Social Media	Post about RAINBOW's joint session in EBDFV 2022 by Datalab's official Twitter account	22/11/2022	Online				x	G	36
R219	Presentations / Demos	AUTH participation in the joint RAINBOW session hosted at EBDFV 2022	23/11/2022	Prague			x		A, B, C, D, F	30
R220	Internet / Social Media	Post about the AUTH RAINBOW hackathon by Datalab's official Facebook page	27/11/2022	Online				х	G	304
R221	Internet / Social Media	Post about the AUTH RAINBOW hackathon by Datalab's official LinkedIn page	27/11/2022	Online				х	G	368
R222	Internet / Social Media	Post about the AUTH RAINBOW hackathon by Datalab's official Twitter account	27/11/2022	Online				х	G	63
R223	Others	RAINBOW Hackathon with students participation organized in the premises of AUTH	3/12/2022	Thessaloniki	х				С	16
R224	Internet / Social Media	Post about the AUTH RAINBOW hackathon by Datalab's official Facebook page	3/12/2022	Online				х	G	564
R225	Internet / Social Media	Post about the AUTH RAINBOW hackathon by Datalab's official LinkedIn page	3/12/2022	Online				х	G	1459
R226	Internet / Social Media	Post about the AUTH RAINBOW hackathon by Datalab's official LinkedIn page	3/12/2022	Online				х	G	42

# III.7 LINKS

		Short description	Date				Level				Audience	Reach
Referen ce	Activities	(name, title, URL, etc.)	(start date - end date)	Place		(L = local / R = regional / N = national / E = EU / W = worldwide)					(characteristics of the target group)	(size / no of organisations / persons reached
					L	R	N	E	w	,		approximately)



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Dissemination Level: PU

R1	Internet / Social Media	Share of RAINBOW's post by Facebook personal account	08/09/2020	Online			х	G	
R2	Internet / Social Media	Retweet of RAINBOW's post by personal account	07/06/2020	Online		ı	х	G	
R2	Internet / Social Media	Post about RAINBOW project in LINKS Foundation official Facebook account	05/08/2020	Online			х	G	
R4	Internet / Social Media	Retweet of RAINBOW 's post by LINKS Foundation official account	10/06/2020	Online			х	G	
R5	Internet / Social Media	Share of RAINBOW's post by Facebook personal account	08/07/2020	Online			х	G	
R6	Internet / Social Media	Share of RAINBOW's post by Facebook personal account	10/06/2020	Online			x	G	
R7	Internet / Social Media	Post about RAINBOW project in LINKS Foundation official Facebook account	10/09/2020	Online			х	G	
R8	Internet / Social Media	Retweet of RAINBOW 's post by LINKS Foundation official account	31/07/2020	Online			х	G	
R9	Internet / Social Media	Retweet of RAINBOW 's post by LINKS Foundation official account	08/09/2020	Online			х	G	
R10	Internet / Social Media	Retweet of RAINBOW's post by personal account	08/09/2020	Online			х	G	
R11	Internet / Social Media	Share of RAINBOW's post by LinkedIn personal account	22/09/2020	Online			х	G	

# III.8 IFAT

Referen ce	Activities	Short description (name, title, URL, etc.)	<b>Date</b> (start date - end date)	Place	Level  (L = local / R = regional / N = national / E = EU / W = worldwide)  L R N E W				W =	Audience (characteristics of the target group)	Reach  (size / no of organisations / persons reached approximately)
R1	-	The 16th International Conference on Availability, Reliability and Security (ARES 2021)	17.08.21- 20.08.21	ARES Conference (Virtual)	_			1	х	А, С	150
R2	Internet / Social Media	Social Media Post	30.08.2021	Twitter			-		х	G	105
R3	Internet / Social Media	Social Media Post	25.01.2022	Twitter					х	G	97
R4	Internet / Social Media	Blog	25.01.2022	Web					х	G	229
R5		WEBINAR: RAINBOW Security and Trust in Fog Computing	22.2.2022	Online					х	A,B,C,D	25

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							 i	·	i
R6	Internet / Social Media	Blog	01.03.2022	Web			V	G	218
R7	Internet / Social Media	Blog	14.03.2022	Web			V	G	234
R8	Internet / Social Media	Social Media Post	14.03.2022	Twitter			V	O	106
R9	Internet / Social Media	Blog	14.03.2022	Web			V	G	276
R10	Internet / Social Media	Social Media Post	23.04.2022	LinkedIn			V	G	91
R11	Internet / Social Media	Social Media Post	29.04.2022	Twitter		i	V	G	95
R12	Internet / Social Media	Social Media Post	29.04.2022	Twitter		i	V	Ð	83
R13	Internet / Social Media	Social Media Post	23.04.2022	LinkedIn			V	O	113
R14	Internet / Social Media	Social Media Post	11.11.2022	Twitter			V	G	89
R15	Internet / Social Media	Social Media Post	11.11.2022	Facebook			v	G	75
R16	Internet / Social Media	Social Media Post	11.11.2022	LinkedIn			V	G	124
R17	Conferences / Seminars	Enabling Anonymous Authenticated Encryption with a Novel Anonymous Authenticated Credential Key Agreement (AACKA), Hybrid Conference (Online) 2022 IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom)	10.12.2022	Online			v	С	210
R18	Scientific Publications	Raphael Schermann; Rainer Urian; Ronald Toegl; Holger Bock; Christian Steger: Enabling Anonymous Authenticated Encryption with a Novel Anonymous Authenticated Credential Key Agreement (AACKA), IEEE Catalog Number: CFP22TRU- ART ISBN: 978-1-6654-9425-0 ISSN: 2324-9013	Pending				V	A,B,C,D,E,G	

# RAINBOW

#### Project No 871403 (RAINBOW)

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Dissemination Level: PU

# III.9 INTRA

Refere	n Activities	Short description (name, title, URL, etc.)	Date (start date - end date)	Place		tiona	Level / R = re al / E = orldwid	gion EU /	-	Audience (characteristics of the target group)	Reach (size / no of organisations / persons reached
					L	R	N	E	w		approximately)
R1	Lobbying / Networking	Collaboration with PLEDGER project	15/9/2020 30/11/2022	Online				x		B, C, D	
R2	Lobbying / Networking	Collaboration with the Future Cloud Cluster	18/9/2020	Online				х		B, C, D	35 cloud research projects

# III.10 SUITE5

Referen ce	Activities	Short description (name, title, URL, etc.)	Date (start date - end date)	Place	Level  (L = local / R = regional / N = national / E = EU / W = worldwide)  L R N E W				' W =	Audience (characteristics of the target group)	Reach  (size / no of organisations / persons reached approximately)
R1	Internet / Social Media	tweet from Kick-Off Meeting	05/02/2020	Online	-			-	х	G	634
R2	Internet / Social Media	facebook post from Kick-Off Meeting	05/02/2020	Online			_		х	G	966
R3	Internet / Social Media	retweet from SUITE5 account	10/06/2020	Online					х	G	ask data from RAINBOW account holder
R4	Internet / Social Media	retweet of Newsletter #1 from SUITE5 account	05/08/2020	Online					х	G	ask data from RAINBOW account holder
R5	Internet / Social Media	facebook re-post of Newsletter #1 from SUITE5 account	05/08/2020	Online					х	G	101
R6	e-mails	Dissemination of 1st Newsletter via email	1/9/2020	Online				х		В,С	40
R7	Presentations / Demos	Internal Company Presentation of RAINBOW project	1/9/2020	Limassol/At hens	х					A,C	35
R8	Internet / Social Media	facebook re-post from SUITE5 account	8/9/2020	Online					х	G	84
R9	Internet / Social Media	retweet from SUITE5 account	8/9/2020	Online					х	G	ask data from RAINBOW account holder
R10	Internet / Social Media	retweet from SUITE5 account	15/9/2020	Online					х	G	ask data from RAINBOW account holder
R11	Internet / Social Media	LinkedIn share from Stefanos Venios account	30/9/2020	Online					х	G	239



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R12	Internet / Social Media	facebook re-post from SUITE5	1/10/2020	Online		x	G	82
R13	Internet / Social Media	retweet from SUITE5 account	1/10/2020	Online		х	G	ask data from RAINBOW account holder
R14	Internet / Social Media	facebook re-post of Newsletter #2 from SUITE5 account	3/12/2020	Online		х	G	90
R15	Internet / Social Media	retweet of Newsletter #2 from SUITE5 account	3/12/2020	Online		х	G	ask data from RAINBOW account holder
R16	Internet / Social Media	retweet from SUITE5 account	25/2/2021	Online		х	G	ask data from RAINBOW account holder
R17	Internet / Social Media	facebook re-post from SUITE5 account	26/2/2021	Online		х	G	52
R18	Internet / Social Media	retweet of Newsletter #3 from SUITE5 account	28/2/2021	Online		x	G	ask data from RAINBOW account holder
R19	Internet / Social Media	facebook re-post of Newsletter #3 from SUITE5 account	2/3/2021	Online		х	G	53
R20	Internet / Social Media	facebook re-post of "Federated Cloud Reference Architecture" blogpost from SUITE5 account	16/3/2021	Online		х	G	59
R21	Internet / Social Media	retweet from SUITE5 account	8/3/2021	Online		х	G	ask data from RAINBOW account holder
R22	Internet / Social Media	retweet of "Federated Cloud Reference Architecture" blogpost from SUITE5 account	16/3/2021	Online		х	G	ask data from RAINBOW account holder
R23	Internet / Social Media	retweet of "Performance Comparison of Distributed DB Systems for For Analytics" blogpost from SUITE5 account	2/4/2021	Online		х	G	ask data from RAINBOW account holder
R24	Internet / Social Media	retweet of H-CLOUD online catalogue from SUITE5 account	7/4/2021	Online		х	G	ask data from RAINBOW account holder
R25	Internet / Social Media	retweet of "innovative technological axes" blogpost from SUITE5 account	27/4/2021	Online		х	G	ask data from RAINBOW account holder
R26	Internet / Social Media	facebook re-post of urban mobility use case from SUITE5 account	6/4/2021	Online		x	G	80
R27	Workshops	"Data technologies from cloud to edge and circular economy opportunities" in DataWeek2021 REGAIN workshop	27/5/2021	Online		х	A,B,C,D,F	45
R28	Internet / Social Media	like+retweet of Newsletter #4 from SUITE5 account	3/6/2021	Online		x	G	ask data from RAINBOW account holder
R29	Internet / Social Media	facebook like+re-post of Newsletter #4 from SUITE5 account	3/6/2021	Online		х	G	50
R30	Internet / Social Media	original post in facebook by Suite5	12/6/2021	Online		х	G	40
R31	Internet / Social Media	original post in twitter by Suite5	12/6/2021	Online		х	G	220
R32	Internet / Social Media	retweet of H-CLOUD 5th newsletter	21/7/2021	Online		х	G	ask data from RAINBOW account holder
R33	Internet / Social Media	facebook re-post of H-CLOUD 5th newsletter	21/7/2021	Online		х	G	99



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R34	Internet / Social Media	retweet of 1st RAINBOW video	26/7/2021	Online			x	G	ask data from RAINBOW account holder
R35	Internet / Social Media	retweet of iotforall article	18/8/2021	Online			x	G	ask data from RAINBOW account holder
R36	Internet / Social Media	delivery of 1st version of RAINBOW platform	20/9/2021	Online			x	G	ask data from RAINBOW account holder
R37	Internet / Social Media	promotion of HCLOUD Technical Community Event	27/9/2021	Online			x	G	ask data from RAINBOW account holder
R38	Internet / Social Media	retweet of "Digital EU by 2030"	19/10/2021	Online			x	G	ask data from RAINBOW account holder
R39	Internet / Social Media	retweet of H-CLOUD "Digital Autonomy in the Computing Continuum"	20/10/2021	Online			x	G	ask data from RAINBOW account holder
R40	Internet / Social Media	retweet of article: https://www.analyticsinsight.n et/why-is-edge-computing-an- imperative-for-innovation-in-a- data-driven-world/	22/10/2021	Online			x	G	ask data from RAINBOW account holder
R41	Internet / Social Media	retweet of CYSARM 21 conference	1/11/2021	Online			x	G	ask data from RAINBOW account holder
R42	Internet / Social Media	repost of CYCSARM 21 conference from LinkedIn company page	2/11/2021	Online			x	G	200
R43	Internet / Social Media	LinkedIn share from Stefanos Venios account -blog post about demonstrators	8/11/2021	Online			x	G	170
R44	Internet / Social Media	retweet of blog post about demonstrators from SUITE5 account	9/11/2021	Online			x	G	ask data from RAINBOW account holder
R45	Internet / Social Media	facebook like+re-post of blog post about demonstrators from SUITE5 account	9/11/2021	Online			x	G	150
R46	Internet / Social Media	facebook like+re-post of CYSARM participation from SUITE5 account	23/11/2021	Online			х	G	160
R47	Internet / Social Media	retweet of CYSARM participation from SUITE5 account	24/11/2021	Online			x	G	ask data from RAINBOW account holder
R48	Internet / Social Media	retweet of Newsletter #6 from SUITE5 account	23/12/2021	Online			x	G	ask data from RAINBOW account holder
R49	Internet / Social Media	Promotion of HCLOUD WhitePaper video series	24/02/2022	Online			x	G	170
R50	Internet / Social Media	like + retweet of Newsletter #7 from SUITE5 account	07/04/2022	Online			x	G	ask data from RAINBOW account holder
R51	Internet / Social Media	like + retweet of Newsletter #8 from SUITE5 account	31/05/2022	Online			х	G	150
R52	Internet / Social Media	likes in LinkedIn posts + repost from Suite5 company page in LinkedIn, about the 7th plenary meeting in Athens	01/07/2022	Online			х	G	200
R53	Internet / Social Media	likes in tweets + retweet from Suite5 company account, about the 7th plenary meeting in Athens	04/07/2022	Online			х	G	150
R54	Internet / Social Media	like + retweet of Newsletter #9 from SUITE5 account	29/07/2022	Online	_		x	G	150



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Dissemination Level: PU

R55	Internet / Social Media	tweet from the EBDA Forum 2022 from Suite5 twitter account	28/11/2022	Online			х	G	150
R56	Internet / Social Media	Facebook post from the EBDA Forum 2022 from Suite5 Facebook page	28/11/2022	Online			х	G	150
R57	Internet /	LinkedIn post from the EBDA Forum 2022 from Suite5 LinkedIn page	28/11/2022	Online			х	G	150

# III.11 K3Y

		Short description Date Level					Audience	Reach			
Referen ce	Activities	(name, title, URL, etc.)	(start date - end date)	Place	= na	tiona wo	R = real / E =	EU / le)	' W =	(characteristics of the target group)	(size / no of organisations / persons reached approximately)
					L	R	N	E	W		арргохипасстуј
R1	Internet / Social Media	Post about the kick-off meeting of RAINBOW by K3Y's official webpage	10/2/2020	Online					х	С	71
R2	Internet / Social Media	Post about the webpage of RAINBOW by K3Y's official webpage	11/5/2020	Online					х	С	59
R3	Internet / Social Media	Post about the 1st issue of RAINBOW's newsletter by K3Y's official webpage	3/8/2020	Online					х	С	68
R4	Internet / Social Media	Post about the 2nd issue of RAINBOW's newsletter in the LinkedIn account	7/12/2020	Online					х	G	165
R5	Internet / Social Media	Retweet of RAINBOW's post about the 2nd issue of newsletter in the Twitter account	7/12/2020	Online					х	G	29
R6	Internet / Social Media	Post about the 2nd issue of RAINBOW's newsletter in the Facebook account	7/12/2020	Online					х	G	10
R7	Internet / Social Media	Post about the 2nd issue of RAINBOW's newsletter by K3Y's official webpage	7/12/2020	Online					х	С	71
R8	Internet / Social Media	Post about RAINBOW in the LinkedIn account	14/12/2020	Online			-		х	G	142
R9	Internet / Social Media	Retweet of RAINBOW's post about Drones and Edge Computing in the Twitter account	14/12/2020	Online			Î		х	G	14
R10	Internet / Social Media	Post about RAINBOW in the Facebook account	14/12/2020	Online			ı		х	G	11
R11	Internet / Social Media	Post about RAINBOW's brochure in the LinkedIn account	17/12/2020	Online			-		х	G	275
R12	Internet / Social Media	Post about RAINBOW's brochure in the Twitter account	17/12/2020	Online					х	G	1
R13	Internet / Social Media	Post about RAINBOW's brochure in the Facebook account	17/12/2020	Online					х	G	11



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R14	Internet / Social Media	Post about RAINBOW's brochure and flyer by K3Y's official webpage	21/12/2020	Online			x	С	69
R15	Internet / Social Media	Post about RAINBOW's flyer in the LinkedIn account	7/1/2021	Online			х	G	248
R16	Internet / Social Media	Post about RAINBOW's flyer in the Twitter account	7/1/2021	Online			х	G	2
R17	Internet / Social Media	Post about RAINBOW's flyer in the Facebook account	7/1/2021	Online			х	G	11
R18	Internet / Social Media	Post about RAINBOW's 3nd plenary meeting in the LinkedIn account	10/2/2021	Online			х	G	249
R19	Internet / Social Media	Post about RAINBOW's 3nd plenary meeting in the Twitter account	10/2/2021	Online			х	G	2
R20	Internet / Social Media	Post about RAINBOW's 3nd plenary meeting in the Facebook account	10/2/2021	Online			х	G	12
R21	Internet / Social Media	Share of RAINBOW's post on how Edge Computing can benefit businesses in the LinkedIn account	26/2/2021	Online			х	G	85
R22	Internet / Social Media	Retweet of RAINBOW's post on how Edge Computing can benefit businesses in the Twitter account	26/2/2021	Online			x	G	10
R23	Internet / Social Media	Share of RAINBOW's post on how Edge Computing can benefit businesses in the Facebook account	26/2/2021	Online			х	G	10
R24	Internet / Social Media	Share of RAINBOW's post about a blog post that addresses critical issues related to Fog Computing and Edge Computing in the LinkedIn account	1/3/2021	Online			х	G	54
R25	Internet / Social Media	Retweet of RAINBOW's post about a blog post that addresses critical issues related to Fog Computing and Edge Computing in the Twitter account	1/3/2021	Online			х	G	22
R26	Internet / Social Media	Share of RAINBOW's post about a blog post that addresses critical issues related to Fog Computing and Edge Computing in the Facebook account	1/3/2021	Online			х	G	9
R27	Internet / Social Media	Share of RAINBOW's post about the 3rd issue of RAINBOW's newsletter in the LinkedIn account	3/3/2021	Online			x	G	64
R28	Internet / Social Media	Retweet of RAINBOW's post about the 3rd issue of RAINBOW's newsletter in the Twitter account	3/3/2021	Online			x	G	19
R29	Internet / Social Media	Share of RAINBOW's post about the 3rd issue of RAINBOW's newsletter in the Facebook account	3/3/2021	Online			х	G	8
R30	Internet / Social Media	Post about the 3rd issue of RAINBOW's newsletter by K3Y's official webpage	3/3/2021	Online			х	С	59



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				T					
R31	Internet / Social Media	Share of RAINBOW's post in the LinkedIn account	10/3/2021	Online			х	G	42
R32	Internet / Social Media	Retweet of RAINBOW's post in the Twitter account	10/3/2021	Online			х	G	11
R33	Internet / Social Media	Share of RAINBOW's post in the Facebook account	10/3/2021	Online			х	G	7
R34	Internet / Social Media	Share of RAINBOW's post about the role of Edge Computing in connected and autonomous vehicles, in the LinkedIn account	12/3/2021	Online			х	G	75
R35	Internet / Social Media	Retweet of RAINBOW's post about the role of Edge Computing in connected and autonomous vehicles, in the Twitter account	12/3/2021	Online			х	G	8
R36	Internet / Social Media	Share of RAINBOW's post about the role of Edge Computing in connected and autonomous vehicles, in the Facebook account	12/3/2021	Online			х	G	7
R37	Internet / Social Media	Share of RAINBOW's post about a blog post that presents a paper from Future Cloud Cluster (FCC), entitled "Federated Cloud Reference Architecture", in the LinkedIn account	18/3/2021	Online			х	G	32
R38	Internet / Social Media	Retweet of RAINBOW's post about a blog post that presents a paper from Future Cloud Cluster (FCC), entitled "Federated Cloud Reference Architecture", in the Twitter account	18/3/2021	Online			х	G	16
R39	Internet / Social Media	Share of RAINBOW's post about a blog post that presents a paper from Future Cloud Cluster (FCC), entitled "Federated Cloud Reference Architecture", in the Facebook account	18/3/2021	Online			х	G	6
R40	Internet / Social Media	Retweet of RAINBOW's post about an Open Access Journal on "Multi-Clouds and Edge Computing"	26/3/2021	Online			х	G	13
R41	Internet / Social Media	Share of RAINBOW's post about an Open Access Journal on "Multi-Clouds and Edge Computing", in the Facebook account	26/3/2021	Online			х	G	4
R42	Internet / Social Media	Share of RAINBOW's post about the SLOC project in the LinkedIn account	31/3/2021	Online			х	G	72
R43	Internet / Social Media	Retweet of RAINBOW's post about the SLOC project	31/3/2021	Online			х	G	11
R44	Internet / Social Media	Share of RAINBOW's post about the SLOC project, in the Facebook account	31/3/2021	Online			x	G	6
R45	Internet / Social Media	Share of RAINBOW's post about a Technical Report by 5G Automotive Association (5GAA), which includes detailing architecture and	2/4/2021	Online			х	G	60



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		deployment models for Edge							
		Computing, in the LinkedIn							
		account							
R46	Internet / Social Media	Retweet of RAINBOW's post about a Technical Report by 5G Automotive Association (5GAA), which includes detailing architecture and deployment models for Edge Computing	2/4/2021	Online			x	G	6
R47	Internet / Social Media	Share of RAINBOW's post about a Technical Report by 5G Automotive Association (5GAA), which includes detailing architecture and deployment models for Edge Computing, in the Facebook account	2/4/2021	Online			x	G	7
R48	Internet / Social Media	Post about a blog post on RAINBOW's Techniques for the Requirements Elicitation by K3Y's official webpage	2/4/2021	Online			x	С	54
R49	Internet / Social Media	Share of RAINBOW's post about an analysis on how 5G and Edge Computing can revive smart cities, in the Facebook account	7/4/2021	Online			x	G	8
R50	Internet / Social Media	Share of RAINBOW's post about a blog post with methodologies and techniques for extracting functional and non-functional requirements used for RAINBOW Project in the LinkedIn account	9/4/2021	Online			x	G	48
R51	Internet / Social Media	Retweet of RAINBOW's post about a blog post with methodologies and techniques for extracting functional and non-functional requirements used for RAINBOW Project	9/4/2021	Online			х	G	8
R52	Internet / Social Media	Share of RAINBOW's post about a blog post with methodologies and techniques for extracting functional and non-functional requirements used for RAINBOW Project, in the Facebook account	9/4/2021	Online			х	G	8
R53	Internet / Social Media	Share of RAINBOW's post about a blog post on Performance Comparison of Distributed Database Systems for Fog Analytics, in the LinkedIn account	20/4/2021	Online			х	G	41
R54	Internet / Social Media	Retweet of RAINBOW's post about a blog post on Performance Comparison of Distributed Database Systems for Fog Analytics	20/4/2021	Online			x	G	16
R55	Internet / Social Media	Share of RAINBOW's post about a blog post on Performance Comparison of Distributed Database Systems for Fog Analytics, in the Facebook account	20/4/2021	Online			х	G	8
R56	Internet / Social Media	Share of RAINBOW's post about the public deliverable "Data Management Services –	28/4/2021	Online			х	G	34



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	ı	I I		ı	1			- 1		
		Early Release", in the LinkedIn account								
R57	Internet / Social Media	Retweet of RAINBOW's post about the public deliverable "Data Management Services – Early Release"	28/4/2021	Online			×	(	G	9
R58	Internet / Social Media	Share of RAINBOW's post about the public deliverable "Data Management Services – Early Release", in the Facebook account	28/4/2021	Online			×	(	G	8
R59	Internet / Social Media	Post about a blog post on key concepts driving the innovative technological axes of the RAINBOW project: Fog/Edge Computing and Service Graph Topology Descriptions, by K3Y's official webpage	30/4/2021	Online			Х	(	С	47
R60	Internet / Social Media	Share of H-CLOUD's post about the H-CLOUD Online Catalogue, in the LinkedIn account	7/5/2021	Online			×	(	G	48
R61	Internet / Social Media	Retweet of RAINBOW's post about the H-CLOUD Online Catalogue"	7/5/2021	Online			×	(	G	1
R62	Internet / Social Media	Share of RAINBOW's post about the H-CLOUD Online Catalogue", in the Facebook account	7/5/2021	Online			×	(	G	6
R63	Internet / Social Media	Share of RAINBOW's post about an analysis that explains why complementary 5G and Edge Computing technologies will optimize businesses, in the LinkedIn account	10/5/2021	Online			×	(	G	78
R64	Internet / Social Media	Retweet of RAINBOW's post about an analysis that explains why complementary 5G and Edge Computing technologies will optimize businesses	10/5/2021	Online			×	(	G	12
R65	Internet / Social Media	Share of RAINBOW's post about an analysis that explains why complementary 5G and Edge Computing technologies will optimize businesses, in the Facebook account	10/5/2021	Online			×	(	G	8
R66	Internet / Social Media	Post about a blog post about key concepts driving the innovative technological axes of the RAINBOW project: Scalable trust establishment & attestation and Geo-distributed data processing, by K3Y's official webpage	10/5/2021	Online			>	C	С	32
R67	Internet / Social Media	Share of RAINBOW's post about the announcement of RAINBOW's collaboration with the Morphemic Proactive Cloud project, in the LinkedIn account	14/5/2021	Online			×	(	G	64
R68	Internet / Social Media	Retweet of RAINBOW's post about the announcement of RAINBOW's collaboration with the Morphemic Proactive Cloud project	14/5/2021	Online			×	(	G	1
R69	Internet / Social Media	Share of RAINBOW's post about the announcement of RAINBOW's collaboration with	14/5/2021	Online			х	(	G	7



Social Media

Internet /

Social Media

computing trial to improve

Share of RAINBOW's post

about a blog post on key

road

safety for everyone sharing the

concepts driving the innovative

R81

R82

#### Project No 871403 (RAINBOW)

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Dissemination Level: PU

	RA	INBOW	Dissemina	ition Levei.	ru				
		the Morphemic Proactive Cloud project, in the Facebook account							
R70	Internet / Social Media	Share of RAINBOW's post about a blog post on key concepts driving the innovative technological axes of the RAINBOW project: Fog/Edge Computing and Service Graph Topology Descriptions, in the LinkedIn account	21/5/2021	Online			х	G	62
R71	Internet / Social Media	Retweet of RAINBOW's post about a blog post on key concepts driving the innovative technological axes of the RAINBOW project: Fog/Edge Computing and Service Graph Topology Descriptions	21/5/2021	Online			x	G	12
R72	Internet / Social Media	Share of RAINBOW's post about a blog post on key concepts driving the innovative technological axes of the RAINBOW project: Fog/Edge Computing and Service Graph Topology Descriptions, in the Facebook account	21/5/2021	Online			х	G	7
R73	Internet / Social Media	Share of RAINBOW's post about a press release which issued regarding the 4th Plenary meeting, in the LinkedIn account	28/5/2021	Online			x	G	54
R74	Internet / Social Media	Retweet of RAINBOW's post about a press release which issued regarding the 4th Plenary meeting	28/5/2021	Online			х	G	8
R75	Internet / Social Media	Share of RAINBOW's post about a press release which issued regarding the 4th Plenary meeting, in the Facebook account	28/5/2021	Online			x	G	4
R76	Internet / Social Media	Post about a press release which issued regarding the 4th Plenary meeting, by K3Y's official webpage	31/5/2021	Online			x	С	23
R77	Internet / Social Media	Post about the 4th issue of RAINBOW's newsletter by K3Y's official webpage	1/6/2021	Online			х	A,B	69
R78	Internet / Social Media	Share of RAINBOW's post about the revamped website of RAINBOW, in the LinkedIn account	1/6/2021	Online			x	G	111
R79	Internet / Social Media	Retweet of RAINBOW's post about the revamped website of RAINBOW	1/6/2021	Online			х	G	11
R80	Internet / Social Media	Share of RAINBOW's post about the revamped website of RAINBOW, in the Facebook account	1/6/2021	Online			x	G	7
D01	Internet /	Retweet of RAINBOW's post about 5G and mobile edge	2/6/2021	Online			.,	6	0

Online

Online

G

G

8

107

2/6/2021

3/6/2021



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		technological axes of the RAINBOW project: Scalable trust establishment & attestation and Geo-distributed data processing, in the LinkedIn account							
R83	Internet / Social Media	Retweet of RAINBOW's post about a blog post on key concepts driving the innovative technological axes of the RAINBOW project: Scalable trust establishment & attestation and Geo-distributed data processing	3/6/2021	Online			х	G	10
R84	Internet / Social Media	Share of RAINBOW's post about a blog post on key concepts driving the innovative technological axes of the RAINBOW project: Scalable trust establishment & attestation and Geo-distributed data processing, in the Facebook account	3/6/2021	Online			х	G	8
R85	Internet / Social Media	Retweet of RAINBOW's post about the need for a smart city nervous system	9/6/2021	Online			х	G	6
R86	Internet / Social Media	Share of RAINBOW's post about 5 Ways Developers Can Get the Most out of Edge Computing Platforms, in the LinkedIn account	10/6/2021	Online			х	G	142
R87	Internet / Social Media	Retweet of RAINBOW's post about 5 Ways Developers Can Get the Most out of Edge Computing Platforms	10/6/2021	Online			х	G	8
R88	Internet / Social Media	Share of RAINBOW's post about 5 Ways Developers Can Get the Most out of Edge Computing Platforms, in the Facebook account	10/6/2021	Online			х	G	10
R89	Internet / Social Media	Share of RAINBOW's post about a blog post on how RAINBOW aims to implement its Fog Orchestration mechanism, in the LinkedIn account	11/6/2021	Online			х	G	121
R90	Internet / Social Media	Retweet of RAINBOW's post about a blog post on how RAINBOW aims to implement its Fog Orchestration mechanism	11/6/2021	Online			x	G	10
R91	Internet / Social Media	Share of RAINBOW's post about a blog post on how RAINBOW aims to implement its Fog Orchestration mechanism, in the Facebook account	11/6/2021	Online			x	G	9
R92	Internet / Social Media	Retweet of RAINBOW's post about an event organized by Horizon Cloud "Open Source Innovation for Cloud, Edge and AI", which RAINBOW attended	15/6/2021	Online			х	G	18
R93	Internet / Social Media	Share of RAINBOW's post about the "3rd International Workshop on Cyber-Security Threats, Trust and Privacy Management in Software-	22/6/2021	Online			x	G	130
			no	ge 137 of 1	71				



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		defined and Virtualized							
		Infrastructures (SecSoft)", in							
		the LinkedIn account							
		Retweet of RAINBOW's post							
		about the "3rd International							
	Internet /	Workshop on Cyber-Security							
R94	Social Media	Threats, Trust and Privacy	22/6/2021	Online		1	х	G	14
	Social Media	Management in Software-							
		defined and Virtualized							
		Infrastructures (SecSoft)"							
		Share of RAINBOW's post							
		about the "3rd International							
		Workshop on Cyber-Security							
	Internet /	Threats, Trust and Privacy							
R95	Social Media	Management in Software-	22/6/2021	Online		1	Х	G	8
	555.01.11.50.10	defined and Virtualized							
		Infrastructures (SecSoft)", in							
		the Facebook account							
		Share of RAINBOW's post							
	Internet /	about the 4th issue of							
R96	Social Media	RAINBOW's newsletter, in the	24/6/2021	Online		1	х	G	78
	Jocial Media	LinkedIn account							
		Retweet of RAINBOW's post							
R97	Internet /	·	24/6/2021	Online			.,	G	15
K9/	Social Media	about the 4th issue of	24/6/2021	Online		'	х	G	15
		RAINBOW's newsletter							
	1.1	Share of RAINBOW's post							
R98	Internet /	about the 4th issue of	24/6/2021	Online			х	G	9
	Social Media	RAINBOW's newsletter, in the							
		Facebook account							
		Post about the 3rd Workshop							
		on Cyber-Security Arms Race							
	Internet /	(CYSARM 2021) that RAINBOW							
R99	Social Media	will co-chair in collaboration	25/6/2021	Online		1	Х	A,B	77
		with ASSURED, PUZZLE and							
		C4lloT, by K3Y's official							
		webpage							
		Post about the "3rd							
		International Workshop on							
		Cyber-Security Threats, Trust							
	Internet /	and Privacy Management in							
R100	Social Media	Software-defined and	25/6/2021	Online		1	Х	A,B	82
	Social Micala	Virtualized Infrastructures							
		(SecSoft), which RAINBOW co-							
		organising", by K3Y's official							
		webpage							
		Share of RAINBOW's post							
		about the 3rd Workshop on							
	Internet /	Cyber-Security Arms Race							
R101	Social Media	(CYSARM 2021) that RAINBOW	28/6/2021	Online		1	Х	G	86
	Social ivicala	will co-chair in collaboration							
		with ASSURED, PUZZLE and							
		C4lloT, in the LinkedIn account							
		Retweet of RAINBOW's post							
		about the 3rd Workshop on							
	Internet /	Cyber-Security Arms Race							
R102	Social Media	(CYSARM 2021) that RAINBOW	28/6/2021	Online		1	Х	G	7
	Social Media	will co-chair in collaboration							
		with ASSURED, PUZZLE and							
		C4lloT							
		Share of RAINBOW's post						·	
		about the 3rd Workshop on							
		Cyber-Security Arms Race							
P103	Internet /	(CYSARM 2021) that RAINBOW	20/6/2024	Online				<b>C</b>	10
R103	Social Media	will co-chair in collaboration	28/6/2021	Online		'	х	G	10
		with ASSURED, PUZZLE and							
		C4lloT, in the Facebook							
		account							
				~~ 120 of 1		· · · · · ·			



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		<u>.                                    </u>							
D104	Internet /	Retweet of RAINBOW's post about an interesting analysis	20/5/2021	Online				6	7
R104	Social Media	that is trying to investigate	29/6/2021	Online			х	G	7
		applications of Edge AI Retweet of RAINBOW's post							
	Internet /	about an analysis that presents	- 4- 4					_	_
R105	Social Media	four Reasons Why Edge Computing is Relevant for	2/7/2021	Online			Х	G	9
		Industry 4.0							
		Post about the presence of							
R106	Internet / Social Media	RAINBOW Project in REGAIN Data Week, by K3Y's official	5/7/2021	Online			х	A,B	69
	Joeidi Wicaid	webpage							
		Share of RAINBOW's post							
R107	Internet /	about the presence of RAINBOW Project in REGAIN	5/7/2021	Online			х	G	101
11207	Social Media	Data Week, in the LinkedIn	3/1/2021	Omme			^	G	101
		account							
	Internet /	Retweet of RAINBOW's post about the presence of							
R108	Social Media	RAINBOW Project in REGAIN	5/7/2021	Online			Х	G	17
		Data Week Share of RAINBOW's post							
		about the presence of							
R109	Internet / Social Media	RAINBOW Project in REGAIN	5/7/2021	Online			х	G	10
		Data Week, in the Facebook account							
		Share of RAINBOW's post							
B110	Internet /	about an Industry Technology	0/7/2021	Online			.,	6	0.4
R110	Social Media	Roadmap on Cloud and Edge published by EU companies, in	9/7/2021	Online			Х	G	94
		the LinkedIn account							
		Share of RAINBOW's post about an Industry Technology							
R111	Internet / Social Media	Roadmap on Cloud and Edge	9/7/2021	Online			х	G	9
	Social Media	published by EU companies, in							
		the Facebook account Retweet of RAINBOW's post							
	Internet /	about an analysis that is trying							
R112	Social Media	to justify why Edge Computing will be a backbone technology	26/7/2021	Online			Х	G	6
		for tomorrow's smart cities							
		Retweet of RAINBOW's post							
R113	Internet /	about an article that explains why Edge Computing And The	27/7/2021	Online			х	G	19
	Social Media	Cloud Are Perfect Pairing For						-	
		Autonomous Vehicles Share of RAINBOW's post							
		about an article that explains							
R114	Internet /	why Edge Computing And The	27/7/2021	Online			х	G	10
	Social Media	Cloud Are Perfect Pairing For Autonomous Vehicles, in the	, , -						
		Facebook account							
	Internet /	Post about the Press Release regarding RAINBOW Approach							
R115	Internet / Social Media	Video, by K3Y's official	28/7/2021	Online			х	A,B	66
		webpage							
		Share of RAINBOW's post regarding 5th HCLOUD							
D116	Internet /	Newsletter about the	20/7/2024	Online			.,	6	142
R116	Social Media	RAINBOW 1st Platform	30/7/2021	Online			х	G	142
		Release, in the LinkedIn account							
	Internet /	Retweet of RAINBOW's post	00/7/222	0 "					4-5
R117	Social Media	regarding 5th HCLOUD	30/7/2021	Online			Х	G	11
		•		•		 			



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				1					
		Newsletter about the RAINBOW 1st Platform Release							
R118	Internet / Social Media	Share of RAINBOW's post regarding 5th HCLOUD Newsletter about the RAINBOW 1st Platform Release, in the Facebook account	30/7/2021	Online			х	G	10
R119	Internet / Social Media	Retweet of RAINBOW's post about an article that analyses the evolving relationship between the IoT, blockchain, EdgeComputing and cloud infrastructure	2/8/2021	Online			x	G	7
R120	Internet / Social Media	Share of RAINBOW's post about the Press Release regarding RAINBOW Approach Video, in the LinkedIn account	9/8/2021	Online			x	G	99
R121	Internet / Social Media	Retweet of RAINBOW's post about the Press Release regarding RAINBOW Approach Video	9/8/2021	Online			х	G	11
R122	Internet / Social Media	Share of RAINBOW's post about the Press Release regarding RAINBOW Approach Video, in the Facebook account	9/8/2021	Online			х	G	8
R123	Internet / Social Media	Retweet of RAINBOW's post about an analysis entitled "Edge Computing: An Industry with Ceiling-less Growth"	11/8/2021	Online			х	G	13
R124	Internet / Social Media	Post about a blog post regarding the presentation of RAINBOW platform to the Technical Steering Committee of the Open Horizon project, by K3Y's official webpage	17/8/2021	Online			x	A,B	49
R125	Internet / Social Media	Share of RAINBOW's post about a blog post regarding the presentation of RAINBOW platform to the Technical Steering Committee of the Open Horizon project, in the LinkedIn account	17/8/2021	Online			х	G	111
R126	Internet / Social Media	Retweet of RAINBOW's post about a blog post regarding the presentation of RAINBOW platform to the Technical Steering Committee of the Open Horizon project	17/8/2021	Online			x	G	14
R127	Internet / Social Media	Share of RAINBOW's post about a blog post regarding the presentation of RAINBOW platform to the Technical Steering Committee of the Open Horizon project, in the Facebook account	17/8/2021	Online			х	G	10
R128	Internet / Social Media	Retweet of RAINBOW's post about an analysis which presents how Edge Computing Emerges as a Key Piece of Digital Transformation Infrastructure	18/8/2021	Online			х	G	7
R129	Internet / Social Media	Share of RAINBOW's post about the announcement from the European Union regarding the 2 new industrial alliances	30/8/2021	Online			х	G	91



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R130   Internet / Social Media   Internet	.2
R130 Internet / Social Media I	.2
R130 Internet / Social Media  R131 Internet / Social Media  R132 Internet / Social Media  R133 Internet / Social Media  R134 Internet / Social Media  R134 Internet / Social Media  R136 R137 Internet / Social Media  R137 Internet / Social Media  R138 Internet / Social Media  R139 Internet / Social Media  R130 Internet / Social Media  R130  R130 R130 R130 R130 R130 R130 R1	.2
R130   Internet / Social Media   Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform	.2
R130   Internet / Social Media   S	.2
R130   Internet / Social Media   the 2 new industrial alliances for semiconductors and industrial cloud technologies, in the Facebook account   Share of RAINBOW's post about an announcement that version of it's Fog Computing Platform, in the LinkedIn account   Social Media   Notice of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform   10/9/2021   Online   x	.2
R130 Social Media the 2 new industrial alliances for semiconductors and industrial cloud technologies, in the Facebook account  R131 Internet / Social Media Platform, in the linkedin account  R132 Internet / Social Media Platform  R133 Internet / Social Media  R134 Internet / Social Media  R134 Internet / Social Media  R136 R1NBOW delivered the first version of it's Fog Computing Platform  R137 Internet / Social Media  R138 R139 Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform  R139 Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account  R130 R130 R200 R200 R200 R200 R200 R200 R200 R2	.2
R131 Internet / Social Media Platform, in the LinkedIn about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform in the LinkedIn account Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform in the LinkedIn account Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account Retweet of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account Retweet of RAINBOW's post about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming 13/9/2021 Online X G S S	.2
Internet / Social Media  R131   Internet / Social Media   Internet / Internet / Social Media   Internet / Internet / Internet / Internet / Internet / Social Media   Internet / Int	2
the Facebook account  Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the LinkedIn account  R132 Internet / Social Media  R134 Internet / Social Media  R135 Internet / Social Media  R136 R137 Social Media  R137 Social Media  R138 Internet / Social Media  R139 Internet / Social Media  R130 R130 Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform  R130 Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account  R130 R130 Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account  R130 R130 Share of RAINBOW's post about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming	2
R131 Internet / Social Media Internet Internet / Social Media Internet Interne	2
R131 Internet / Social Media version of it's Fog Computing Platform, in the LinkedIn account  R132 Internet / Social Media  R133 Internet / Social Media  R134 Internet / Social Media  R134 Internet / Social Media  R135 Internet / Social Media  R136 Internet / Social Media  R137 Internet / Social Media  R138 Internet / Social Media  R139 Internet / Social Media  R130 Internet / Social Media  R140 Internet / Social Media  R150 Internet / Social Media  R1	2
R131   Internet / Social Media   RAINBOW delivered the first version of it's Fog Computing Platform, in the LinkedIn account   Retweet of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform   10/9/2021   Online   X	2
R131 Social Media version of it's Fog Computing Platform, in the LinkedIn account  R132 Internet / Social Media RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform  Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform  Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account  R134 Internet / Social Media  Intern	2
Platform, in the LinkedIn account  Retweet of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform  Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform  Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account  R134  Internet / Social Media  Internet / Social Media  Retweet of RAINBOW's post about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming  13/9/2021  Online  x G 12  x G 8	
R132 Internet / Social Media  Retweet of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform  Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform  Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account  R134 Internet / Social Media  R25 R26 R27	
R132 Internet / Social Media  Retweet of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform  Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account  R134 Internet / Social Media  Retweet of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account  Retweet of RAINBOW's post about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming  Retweet of RAINBOW's post about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming	
R132 Internet / Social Media about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform  Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform  Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account  R134 Internet / Social Media  Retweet of RAINBOW's post about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming  10/9/2021 Online  x G 8  12  10/9/2021 Online  x G 5	
R132 Internet / Social Media RAINBOW delivered the first version of it's Fog Computing Platform Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account Retweet of RAINBOW's post about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming 10/9/2021 Online X G G S S S S S S S S S S S S S S S S S	
R132 Social Media RAINBOW delivered the first version of it's Fog Computing Platform Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account  R134 Internet / Social Media RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account Retweet of RAINBOW's post about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming  RAINBOW delivered the first 10/9/2021 Online  X G 8  12  X G 5  12  Social Media  X G 5  8	
version of it's Fog Computing Platform  Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account  Retweet of RAINBOW's post about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming  Version of it's Fog Computing 10/9/2021 Online  X G 8  8  8  9  10/9/2021 Online X G 5	3
R133 Internet / Social Media Share of RAINBOW's post about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account Retweet of RAINBOW's post about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming 10/9/2021 Online x G G S S	3
R133 Internet / Social Media about an announcement that RAINBOW delivered the first version of it's Fog Computing Platform, in the Facebook account	3
R133 Internet / Social Media Platform, in the Facebook account	3
R133 Social Media version of it's Fog Computing Platform, in the Facebook account  R134 Internet / Social Media  Retweet of RAINBOW's post about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming  10/9/2021 Online  X G 8  8  8  8  8  9  10/9/2021 Online  X G 5	3
R134 Social Media version of it's Fog Computing Platform, in the Facebook account  Retweet of RAINBOW's post about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming	8
R134 Internet / Social Media Retweet of RAINBOW's post about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming	
R134 Internet / Social Media Retweet of RAINBOW's post about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming	i
R134 Internet / Social Media about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming	
R134 Internet / Social Media about a blog post from Pledger project, regarding how efficient and stable Edge Computing enhances XR streaming	
R134   Internet / Social Media   project, regarding how efficient and stable Edge Computing enhances XR streaming   13/9/2021   Online   x   G   5	
and stable Edge Computing enhances XR streaming	5
enhances XR streaming	·
about an analysis which	
Internet /	·0
R135 Social Media describes the basics about the Internet of Things (IoT), in the Social Media	U
LinkedIn account	
Retweet of RAINBOW's post	
R136 Internet / about an analysis which 17/9/2021 Online x G	.3
Social Media describes the basics about the	
Internet of Things (IoT)	
Share of RAINBOW's post	
Internet / about an analysis which	_
R137   describes the basics about the   17/9/2021   Online   x   G   10	0
Internet of Things (IoT), in the	
Facebook account	
Post about a press release that	
RAINBOW issued. It describes	
R138 Internet / that RAINBOW delivered the 20/9/2021 Online x A,B 88	.s
Social Media first version of it's Fog	Ü
Computing Platform, by K3Y's	
official webpage	
Share of RAINBOW's post	
Internet / about a study that explains why	
R139 Storage for Edge Computing is 23/9/2021 Online x G 70	0
the next frontier for IoT, in the	
LinkedIn account 'LinkedIn account 'LinkedIn account 'LinkedIn account LinkedIn account Lin	
Retweet of RAINBOW's post	
Internet / Jahout a study that explains why	
R140 Social Media Storage for Edge Computing is 23/9/2021 Online x G	1
the next frontier for IoT	
Share of RAINBOW's post	
Internet / Storage for Edge Computing is 23/0/2021 Coline	
Social Media	,
the next frontier for IoT, in the	9
Facebook account	9



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Internet / Social Media	Post about the participation of RAINBOW in HORIZON CLOUD Technical Community Event (29 Sept. 2021), by K3Y's official webpage	24/9/2021	Online				х	A,B	71
Internet / Social Media	Post about the participation of RAINBOW in HORIZON CLOUD Technical Community Event (29 Sept. 2021), in the LinkedIn account	24/9/2021	Online				x	G	92
Internet / Social Media	Retweet of RAINBOW's post about the participation of RAINBOW in HORIZON CLOUD Technical Community Event (29 Sept. 2021)	24/9/2021	Online				x	G	22
Internet / Social Media	Post about the participation of RAINBOW in HORIZON CLOUD Technical Community Event (29 Sept. 2021), in the Facebook account	24/9/2021	Online				x	G	11
Internet / Social Media	Post about the presentation of RAINBOW in ARES 2021 Conference (17-20 August), by K3Y's official webpage	28/9/2021	Online				х	A,B	59
Internet / Social Media	Share of RAINBOW's post about the presentation of RAINBOW in ARES 2021 Conference (17-20 August), in the LinkedIn account	28/9/2021	Online				x	G	84
Internet / Social Media	Retweet of RAINBOW's post about the presentation of RAINBOW in ARES 2021 Conference (17-20 August)	28/9/2021	Online				х	G	9
Internet / Social Media	Share of RAINBOW's post about the presentation of RAINBOW in ARES 2021 Conference (17-20 August), in the Facebook account	28/9/2021	Online				x	G	8
Internet / Social Media	Retweet of RAINBOW's post about an analysis which presents the Top 10 edge computing trends for 2021	28/9/2021	Online				х	G	16
Internet / Social Media	Retweet of RAINBOW's post about the progress of Horizon Cloud Technical Community Event (29 Sept. 2021) & presentation from RAINBOW and Pledger project	29/9/2021	Online				x	G	11
Internet / Social Media	Share of RAINBOW's post about a study that justifies why is Edge Computing more relevant in 2021 than ever before, in the LinkedIn account	6/10/2021	Online				x	G	65
Internet / Social Media	Retweet of RAINBOW's post about a study that justifies why is Edge Computing more relevant in 2021 than ever before	6/10/2021	Online				х	G	23
Internet / Social Media	Share of RAINBOW's post about a study that justifies why is Edge Computing more relevant in 2021 than ever before, in the Facebook account	6/10/2021	Online				x	G	8
Internet / Social Media	Share of RAINBOW's post about a press release which	8/10/2021	Online				х	G	61
	Internet / Social Media  Internet / Social Media	Internet / Social Media  Internet / Social Med	Internet / Social Media  Post about the participation of RAINBOW in HORIZON CLOUD Technical Community Event (29 Sept. 2021), by K3y's official webpage  Post about the participation of RAINBOW in HORIZON CLOUD Technical Community Event (29 Sept. 2021), in the LinkedIn account  Retweet of RAINBOW's post about the participation of RAINBOW in HORIZON CLOUD Technical Community Event (29 Sept. 2021)  Post about the participation of RAINBOW in HORIZON CLOUD Technical Community Event (29 Sept. 2021)  Post about the participation of RAINBOW in HORIZON CLOUD Technical Community Event (29 Sept. 2021), in the Facebook account  Internet / Social Media  Post about the presentation of RAINBOW in ARES 2021 Conference (17-20 August), by K3y's official webpage  Share of RAINBOW's post about the presentation of RAINBOW in ARES 2021 Conference (17-20 August), in the LinkedIn account  Retweet of RAINBOW's post 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relevant in 2021 than ever before, in the Facebook account  Retweet of RAINBOW's post about a study that justifies why is Edge Computing more relevant in 2021 than ever before, in the Facebook account  Internet / Social Media  Postal Media	Internet / Social Media	Internet



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		announced the first version of the RAINBOW platform, in the							
R156	Internet / Social Media	LinkedIn account Retweet of RAINBOW's post about a press release which announced the first version of the RAINBOW platform	8/10/2021	Online			х	G	31
R157	Internet / Social Media	Share of RAINBOW's post about a press release which announced the first version of the RAINBOW platform, in the Facebook account	8/10/2021	Online			x	G	7
R158	Internet / Social Media	Retweet of RAINBOW's post about an analysis that explains why IoT and Edge Computing need to work together	11/10/2021	Online			х	G	6
R159	Internet / Social Media	Share of RAINBOW's post about European Commission's study on the impact of Open Source on the European economy, in the LinkedIn account	13/10/2021	Online			x	G	60
R160	Internet / Social Media	Retweet of RAINBOW's post about European Commission's study on the impact of Open Source on the European economy	13/10/2021	Online			х	G	21
R161	Internet / Social Media	Share of RAINBOW's post about European Commission's study on the impact of Open Source on the European economy, in the Facebook account	13/10/2021	Online			х	G	9
R162	Internet / Social Media	Retweet of RAINBOW's post about an analysis that presents the relationship between IoT & digital transformation, plus how Edge Computing can be helpful for smart systems and the IoT	18/10/2021	Online			х	G	4
R163	Internet / Social Media	Post about the 5th issue of RAINBOW's newsletter, by K3Y's official webpage	20/10/2021	Online			x	A,B	81
R164	Internet / Social Media	Share of RAINBOW's post about the 5th issue of RAINBOW's newsletter, in the LinkedIn account	20/10/2021	Online			x	G	75
R165	Internet / Social Media	Retweet of RAINBOW's post about the 5th issue of RAINBOW's newsletter	20/10/2021	Online			x	G	32
R166	Internet / Social Media	Share of RAINBOW's post about the 5th issue of RAINBOW's newsletter, in the Facebook account	20/10/2021	Online			x	G	7
R167	Internet / Social Media	Retweet of RAINBOW's post about the preparation from MSP on the integration of distributed UAV ground control stations with the fog services of the RAINBOW architecture	25/10/2021	Online			х	G	8
R168	Internet / Social Media	Share of RAINBOW's post about the presentation of RAINBOW in the 14th IEEE CLOUD conference, in the LinkedIn account	2/11/2021	Online			x	G	110



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				ı	, ,	-		1	
		Retweet of RAINBOW's post							
R169	Internet /	about the presentation of	2/11/2021	Online			х	G	31
	Social Media	RAINBOW in the 14th IEEE							
		CLOUD conference							
		Share of RAINBOW's post							
2470	Internet /	about the presentation of	2/44/2024	Outre					10
R170	Social Media	RAINBOW in the 14th IEEE CLOUD conference, in the	2/11/2021	Online			х	G	10
		Facebook account							
		Share of RAINBOW's post				-			
		about an analysis entitled							
R171	Internet /	"Upgrading Industry 4.0 with	8/11/2021	Online			x	G	91
1171	Social Media	Edge Analytics", in the LinkedIn	0/11/2021	Omme			^		31
		account							
		Retweet of RAINBOW's post							
	Internet /	about an analysis entitled							
R172	Social Media	"Upgrading Industry 4.0 with	8/11/2021	Online			х	G	33
	555.01.11.50.10	Edge Analytics"							
		Share of RAINBOW's post				1			
		about an analysis entitled							
R173	Internet /	"Upgrading Industry 4.0 with	8/11/2021	Online			х	G	8
	Social Media	Edge Analytics", in the							
		Facebook account		<u></u>					
		Share of RAINBOW's post							
R174	Internet /	about the 1st day of the 5th	16/11/2021	Online			x	G	126
N1/4	Social Media	RAINBOW plenary meeting, in	10/11/2021	Offilite			^	9	120
		the LinkedIn account							
	Internet /	Retweet of RAINBOW's post							
R175	Social Media	about the 1st day of the 5th	16/11/2021	Online			х	G	40
		RAINBOW plenary meeting							
		Share of RAINBOW's post							
R176	Internet /	about the 1st day of the 5th	16/11/2021	Online			х	G	8
	Social Media	RAINBOW plenary meeting, in							
		the Facebook account							
		Post about a blog post on RAINBOW Platform							
R177	Internet /	Stakeholder Analysis: The 3	19/11/2021	Online			x	A,B	69
KI//	Social Media	Categories of Stakeholders, by	19/11/2021	Offilite				A,D	09
		K3Y's official webpage							
		Share of RAINBOW's post							
		about an analysis entitled "Why							
	Internet /	is Edge Computing an	/- /						
R178	Social Media	imperative for innovation in a	22/11/2021	Online			х	G	82
		data-driven world?", in the							
		LinkedIn account							<u></u>
		Retweet of RAINBOW's post							
	Internet /	about an analysis entitled "Why							
R179	Social Media	is Edge Computing an	22/11/2021	Online			х	G	32
	Journ Wicaia	imperative for innovation in a							
		data-driven world?"							
		Share of RAINBOW's post							
		about an analysis entitled "Why							
R180	Internet /	is Edge Computing an	22/11/2021	Online			х	G	9
	Social Media	imperative for innovation in a data-driven world?", in the							
		Facebook account							
		Share of RAINBOW's post							1
		about a blog post regarding the							
R181	Internet /	early release of the three	23/11/2021	Online			х	G	81
	Social Media	project demonstrators, in the	23, 11, 2021	O.IIIIC			^		31
		LinkedIn account							
		Retweet of RAINBOW's post							1
	Internet /	about a blog post regarding the	00/44/555	<b>.</b>					
R182	Social Media	early release of the three	23/11/2021	Online			х	G	21
		project demonstrators							
		1 2						1	



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R183	Internet / Social Media	Share of RAINBOW's post about a blog post regarding the early release of the three project demonstrators, in the Facebook account	23/11/2021	Online			х	G	11
R184	Internet / Social Media	Share of RAINBOW's post about an analysis entitled "4 key technologies that are driving IoT development", in the LinkedIn account	25/11/2021	Online			x	G	78
R185	Internet / Social Media	Retweet of RAINBOW's post about an analysis entitled "4 key technologies that are driving IoT development"	25/11/2021	Online			x	G	32
R186	Internet / Social Media	Share of RAINBOW's post about an analysis entitled "4 key technologies that are driving IoT development", in the Facebook account	25/11/2021	Online			х	G	13
R187	Internet / Social Media	Share of RAINBOW's post about the data analytics pipeline of the RAINBOW platform, in the LinkedIn account	2/12/2021	Online			х	G	68
R188	Internet / Social Media	Retweet of RAINBOW's post about the data analytics pipeline of the RAINBOW platform	2/12/2021	Online			х	G	31
R189	Internet / Social Media	Share of RAINBOW's post about the data analytics pipeline of the RAINBOW platform, in the Facebook account	2/12/2021	Online			х	G	12
R190	Internet / Social Media	Post about a press release which issued regarding the 5th Plenary meeting, by K3Y's official webpage	3/12/2021	Online			x	A,B	74
R191	Internet / Social Media	Share of RAINBOW's post about a press release which issued regarding the 5th Plenary meeting, in the LinkedIn account	8/12/2021	Online			х	G	68
R192	Internet / Social Media	Retweet of RAINBOW's post about a press release which issued regarding the 5th Plenary meeting	8/12/2021	Online			х	G	7
R193	Internet / Social Media	Share of RAINBOW's post about a press release which issued regarding the 5th Plenary meeting, in the Facebook account	8/12/2021	Online			x	G	12
R194	Internet / Social Media	Share of RAINBOW's post regarding the implementation of the Secure Overlay Mesh (SOM), which is part of the RAINBOW edge stack, in the LinkedIn account	9/12/2021	Online			х	G	70
R195	Internet / Social Media	Retweet of RAINBOW's post regarding the implementation of the Secure Overlay Mesh (SOM), which is part of the RAINBOW edge stack	9/12/2021	Online			х	G	19
R196	Internet / Social Media	Share of RAINBOW's post regarding the implementation of the Secure Overlay Mesh (SOM), which is part of the	9/12/2021	Online			х	G	12



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		RAINBOW edge stack, in the Facebook account						
R197	Internet / Social Media	Share of RAINBOW's post about the presentation of RAINBOW in the 3rd workshop on Cyber-Security Arms Race- CYSARM, in the LinkedIn account	13/12/2021	Online		х	G	127
R198	Internet / Social Media	Retweet of RAINBOW's post about the presentation of RAINBOW in the 3rd workshop on Cyber-Security Arms Race- CYSARM	13/12/2021	Online		х	G	26
R199	Internet / Social Media	Share of RAINBOW's post about the presentation of RAINBOW in the 3rd workshop on Cyber-Security Arms Race- CYSARM, in the Facebook account	13/12/2021	Online		x	G	13
R200	Internet / Social Media	Share of RAINBOW's post about a blog post on RAINBOW Platform Stakeholder Analysis: The 3 Categories of Stakeholders, in the LinkedIn account	14/12/2021	Online		x	G	100
R201	Internet / Social Media	Retweet of RAINBOW's post about a blog post on RAINBOW Platform Stakeholder Analysis: The 3 Categories of Stakeholders	14/12/2021	Online		х	G	34
R202	Internet / Social Media	Share of RAINBOW's post about a blog post on RAINBOW Platform Stakeholder Analysis: The 3 Categories of Stakeholders, in the Facebook account	14/12/2021	Online		x	G	12
R203	Internet / Social Media	Share of RAINBOW's post about a fog computing emulation framework entitled "Fogify", in the LinkedIn account	16/12/2021	Online		х	G	106
R204	Internet / Social Media	Retweet of RAINBOW's post about a fog computing emulation framework entitled "Fogify"	16/12/2021	Online		х	G	25
R205	Internet / Social Media	Share of RAINBOW's post about a fog computing emulation framework entitled "Fogify", in the Facebook account	16/12/2021	Online		х	G	12
R206	Internet / Social Media	Share of RAINBOW's post about a blog post regarding automation of massive deployment of blockchain network nodes on fog and edge environments, in the LinkedIn account	17/12/2021	Online		х	G	124
R207	Internet / Social Media	Retweet of RAINBOW's post about a blog post regarding automation of massive deployment of blockchain network nodes on fog and edge environments	17/12/2021	Online		х	G	2
R208	Internet / Social Media	Share of RAINBOW's post about a blog post regarding automation of massive	17/12/2021	Online		х	G	9



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		deployment of blockchain network nodes on fog and edge environments, in the Facebook						
R209	Internet / Social Media	account Share of RAINBOW's post about an analysis entitled "What is fog computing?", in the LinkedIn account	20/12/2021	Online		х	G	96
R210	Internet / Social Media	Retweet of RAINBOW's post about an analysis entitled "What is fog computing?"	20/12/2021	Online		х	G	27
R211	Internet / Social Media	Share of RAINBOW's post about an analysis entitled "What is fog computing?", in the Facebook account	20/12/2021	Online		х	G	13
R212	Internet / Social Media	Post about the 6th issue of RAINBOW's newsletter, by K3Y's official webpage	5/1/2022	Online		х	A,B	68
R213	Internet / Social Media	Share of RAINBOW's post about a blog post regarding a Fog Computing emulation framework entitled "Fogify", in the LinkedIn account	5/1/2022	Online		x	G	95
R214	Internet / Social Media	Retweet of RAINBOW's post about a blog post regarding a Fog Computing emulation framework entitled "Fogify"	5/1/2022	Online		x	G	30
R215	Internet / Social Media	Share of RAINBOW's post about a blog post regarding a Fog Computing emulation framework entitled "Fogify", in the Facebook account	5/1/2022	Online		x	G	12
R216	Internet / Social Media	Share of RAINBOW's post about a blog post regarding testing RAINBOW Platform's First Release in Human Robot Collaboration Use-Case, in the LinkedIn account	10/1/2022	Online		x	G	94
R217	Internet / Social Media	Retweet of RAINBOW's post about a blog post regarding testing RAINBOW Platform's First Release in Human Robot Collaboration Use-Case	10/1/2022	Online		х	G	28
R218	Internet / Social Media	Share of RAINBOW's post about a blog post regarding testing RAINBOW Platform's First Release in Human Robot Collaboration Use-Case, in the Facebook account	10/1/2022	Online		x	G	12
R219	Internet / Social Media	Share of RAINBOW's post about an analysis entitled: "What is edge computing? Everything you need to know", in the LinkedIn account	11/1/2022	Online		x	G	88
R220	Internet / Social Media	Retweet of RAINBOW's post about an analysis entitled: "What is edge computing? Everything you need to know"	11/1/2022	Online		х	G	28
R221	Internet / Social Media	Share of RAINBOW's post about an analysis entitled: "What is edge computing? Everything you need to know", in the Facebook account	11/1/2022	Online		х	G	13
R222	Internet / Social Media	Share of RAINBOW's post about a blog post regarding RAINBOW Privacy-Respecting	13/1/2022	Online		х	G	86



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		Configuration Integrity Verification, in the LinkedIn account						
R223	Internet / Social Media	Retweet of RAINBOW's post about a blog post regarding RAINBOW Privacy-Respecting Configuration Integrity Verification	13/1/2022	Online		х	G	25
R224	Internet / Social Media	Share of RAINBOW's post about a blog post regarding RAINBOW Privacy-Respecting Configuration Integrity Verification, in the Facebook account	13/1/2022	Online		х	G	13
R225	Internet / Social Media	Share of RAINBOW's post about the 6th issue of RAINBOW's newsletter, in the LinkedIn account	17/1/2022	Online		x	G	85
R226	Internet / Social Media	Retweet of RAINBOW's post about the 6th issue of RAINBOW's newsletter	17/1/2022	Online		х	G	19
R227	Internet / Social Media	Share of RAINBOW's post about the 6th issue of RAINBOW's newsletter, in the Facebook account	17/1/2022	Online		х	G	11
R228	Internet / Social Media	Post about a blog post regarding RAINBOW Platform Stakeholder Analysis: RAINBOW's key stakeholders, by K3Y's official webpage	18/1/2022	Online		x	A,B	80
R229	Internet / Social Media	Share of RAINBOW's post about an analysis entitled: "7 Edge Computing Trends to Watch in 2022", in the LinkedIn account	21/1/2022	Online		x	G	98
R230	Internet / Social Media	Retweet of RAINBOW's post about an analysis entitled: "7 Edge Computing Trends to Watch in 2022"	21/1/2022	Online		х	G	22
R231	Internet / Social Media	Share of RAINBOW's post about an analysis entitled: "7 Edge Computing Trends to Watch in 2022", in the Facebook account	21/1/2022	Online		х	G	12
R232	Internet / Social Media	Share of RAINBOW's post which describes the progress regarding the validation of the 1st version of the RAINBOW platform, in the LinkedIn account	26/1/2022	Online		х	G	90
R233	Internet / Social Media	Retweet of RAINBOW's post which describes the progress regarding the validation of the 1st version of the RAINBOW platform	26/1/2022	Online		x	G	30
R234	Internet / Social Media	Share of RAINBOW's post which describes the progress regarding the validation of the 1st version of the RAINBOW platform, in the Facebook account	26/1/2022	Online		х	G	12
R235	Internet / Social Media	Share of RAINBOW's post about a blog post regarding RAINBOW Platform Stakeholder Analysis:	31/1/2022	Online		x	G	76



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				ı	, .				
		RAINBOW's key stakeholders, in the LinkedIn account							
R236	Internet / Social Media	Retweet of RAINBOW's post about a blog post regarding RAINBOW Platform Stakeholder Analysis: RAINBOW's key stakeholders	31/1/2022	Online			x	G	27
R237	Internet / Social Media	Share of RAINBOW's post about a blog post regarding RAINBOW Platform Stakeholder Analysis: RAINBOW's key stakeholders, in the Facebook account	31/1/2022	Online			x	G	12
R238	Internet / Social Media	Share of RAINBOW's post about a blog post that focuses on why integration and development process are important for RAINBOW, in the LinkedIn account	2/2/2022	Online			x	G	77
R239	Internet / Social Media	Retweet of RAINBOW's post about a blog post that focuses on why integration and development process are important for RAINBOW	2/2/2022	Online			x	G	26
R240	Internet / Social Media	Share of RAINBOW's post about a blog post that focuses on why integration and development process are important for RAINBOW, in the Facebook account	2/2/2022	Online			x	G	12
R241	Internet / Social Media	Share of RAINBOW's post about an analysis entitled: "Top Edge Computing predictions to look out for in 2022", in the LinkedIn account	8/2/2022	Online			x	G	71
R242	Internet / Social Media	Retweet of RAINBOW's post about an analysis entitled: "Top Edge Computing predictions to look out for in 2022"	8/2/2022	Online			х	G	18
R243	Internet / Social Media	Share of RAINBOW's post about an analysis entitled: "Top Edge Computing predictions to look out for in 2022", in the Facebook account	8/2/2022	Online			x	G	11
R244	Internet / Social Media	Share of RAINBOW's post about a blog post that justifies why a Trusted Platform Module is necessary for RAINBOW, in the LinkedIn account	14/2/2022	Online			x	G	73
R245	Internet / Social Media	Retweet of RAINBOW's post about a blog post that justifies why a Trusted Platform Module is necessary for RAINBOW	14/2/2022	Online			х	G	34
R246	Internet / Social Media	Share of RAINBOW's post about a blog post that justifies why a Trusted Platform Module is necessary for RAINBOW, in the Facebook account	14/2/2022	Online			х	G	11
R247	Internet / Social Media	Share of RAINBOW's post about a blog post on RAINBOW Human-Robot Collaboration in Industrial Ecosystems use case, in the LinkedIn account	17/2/2022	Online			x	G	97
R248	Internet / Social Media	Retweet of RAINBOW's post about a blog post on RAINBOW	17/2/2022	Online			х	G	33



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		Human-Robot Collaboration in Industrial Ecosystems use case								
R249	Internet / Social Media	Share of RAINBOW's post about a blog post on RAINBOW Human-Robot Collaboration in Industrial Ecosystems use case, in the Facebook account	17/2/2022	Online			х		G	10
R250	Internet / Social Media	Post about the Webinar: "RAINBOW Security and Trust in Fog Computing - 22 Feb.", by K3Y's official webpage	21/2/2022	Online			х	,	4,В	46
R251	Internet / Social Media	Share of RAINBOW's post about a webinar that RAINBOW is organising on the 22nd of February entitled: "RAINBOW Security and Trust in Fog Computing", in the LinkedIn account	21/2/2022	Online			х		G	93
R252	Internet / Social Media	Retweet of RAINBOW's post about a webinar that RAINBOW is organising on the 22nd of February entitled: "RAINBOW Security and Trust in Fog Computing"	21/2/2022	Online			x		G	17
R253	Internet / Social Media	Share of RAINBOW's post about a webinar that RAINBOW is organising on the 22nd of February entitled: "RAINBOW Security and Trust in Fog Computing", in the Facebook account	21/2/2022	Online			x		G	15
R254	Internet / Social Media	Retweet of RAINBOW's post which informs that the online webinar on security & trust in fog computing is live!	22/2/2022	Online			х		G	25
R255	Internet / Social Media	Post about the 4th International Workshop on Cyber-Security in Software- defined and Virtualized Infrastructures (SecSoft) – Call for Papers, by K3Y's official webpage	23/2/2022	Online			х	,	4,В	34
R256	Internet / Social Media	Share of RAINBOW's post about the 4th International Workshop on Cyber-Security in Software-defined and Virtualized Infrastructures (SecSoft), in the LinkedIn account	24/2/2022	Online			х		G	78
R257	Internet / Social Media	Retweet of RAINBOW's post about the 4th International Workshop on Cyber-Security in Software-defined and Virtualized Infrastructures (SecSoft)	24/2/2022	Online			x		G	19
R258	Internet / Social Media	Share of RAINBOW's post about the 4th International Workshop on Cyber-Security in Software-defined and Virtualized Infrastructures (SecSoft), in the Facebook account	24/2/2022	Online			х		G	10
R259	Internet / Social Media	Share of RAINBOW's post about a blog post regarding testing RAINBOW Platform's First Release in Powerline	25/2/2022	Online			х		G	75



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		Surveillance via Swarm of								
		Drones use case, in the								
		LinkedIn account								
		Retweet of RAINBOW's post								
		about a blog post regarding								
2260	Internet /	testing RAINBOW Platform's	25/2/2022	0.415.4					6	25
R260	Social Media	First Release in Powerline	25/2/2022	Online				Х	G	25
		Surveillance via Swarm of								
		Drones use case								
		Share of RAINBOW's post								
		about a blog post regarding								
	Internet /	testing RAINBOW Platform's								
R261	Social Media	First Release in Powerline	25/2/2022	Online				Х	G	12
	555.01.11.50.10	Surveillance via Swarm of								
		Drones use case, in the								
		Facebook account		1						
Daca	Internet /	Retweet of RAINBOW's post	20/2/2022	Online					6	27
R262	Social Media	about a study entitled: "Three	28/2/2022	Online				Х	G	27
		Cloud trends to watch in 2022" Share of RAINBOW's post								
		about a blog post regarding the								
	Internet /	contribution of RAINBOW								
R263	Social Media	Scheduler to Linux	2/3/2022	Online				Х	G	111
		Foundation's Centaurus				ĺ				
		Project, in the LinkedIn account								
		Retweet of RAINBOW's post								
	Internet /	about a blog post regarding the								
R264	Social Media	contribution of RAINBOW	2/3/2022	Online				х	G	22
	Social Media	Scheduler to Linux								
		Foundation's Centaurus Project								
		Share of RAINBOW's post								
		about a blog post regarding the								
	Internet /	contribution of RAINBOW	2 /2 /2 22	0 11						10
R265	Social Media	Scheduler to Linux	2/3/2022	Online				Х	G	12
		Foundation's Centaurus								
		Project, in the Facebook account								
		Post about a blog post								
		regarding RAINBOW Platform								
	_	Stakeholder Analysis:								
R266	Internet /	Applications and markets that	7/3/2022	Online				х	A,B	77
	Social Media	may benefit from RAINBOW	.,-,						. 7-	
		outcomes, by K3Y's official								
		webpage								
		Share of RAINBOW's post								
	Internet /	about a blog post entitled								
R267	Social Media	"Enabling C-V2X through	8/3/2022	Online		ĺ		Х	G	88
	Jos. ar irreard	RAINBOW", in the LinkedIn				Ī				
		account			ļ		$\vdash \vdash$			
	Internació (	Retweet of RAINBOW's post				Ī				
R268	Internet /	about a blog post entitled	8/3/2022	Online				х	G	34
	Social Media	"Enabling C-V2X through RAINBOW"				Ī				
		Share of RAINBOW's post				-	$\vdash$			
		about a blog post entitled				ĺ				
R269	Internet /	"Enabling C-V2X through	8/3/2022	Online				х	G	12
	Social Media	RAINBOW", in the Facebook	-, -,	3		ĺ			Č	
		account				Ī				
		Share of RAINBOW's post		1						
	Internet (	about an analysis entitled: "Top								
R270	Internet / Social Media	Edge Computing Predictions to	10/3/2022	Online		ĺ		х	G	86
	Social Media	Keep an Eye on in 2022", in the				ĺ				
		LinkedIn account			<u></u>	L				
		Retweet of RAINBOW's post	<u></u>						·	
R271	Internet /	about an analysis entitled: "Top	10/3/2022	Online				х	G	2
112/1	Social Media	Edge Computing Predictions to	10/ 3/ 2022	O milite				^	3	_
		Keep an Eye on in 2022"								
				ισο 151 of 1						



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Internet						 		1	,
Internet   Social Media   Part   Project   Internet   Social Media   Part   Project   Internet   Part   Project   Internet   Part   Project   Part   Project   Part   Project   Part	R272	-	about an analysis entitled: "Top Edge Computing Predictions to Keep an Eye on in 2022", in the	10/3/2022	Online		x	G	14
Internet	R273	-	about the 1st day of the 6th plenary meeting of the RAINBOW Project, in the	15/3/2022	Online		х	G	84
Internet	R274	_	about the 1st day of the 6th plenary meeting of the	15/3/2022	Online		x	G	26
Internet / Social Media   Annual Property meeting of the Linkedin account   Internet / Social Media   Internet / Social	R275	-	about the 1st day of the 6th plenary meeting of the RAINBOW Project, in the	15/3/2022	Online		x	G	16
Internet / Social Media   Social M	R276	-	about the 2nd day of the 6th plenary meeting of the RAINBOW Project, in the	16/3/2022	Online		x	G	85
Internet / Social Media   Social M	R277	•	Retweet of RAINBOW's post about the 2nd day of the 6th plenary meeting of the RAINBOW Project	16/3/2022	Online		х	G	33
Internet   Social Media   Stakeholders: Applications and markets that may benefit from RAINBOW platform   Stakeholders: Applications and markets that may benefit from RAINBOW outcomes, in the Linkedin account   Stakeholders: Applications and markets that may benefit from RAINBOW platform   Stakeholders: Applications and markets that may benefit from RAINBOW platform   Stakeholders: Applications and markets that may benefit from RAINBOW outcomes   Share of RAINBOW's post about a biog post that presents RAINBOW outcomes   Share of RAINBOW's post about a biog post that presents RAINBOW platform   Stakeholders: Applications and markets that may benefit from RAINBOW outcomes, in the Facebook account   Share of RAINBOW's post regarding how RAINBOW project relies on SLOs and lasticity strategies developed with the Polaris Framework, in the Linkedin account   Share of RAINBOW's post regarding how RAINBOW project relies on SLOs and elasticity strategies developed with the Polaris Framework, in the Linkedin account   Share of RAINBOW's post regarding how RAINBOW project relies on SLOs and elasticity strategies developed with the Polaris Framework   Social Media   Share of RAINBOW's post regarding how RAINBOW project relies on SLOs and elasticity strategies developed with the Polaris Framework   Social Media   Share of RAINBOW's post regarding how RAINBOW project relies on SLOs and relies on S	R278	-	about the 2nd day of the 6th plenary meeting of the RAINBOW Project, in the	16/3/2022	Online		x	G	14
R280   Internet / Social Media   Sakeholders: Applications and markets that may benefit from RAINBOW outcomes   17/3/2022   Online   X	R279	•	about a blog post that presents RAINBOW Platform Stakeholders: Applications and markets that may benefit from RAINBOW outcomes, in the	17/3/2022	Online		х	G	72
R281 Internet / Social Media  R282 Internet / Social Media  R283 Internet / Social Media  R284 Internet / Social Media  R284 Internet / Social Media  R284 Internet / Social Media  R285 Internet / Social Media  R286 Internet / Social Media  R287 Internet / Social Media  R288 I	R280	•	Retweet of RAINBOW's post about a blog post that presents RAINBOW Platform Stakeholders: Applications and markets that may benefit from	17/3/2022	Online		×	G	30
R282 Internet / Social Media  R283 Internet / Social Media  R284 Internet / Social Media  R284 Internet / Social Media  R285 Internet / Social Media  R286 Internet / Social Media  R287 Internet / Social Media  R288 Internet / Social Media  R288 Internet / Social Media  R288 Internet / Social Media  R289 Internet / Social Media  R280 Internet / Social Media  R281 I	R281	-	about a blog post that presents RAINBOW Platform Stakeholders: Applications and markets that may benefit from RAINBOW outcomes, in the	17/3/2022	Online		x	G	13
R283 Internet / Social Media regarding how RAINBOW project relies on SLOs and elasticity strategies developed with the Polaris Framework  R284 Internet / Social Media  Social Media  R284 Social Media  R284 Cocial Media  R285 Internet / Social Media  Social Media  R286 Social Media  R287 Social Media	R282	•	regarding how RAINBOW project relies on SLOs and elasticity strategies developed with the Polaris Framework, in the LinkedIn account	21/3/2022	Online		x	G	65
R284 Internet / regarding how RAINBOW 21/3/2022 Online x G 12	R283	-	regarding how RAINBOW project relies on SLOs and elasticity strategies developed with the Polaris Framework	21/3/2022	Online		x	G	22
page 152 of 174	R284	-	regarding how RAINBOW				х	G	12



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		elasticity strategies developed							
		with the Polaris Framework, in							
		the Facebook account				$\vdash \vdash$			
R285	Internet / Social Media	Share of RAINBOW's post on a blog post which presents the high-level requirements that need to be satisfied by RAINBOW about the architecture of Human-Robot Collaboration in Industrial Ecosystems, in the LinkedIn account	23/3/2022	Online			х	G	60
R286	Internet / Social Media	Retweet of RAINBOW's post on a blog post which presents the high-level requirements that need to be satisfied by RAINBOW about the architecture of Human-Robot Collaboration in Industrial Ecosystems	23/3/2022	Online			х	G	19
R287	Internet / Social Media	Share of RAINBOW's post on a blog post which presents the high-level requirements that need to be satisfied by RAINBOW about the architecture of Human-Robot Collaboration in Industrial Ecosystems, in the Facebook account	23/3/2022	Online			х	G	12
R288	Internet / Social Media	Post about a press release regarding an online workshop on "Processing Data in the Fog: The example of the RAINBOW Fog Computing platform", by K3Y's official webpage	29/3/2022	Online			x	A,B	86
R289	Internet / Social Media	Share of RAINBOW's post regarding a press release on an online workshop titled "Processing Data in the Fog: The example of the RAINBOW Fog Computing platform", in the LinkedIn account	30/3/2022	Online			х	G	74
R290	Internet / Social Media	Retweet of RAINBOW's post regarding a press release on an online workshop titled "Processing Data in the Fog: The example of the RAINBOW Fog Computing platform"	30/3/2022	Online			x	G	36
R291	Internet / Social Media	Share of RAINBOW's post regarding a press release on an online workshop titled "Processing Data in the Fog: The example of the RAINBOW Fog Computing platform", in the Facebook account	30/3/2022	Online			х	G	11
R292	Internet / Social Media	Post about the outcomes of the Webinar: "RAINBOW Security and Trust in Fog Computing", by K3Y's official webpage	31/3/2022	Online			х	A,B	79
R293	Internet / Social Media	Share of RAINBOW's post about the outcomes of the Webinar: "RAINBOW Security and Trust in Fog Computing", in the LinkedIn account	1/4/2022	Online			x	G	70
R294	Internet / Social Media	Retweet of RAINBOW's post about the outcomes of the	1/4/2022	Online			х	G	34



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		Webinar: "RAINBOW Security and Trust in Fog Computing"						
R295	Internet / Social Media	Share of RAINBOW's post about the outcomes of the Webinar: "RAINBOW Security and Trust in Fog Computing", in the Facebook account	1/4/2022	Online		х	G	9
R296	Internet / Social Media	Post about the 7th issue of the RAINBOW newsletter, by K3Y's official webpage	1/4/2022	Online		х	A,B	117
R297	Internet / Social Media	Share of RAINBOW's post about the 7th issue of the RAINBOW newsletter, in the LinkedIn account	5/4/2022	Online		x	G	75
R298	Internet / Social Media	Retweet of RAINBOW's post about the 7th issue of the RAINBOW newsletter	5/4/2022	Online		х	G	35
R299	Internet / Social Media	Share of RAINBOW's post about the 7th issue of the RAINBOW newsletter, in the Facebook account	5/4/2022	Online		x	G	16
R300	Internet / Social Media	Share of RAINBOW's post about an analysis entitled: "Industry 4.0: Digital Twins, Smart Materials, and IoT", in the LinkedIn account	8/4/2022	Online		x	G	74
R301	Internet / Social Media	Retweet of RAINBOW's post about an analysis entitled: "Industry 4.0: Digital Twins, Smart Materials, and IoT"	8/4/2022	Online		х	G	30
R302	Internet / Social Media	Share of RAINBOW's post about an analysis entitled: "Industry 4.0: Digital Twins, Smart Materials, and IoT", in the Facebook account	8/4/2022	Online		x	G	17
R303	Internet / Social Media	Post about a press release which issued regarding the 6th Plenary meeting, by K3Y's official webpage	11/4/2022	Online		х	A,B	111
R304	Internet / Social Media	Share of RAINBOW's post about a blog post on "5G Connected Vehicles", in the LinkedIn account	12/4/2022	Online		x	G	50
R305	Internet / Social Media	Retweet of RAINBOW's post about a blog post on "5G Connected Vehicles"	12/4/2022	Online		x	G	29
R306	Internet / Social Media	Share of RAINBOW's post about a blog post on "5G Connected Vehicles", in the Facebook account	12/4/2022	Online		x	G	12
R307	Internet / Social Media	Share of RAINBOW's post about a press release which issued regarding the 6th Plenary meeting, in the LinkedIn account	15/4/2022	Online		х	G	55
R308	Internet / Social Media	Retweet of RAINBOW's post about a press release which issued regarding the 6th Plenary meeting	15/4/2022	Online		x	G	26
R309	Internet / Social Media	Share of RAINBOW's post about a press release which issued regarding the 6th Plenary meeting, in the Facebook account	15/4/2022	Online		х	G	9



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R310	Internet / Social Media	Post about a blog post regarding "RAINBOW Platform Stakeholder Analysis:	19/4/2022	Online			x	A,B	110
	Joelai Media	Stakeholder Roles", by K3Y's official webpage							
R311	Internet / Social Media	Share of RAINBOW's post about a blog post that presents RAINBOW Platform Stakeholders: Stakeholder Roles, in the LinkedIn account	20/4/2022	Online			x	G	65
R312	Internet / Social Media	Retweet of RAINBOW's post about a blog post that presents RAINBOW Platform Stakeholders: Stakeholder Roles	20/4/2022	Online			x	G	34
R313	Internet / Social Media	Share of RAINBOW's post about a blog post that presents RAINBOW Platform Stakeholders: Stakeholder Roles, in the Facebook account	20/4/2022	Online			х	G	13
R314	Internet / Social Media	Share of RAINBOW's post about a blog post entitled: "RAINBOW one-stop-shop endpoint for edge-related operations", in the LinkedIn account	27/4/2022	Online			х	G	71
R315	Internet / Social Media	Retweet of RAINBOW's post about a blog post entitled: "RAINBOW one-stop-shop endpoint for edge-related operations"	27/4/2022	Online			x	G	31
R316	Internet / Social Media	Share of RAINBOW's post about a blog post entitled: "RAINBOW one-stop-shop endpoint for edge-related operations", in the Facebook account	27/4/2022	Online			x	G	11
R317	Internet / Social Media	Share of RAINBOW's post about an analysis entitled: "What edge computing means for the future of organisations", in the LinkedIn account	3/5/2022	Online			x	G	97
R318	Internet / Social Media	Retweet of RAINBOW's post about an analysis entitled: "What edge computing means for the future of organisations"	3/5/2022	Online			х	G	26
R319	Internet / Social Media	Share of RAINBOW's post about an analysis entitled: "What edge computing means for the future of organisations", in the Facebook account	3/5/2022	Online			х	G	10
R320	Internet / Social Media	Share of RAINBOW's post about a blog post that presents a high-level Description of the RAINBOW Digital Transformation of Urban Mobility Use Case, in the LinkedIn account	9/5/2022	Online			x	G	83
R321	Internet / Social Media	Retweet of RAINBOW's post about a blog post that presents a high-level Description of the RAINBOW Digital Transformation of Urban Mobility Use Case	9/5/2022	Online			х	G	33
R322	Internet / Social Media	Share of RAINBOW's post about a blog post that presents a high-level Description of the	9/5/2022	Online			x	G	9



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		RAINBOW Digital Transformation of Urban Mobility Use Case, in the Facebook account							
R323	Internet / Social Media	Post about a Webinar titled: "The RAINBOW Data Management and Analytics Stack in Action!" (27 May), by K3Y's official webpage	12/5/2022	Online			х	A,B	105
R324	Internet / Social Media	Share of RAINBOW's post about a webinar titled: "The RAINBOW Data Management and Analytics Stack in Action!" (27 May), in the LinkedIn account	12/5/2022	Online			x	G	69
R325	Internet / Social Media	Retweet of RAINBOW's post about a webinar titled: "The RAINBOW Data Management and Analytics Stack in Action!" (27 May)	12/5/2022	Online			х	G	14
R326	Internet / Social Media	Share of RAINBOW's post about a webinar titled: "The RAINBOW Data Management and Analytics Stack in Action!" (27 May), in the Facebook account	12/5/2022	Online			х	G	10
R327	Internet / Social Media	Post about the outcomes of the online workshop: "Processing Data in the Fog. The example of the RAINBOW Fog Computing platform", by K3Y's official webpage	16/5/2022	Online			х	A,B	106
R328	Internet / Social Media	Share of RAINBOW's post about the outcomes of the online workshop: "Processing Data in the Fog. The example of the RAINBOW Fog Computing platform", in the LinkedIn account	16/5/2022	Online			х	G	60
R329	Internet / Social Media	Retweet of RAINBOW's post about the outcomes of the online workshop: "Processing Data in the Fog. The example of the RAINBOW Fog Computing platform"	16/5/2022	Online			х	G	22
R330	Internet / Social Media	Share of RAINBOW's post about the outcomes of the online workshop: "Processing Data in the Fog. The example of the RAINBOW Fog Computing platform", in the Facebook account	16/5/2022	Online			х	G	12
R331	Internet / Social Media	Post about a press release which issued regarding the RAINBOW Use Cases Video, by K3Y's official webpage	19/5/2022	Online			х	A,B	82
R332	Internet / Social Media	Share of RAINBOW's post about a press release which issued regarding the RAINBOW Use Cases Video, in the LinkedIn account	19/5/2022	Online			x	G	71
R333	Internet / Social Media	Retweet of RAINBOW's post about a press release which issued regarding the RAINBOW Use Cases Video	19/5/2022	Online			х	G	25



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		I		1	1				
	Internet /	Share of RAINBOW's post about a press release which							
R334	Social Media	issued regarding the RAINBOW Use Cases Video, in the Facebook account	19/5/2022	Online			Х	G	17
R335	Internet / Social Media	Post about a press release which issued regarding the webinar on "The RAINBOW Data Management and Analytics Stack in Action", by K3Y's official webpage	25/5/2022	Online			x	A,B	95
R336	Internet / Social Media	Share of RAINBOW's post about a press release which issued regarding the webinar on "The RAINBOW Data Management and Analytics Stack in Action", in the LinkedIn account	25/5/2022	Online			x	G	101
R337	Internet / Social Media	Retweet of RAINBOW's post about a press release which issued regarding the webinar on "The RAINBOW Data Management and Analytics Stack in Action"	25/5/2022	Online			x	G	22
R338	Internet / Social Media	Share of RAINBOW's post about a press release which issued regarding the webinar on "The RAINBOW Data Management and Analytics Stack in Action", in the Facebook account	25/5/2022	Online			x	G	13
R339	Internet / Social Media	Share of RAINBOW's post about an analysis entitled: "The Inevitable Rise of 5G Technology, Edge and Cloud Computing, and Its Impact on the Digital Transformation", in the LinkedIn account	26/5/2022	Online			x	G	88
R340	Internet / Social Media	Retweet of RAINBOW's post about an analysis entitled: "The Inevitable Rise of 5G Technology, Edge and Cloud Computing, and Its Impact on the Digital Transformation"	26/5/2022	Online			x	G	27
R341	Internet / Social Media	Share of RAINBOW's post about an analysis entitled: "The Inevitable Rise of 5G Technology, Edge and Cloud Computing, and Its Impact on the Digital Transformation", in the Facebook account	26/5/2022	Online			x	G	18
R342	Internet / Social Media	Share of RAINBOW's post about a blog post entitled: "Completing the RAINBOW collective attestation and runtime verification components", in the LinkedIn account	30/5/2022	Online			x	G	68
R343	Internet / Social Media	Retweet of RAINBOW's post about a blog post entitled: "Completing the RAINBOW collective attestation and runtime verification components"	30/5/2022	Online			x	G	25
R344	Internet / Social Media	Share of RAINBOW's post about a blog post entitled: "Completing the RAINBOW	30/5/2022	Online			x	G	12



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		collective attestation and								
		runtime verification								
		components", in the Facebook								
		account								
		Share of RAINBOW's post								
R345	Internet /	about a blog post that focuses on RAINBOW's Distributed Data	1/6/202	Online				.,	G	93
N343	Social Media	Processing Service, in the	1/6/202	Offilite				Х	d	95
		LinkedIn account								
		Retweet of RAINBOW's post								
	Internet /	about a blog post that focuses								
R346	Social Media	on RAINBOW's Distributed Data	1/6/2022	Online				Х	G	22
		Processing Service								
		Share of RAINBOW's post								
	Internet /	about a blog post that focuses								
R347	Social Media	on RAINBOW's Distributed Data	1/6/2022	Online				Х	G	14
	Jocial Media	Processing Service, in the								
		Facebook account								
		Share of RAINBOW's post								
D2 10	Internet /	about a WP3 SLO Webinar that	6 16 12 222	0.41					6	44.
R348	Social Media	will take place on Wednesday,	6/6/2022	Online				Х	G	114
		June 15, in the LinkedIn account								
		Retweet of RAINBOW's post								
	Internet /	about a WP3 SLO Webinar that								
R349	Social Media	will take place on Wednesday,	6/6/2022	Online				Х	G	18
		June 15								
		Share of RAINBOW's post								
	Internet /	about a WP3 SLO Webinar that								
R350	Social Media	will take place on Wednesday,	6/6/2022	Online				х	G	13
	Social Media	June 15, in the Facebook								
		account								
		Share of RAINBOW's post								
	Internet /	about an online workshop on	. / . /							
R351	Social Media	Edge Orchestration that will	9/6/2022	Online				Х	G	80
		take place on Tuesday, June 21, in the LinkedIn account								
		Retweet of RAINBOW's post								
	Internet /	about an online workshop on	- 4- 4							
R352	Social Media	Edge Orchestration that will	9/6/2022	Online				Х	G	34
		take place on Tuesday, June 21								
		Share of RAINBOW's post								
	Internet /	about an online workshop on								
R353	Social Media	Edge Orchestration that will	9/6/2022	Online				Х	G	11
	Journ Wicara	take place on Tuesday, June 21,								
		in the Facebook account								
	Internet (	Post about a WP3 SLO Webinar								
R354	Internet / Social Media	that will take place on Wednesday, June 15, by K3Y's	13/6/2022	Online				х	A,B	259
	Social Media	official webpage								
		Share of RAINBOW's post								
		about a technical webinar on								
		creating and managing high-								
R355	Internet /	level SLOs with the Polaris	13/6/2022	Online				х	G	100
	Social Media	Framework, that will take place	-							
		on Wednesday, June 15, in the								
		LinkedIn account								
		Retweet of RAINBOW's post								
		about a technical webinar on								
R356	Internet /	creating and managing high-	13/6/2022	Online				х	G	43
	Social Media	level SLOs with the Polaris	,						-	
		Framework, that will take place								
		on Wednesday, June 15								
R357	Internet /	Share of RAINBOW's post about a technical webinar on	13/6/2022	Online				v	G	15
N33/	Social Media	creating and managing high-	13/0/2022	Offilite				Х	G	13
		creating and managing mgn-		<u> </u>	1		<u>i                                    </u>			



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level SLOs with the Polaris Framework, that will take place on Wednesday, June 15, in the Facebook account Rass Internet / Social Media Share of RAINBOW spost which announces that the RAINBOW Broject will be presented during the 4th Summit on Gender Equality in Computing (16-17 June), in the Linkedin account RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June) Social Media Share of RAINBOW's post which announces that the RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June) Share of RAINBOW's post which announces that the RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June) Share of RAINBOW's post which announces that the Post about a press release which issued regarding the online RAINBOW wrishop on Fidge Orchestration" that will take place on Tuesday, June 21, by K3Ys official webpage Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on RAINB	17
R358 Internet / Social Media So	17
Facebook account	17
R358   Internet / Social Media   Post about the 8th issue of the RAINBOW newsletter, by K3Y's official webpage   Share of RAINBOW's post which announces that the RAINBOW project will be presented during the 4th summit on Gender Equality in Computing (16-17 June), in the Linkedin ancount   Share of RAINBOW's post which announces that the RAINBOW project will be presented during the 4th summit on Gender Equality in Computing (16-17 June).   Share of RAINBOW's post which announces that the RAINBOW roject will be presented during the 4th Summit on Gender Equality in Computing (16-17 June).   Share of RAINBOW's post which announces that the RAINBOW project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June), in the Facebook account   Post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage   16/6/2022   Online   X A,B 189   189   189   189   180	17
R358   Internet / Social Media   Share of RAINBOW newsletter, by K3Y's   14/6/2022   Online	17
R359 Internet / Social Media  R360 Internet / Social Media  Social Media	17
R359 Share of RAINBOW's post which announces that the RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June), in the Linkedin account  R360 Internet / Social Media  R361 Internet / Social Media  R362 Internet / Social Media  R363 Internet / Social Media  R364 Internet / Social Media  R365 Share of RAINBOW's post which announces that the RAINBOW project will be presented during the 4th summit on Gender Equality in Computing (16-17 June) in the Facebook account  R365 Share of RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's of	
R359 Internet / Social Media  Notice R360 Internet / Social Media	
R359 Internet / Social Media Presented during the 4th Summit on Gender Equality in Computing (16-17 June), in the LinkedIn account which announces that the RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June) which announces that the RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June) Share of RAINBOW's post which announces that the RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June) Share of RAINBOW's post which announces that the RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June), in the Facebook account Post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will suit and press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will suit and press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage Share of RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage Share of RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage Share of RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage Share of RAINBOW workshop on "E	
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Summit on Gender Equality in Computing (16-17 June), in the LinkedIn account  Retweet of RAINBOW's post which announces that the RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June)  Share of RAINBOW's post which announces that the RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June)  Share of RAINBOW's post which announces that the RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June), in the Facebook account  Post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K37's official webpage  Share of RAINBOW's post about a press release which issued regarding the online issued regarding the online issued regarding the online issued regarding the online RAINBOW workshop on "Edge 16/6/2022 Online X G 170	3
R360 Internet / Social Media  R361 Internet / Social Media  R362 Internet / Social Media  R362 Internet / Social Media  R363 Internet / Social Media  R364 Internet / Social Media  R365 Internet / Social Media  R366 Internet / Social Media  R367 Social Media  R368 Internet / Social Media  R368 Share of RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June), in the Facebook account  Post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K37's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K37's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge RAINB	3
R360 Internet / Social Media RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June)  Share of RAINBOW's post which announces that the RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June)  Share of RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June), in the Facebook account  Post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge RAINBOW workshop on "Edge December 16/6/2022 Online RAINBOW workshop on "Edge RAINBOW workshop on "Edge Tio/6/2022 Online Tio/6/2	3
R360 Internet / Social Media Presented during the 4th Summit on Gender Equality in Computing (16-17 June)  R361 Internet / Social Media Internet / Soc	3
R360 Internet / Social Media  R360 Social Media  R361 Social Media  R361 Internet / Social Media  R362 Internet / Social Media  R362 Internet / Social Media  R363 Social Media  R364 Internet / Social Media  R365 Internet / Social Media  R365 Internet / Social Media  R366 R360 Social Media  R366 R360 Social Media  R367 Internet / Social Media  R368 Social Media  R368 Social Media  R369 R360 Social Media  R360 R30 Social Media  R360 Social Media  R360 R30 Social Media  R360 R30 Social Media  R360 Social Media  R36	3
R361 Social Media presented during the 4th Summit on Gender Equality in Computing (16-17 June)  Share of RAINBOW's post which announces that the RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June), in the Facebook account  R362 Internet / Social Media  R362 Internet / Social Media  Internet / Social Media  R363 Internet / Social Media  R363 Internet / Social Media  R364 Internet / Social Media	3
R361 Internet / Social Media presented during the 4th Summit on Gender Equality in Computing (16-17 June)    Internet / Social Media   Summit on Gender Equality in Computing (16-17 June)	
Computing (16-17 June)  Share of RAINBOW's post which announces that the RAINBOW Project will be presented during the 4th Summit on Gender Equality in Computing (16-17 June), in the Facebook account  Post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW's post about a press release which issued regarding the online RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post allowed in the AINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post and the AINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage Orchestration that will take place on Tuesday, June 21, by K3Y's official webpage Orchestration that will take place on Tuesday, June 21, by K3Y's official webpage Orchestration that will take place on Tuesday, June 21, by K3Y's official webpage Orchestration that will take place on Tuesday, June 21, by K3Y's officia	
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R361 Social Media presented during the 4th Summit on Gender Equality in Computing (16-17 June), in the Facebook account Post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge I6/6/2022 Online X G 170	
Social Media  Summit on Gender Equality in Computing (16-17 June), in the Facebook account  Post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge I6/6/2022 Online x G I70	5
Computing (16-17 June), in the Facebook account  Post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW or result in the pressure of the pressure o	,
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Social Media  "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online  RAINBOW workshop on "Edge 16/6/2022 Online x G 170	
Social Media "Edge Orchestration" that will take place on Tuesday, June 21, by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge 16/6/2022 Online x G 170	20
by K3Y's official webpage  Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge 16/6/2022 Online x G 170	9
Share of RAINBOW's post about a press release which issued regarding the online RAINBOW workshop on "Edge 16/6/2022 Online x G 170	
about a press release which issued regarding the online RAINBOW workshop on "Edge 16/6/2022 Online x G 170	
Internet / Social Media RAINBOW workshop on "Edge 16/6/2022 Online x G 170	
RAINBOW workshop on "Edge 16/6/2022 Online x G 170	
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Orchestration that will take	U
place on Tuesday, June 21, in	
the LinkedIn account	
Retweet of RAINBOW's post	
about a press release which	
Internet / issued regarding the online	•
R364 Social Media RAINBOW workshop on "Edge 16/6/2022 Online x G 18	3
Orchestration" that will take	
place on Tuesday, June 21	
Share of RAINBOW's post	
about a press release which	
Internet / issued regarding the online	2
RAINBOW workshop on "Edge   16/6/2022   Online       x   G   12	<u>′</u>
Orchestration" that will take	
place on Tuesday, June 21, in the Facebook account	
Share of RAINBOW's post	
about a blog post that	
describes the technical	
R366 Internet / components of the RAINBOW 20/6/2022 Online x G 122	
Social Media Digital Transformation of Urban	2
Mobility Use Case, in the	2
LinkedIn account LinkedIn account	2
Retweet of RAINBOW's post	2
about a blog post that	<u>.</u>
R367 Internet / describes the technical 20/6/2022 Online x G 19	
Social Media   components of the RAINBOW	
Digital Transformation of Urban	
Mobility Use Case	



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R368	Internet / Social Media	Share of RAINBOW's post about a blog post that describes the technical components of the RAINBOW Digital Transformation of Urban Mobility Use Case, in the Facebook account	20/6/2022	Online		x	G	14
R369	Internet / Social Media	Share of RAINBOW's post about the 8th issue of the RAINBOW newsletter, in the LinkedIn account	22/6/2022	Online		х	G	99
R370	Internet / Social Media	Retweet of RAINBOW's post about the 8th issue of the RAINBOW newsletter	22/6/2022	Online		x	G	23
R371	Internet / Social Media	Share of RAINBOW's post about the 8th issue of the RAINBOW newsletter, in the Facebook account	22/6/2022	Online		х	G	13
R372	Internet / Social Media	Share of RAINBOW's post about a blog post that introduces the RAINBOW Privacy-Preserving Control- Flow Attestation Component, in the LinkedIn account	23/6/2022	Online		x	G	99
R373	Internet / Social Media	Retweet of RAINBOW's post about a blog post that introduces the RAINBOW Privacy-Preserving Control- Flow Attestation Component	23/6/2022	Online		х	G	31
R374	Internet / Social Media	Share of RAINBOW's post about a blog post that introduces the RAINBOW Privacy-Preserving Control- Flow Attestation Component, in the Facebook account	23/6/2022	Online		x	G	14
R375	Internet / Social Media	Post about the 4th International Workshop on Cyber-Security in Software- defined and Virtualized Infrastructures (SecSoft) 1st of July, by K3Y's official webpage	28/6/2022	Online		х	A,B	184
R376	Internet / Social Media	Share of RAINBOW's post about the first day of the 7th plenary meeting, in the LinkedIn account	28/6/2022	Online		х	G	153
R377	Internet / Social Media	Retweet of RAINBOW's post about the first day of the 7th plenary meeting	28/6/2022	Online		х	G	24
R378	Internet / Social Media	Share of RAINBOW's post about the first day of the 7th plenary meeting, in the Facebook account	28/6/2022	Online		х	G	31
R379	Internet / Social Media	Share of RAINBOW'S post about the 4th International Workshop on Cyber-Security in Software-defined and Virtualized Infrastructures (SecSoft) 1st of July, in the LinkedIn account	29/6/2022	Online		х	G	132
R380	Internet / Social Media	Retweet of RAINBOW'S post about the 4th International Workshop on Cyber-Security in Software-defined and Virtualized Infrastructures (SecSoft) 1st of July	29/6/2022	Online		х	G	19



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R381	Internet / Social Media	Share of RAINBOW'S post about the 4th International Workshop on Cyber-Security in Software-defined and Virtualized Infrastructures (SecSoft) 1st of July, in the Facebook account	29/6/2022	Online			х	G	12
R382	Internet / Social Media	Share of RAINBOW's post about the second day of the 7th plenary meeting, in the LinkedIn account	29/6/2022	Online			x	G	109
R383	Internet / Social Media	Retweet of RAINBOW's post about the second day of the 7th plenary meeting	29/6/2022	Online			x	G	16
R384	Internet / Social Media	Share of RAINBOW's post about the second day of the 7th plenary meeting, in the Facebook account	29/6/2022	Online			x	G	18
R385	Internet / Social Media	Post about the outcomes of the Webinar: "The RAINBOW Data Management and Analytics Stack in Action!", by K3Y's official webpage	5/7/2022	Online			x	A,B	192
R386	Internet / Social Media	Share of RAINBOW's post about the outcomes of the Webinar: "The RAINBOW Data Management and Analytics Stack in Action!", in the LinkedIn account	5/7/2022	Online			x	G	19
R387	Internet / Social Media	Retweet of RAINBOW's post about the outcomes of the Webinar: "The RAINBOW Data Management and Analytics Stack in Action!"	5/7/2022	Online			x	G	35
R388	Internet / Social Media	Share of RAINBOW's post about the outcomes of the Webinar: "The RAINBOW Data Management and Analytics Stack in Action!", in the Facebook account	5/7/2022	Online			x	G	15
R389	Internet / Social Media	Share of RAINBOW's post about a blog post that relates Human-Robot Collaboration in Industrial Ecosystems use case requirements with RAINBOW platform components in the proposed reference scenario, in the LinkedIn account	6/7/2022	Online			x	G	22
R390	Internet / Social Media	Retweet of RAINBOW's post about a blog post that relates Human-Robot Collaboration in Industrial Ecosystems use case requirements with RAINBOW platform components in the proposed reference scenario	6/7/2022	Online			х	G	39
R391	Internet / Social Media	Share of RAINBOW's post about a blog post that relates Human-Robot Collaboration in Industrial Ecosystems use case requirements with RAINBOW platform components in the proposed reference scenario, in the Facebook account	6/7/2022	Online			x	G	16
R392	Internet / Social Media	Share of RAINBOW's post about a blog post titled: "Microclouds in pedestrian	11/7/2022	Online			х	G	31



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		environments", in the LinkedIn account							
R393	Internet / Social Media	Retweet of RAINBOW's post about a blog post titled: "Microclouds in pedestrian environments"	11/7/2022	Online			х	G	33
R394	Internet / Social Media	Share of RAINBOW's post about a blog post titled: "Microclouds in pedestrian environments", in the Facebook account	11/7/2022	Online			х	G	13
R395	Internet / Social Media	Share of RAINBOW's post about a blog post that focuses on the "Development of geo- referenced alert services in urban areas", in the LinkedIn account	13/7/2022	Online			х	G	26
R396	Internet / Social Media	Retweet of RAINBOW's post about a blog post that focuses on the "Development of geo- referenced alert services in urban areas"	13/7/2022	Online			х	G	43
R397	Internet / Social Media	Share of RAINBOW's post about a blog post that focuses on the "Development of geo- referenced alert services in urban areas", in the Facebook account	13/7/2022	Online			х	G	11
R398	Internet / Social Media	Post about a press release which issued regarding the 7th Plenary meeting, by K3Y's official webpage	21/7/2022	Online			х	A,B	102
R399	Internet / Social Media	Share of RAINBOW's post about a press release which issued regarding the 7th Plenary meeting, in the LinkedIn account	21/7/2022	Online			х	G	24
R400	Internet / Social Media	Retweet of RAINBOW's post about a press release which issued regarding the 7th Plenary meeting	21/7/2022	Online			х	G	36
R401	Internet / Social Media	Share of RAINBOW's post about a press release which issued regarding the 7th Plenary meeting, in the Facebook account	21/7/2022	Online			х	G	37
R402	Conferences / Seminars	Attendance of the CSNDSP 2022	21/7/2022	Online		х		A,C	45
R403	Internet / Social Media	Post about the outcomes of the Webinar: "Managing Service Level Objectives", by K3Y's official webpage	26/7/2022	Online			х	A,B	173
R404	Internet / Social Media	Share of RAINBOW's post about the outcomes of the Webinar: "Managing Service Level Objectives", in the LinkedIn account	26/7/2022	Online			х	G	21
R405	Internet / Social Media	Retweet of RAINBOW's post about the outcomes of the Webinar: "Managing Service Level Objectives"	26/7/2022	Online			х	G	39
R406	Internet / Social Media	Share of RAINBOW's post about the outcomes of the Webinar: "Managing Service	26/7/2022	Online			х	G	14



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		Level Objectives", in the Facebook account						
R407	Internet / Social Media	Post about the 9th issue of the RAINBOW newsletter, by K3Y's official webpage	28/7/2022	Online		х	A,B	126
R408	Internet / Social Media	Share of RAINBOW's post about the 9th issue of the RAINBOW newsletter, in the LinkedIn account	28/7/2022	Online		x	G	31
R409	Internet / Social Media	Retweet of RAINBOW's post about the 9th issue of the RAINBOW newsletter	28/7/2022	Online		х	G	39
R410	Internet / Social Media	Share of RAINBOW's post about the 9th issue of the RAINBOW newsletter, in the Facebook account	28/7/2022	Online		x	G	12
R411	Internet / Social Media	Post about the outcomes of the workshop on "Edge Orchestration", by K3Y's official webpage	1/8/2022	Online		x	A,B	142
R412	Internet / Social Media	Share of RAINBOW's post about the outcomes of the workshop on "Edge Orchestration", in the LinkedIn account	1/8/2022	Online		х	G	24
R413	Internet / Social Media	Retweet of RAINBOW's post about the outcomes of the workshop on "Edge Orchestration"	1/8/2022	Online		х	G	32
R414	Internet / Social Media	Share of RAINBOW's post about the outcomes of the workshop on "Edge Orchestration", in the Facebook account	1/8/2022	Online		x	G	17
R415	Internet / Social Media	Post about a paper that K3Y presented at CSNDSP 2022, by K3Y's official webpage	4/8/2022	Online		х	A,B	163
R416	Internet / Social Media	Share of RAINBOW's post about a paper that K3Y presented at CSNDSP 2022, in the LinkedIn account	4/8/2022	Online		x	G	25
R417	Internet / Social Media	Retweet of RAINBOW's post about a paper that K3Y presented at CSNDSP 2022	4/8/2022	Online		х	G	65
R418	Internet / Social Media	Share of RAINBOW's post about a paper that K3Y presented at CSNDSP 2022, in the Facebook account	4/8/2022	Online		x	G	5
R419	Internet / Social Media	Share of RAINBOW's post about a blog post on "Fog/Edge Computing in Decentralized Indoor Localization Systems for Manufacturing Environments", in the LinkedIn account	24/8/2022	Online		x	G	24
R420	Internet / Social Media	Retweet of RAINBOW's post about a blog post on "Fog/Edge Computing in Decentralized Indoor Localization Systems for Manufacturing Environments"	24/8/2022	Online		х	G	36
R421	Internet / Social Media	Share of RAINBOW's post about a blog post on "Fog/Edge Computing in Decentralized Indoor Localization Systems for Manufacturing Environments", in the Facebook account	24/8/2022	Online		x	G	13



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R422	Internet / Social Media	Post about a press release that RAINBOW issued about the second version of the RAINBOW platform, by K3Y's official webpage	31/8/2022	Online			x	A,B	106
R423	Internet / Social Media	Share of RAINBOW's post about a press release that RAINBOW issued about the second version of the RAINBOW platform, in the LinkedIn account	31/8/2022	Online			x	G	30
R424	Internet / Social Media	Retweet of RAINBOW's post about a press release that RAINBOW issued about the second version of the RAINBOW platform	31/8/2022	Online			x	G	32
R425	Internet / Social Media	Share of RAINBOW's post about a press release that RAINBOW issued about the second version of the RAINBOW platform, in the Facebook account	31/8/2022	Online			x	G	16
R426	Internet / Social Media	Share of RAINBOW's post about a blog post that presend an initial approach on RAINBOW's roadmap to impact assessment, in the LinkedIn account	6/9/2022	Online			x	G	20
R427	Internet / Social Media	Retweet of RAINBOW's post about a blog post that presend an initial approach on RAINBOW's roadmap to impact assessment	6/9/2022	Online			х	G	53
R428	Internet / Social Media	Share of RAINBOW's post about a blog post that presend an initial approach on RAINBOW's roadmap to impact assessment, in the Facebook account	6/9/2022	Online			x	G	13
R429	Internet / Social Media	Share of RAINBOW's post about a blog post that that introduces RAINBOW's platform 2nd release, in the LinkedIn account	9/9/2022	Online			x	G	29
R430	Internet / Social Media	Retweet of RAINBOW's post about a blog post that that introduces RAINBOW's platform 2nd release	9/9/2022	Online			х	G	42
R431	Internet / Social Media	Share of RAINBOW's post about a blog post that that introduces RAINBOW's platform 2nd release, in the Facebook account	9/9/2022	Online			х	G	12
R432	Internet / Social Media	Share of RAINBOW's post about an analysis on "How the shift to edge computing is impacting enterprises", in the LinkedIn account	15/9/2022	Online			х	G	20
R433	Internet / Social Media	Retweet of RAINBOW's post about an analysis on "How the shift to edge computing is impacting enterprises"	15/9/2022	Online			x	G	23
R434	Internet / Social Media	Share of RAINBOW's post about an analysis on "How the shift to edge computing is impacting enterprises", in the Facebook account	15/9/2022	Online			x	G	12
		Facebook account							



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R435	Internet / Social Media	Share of RAINBOW's post about an article titled: "Is fog computing more than just another branding for edge computing?", in the LinkedIn account	23/9/2022	Online			х	G	19
R436	Internet / Social Media	Retweet of RAINBOW's post about an article titled: "Is fog computing more than just another branding for edge computing?"	23/9/2022	Online			х	G	17
R437	Internet / Social Media	Share of RAINBOW's post about an article titled: "Is fog computing more than just another branding for edge computing?", in the Facebook account	23/9/2022	Online			х	G	8
R438	Internet / Social Media	Post about the second brochure of RAINBOW, by K3Y's official webpage	27/9/2022	Online			x	A,B	67
R439	Internet / Social Media	Share of RAINBOW's post about the second brochure of RAINBOW, in the LinkedIn account	27/9/2022	Online			x	G	18
R440	Internet / Social Media	Retweet of RAINBOW's post about the second brochure of RAINBOW	27/9/2022	Online			x	G	24
R441	Internet / Social Media	Share of RAINBOW's post about the second brochure of RAINBOW, in the Facebook account	27/9/2022	Online			x	G	4
R442	Conferences / Seminars	Demo Paper in 13th IEEE/IET International Symposium on Communications Systems, Networks and Digital Signal Processing (CSNDSP) - "Swarm Mobility Models and Impact of Link State Awareness in Ad Hoc Routing" (https://ieeexplore.ieee.org/do cument/9907951)	06/10/2022	Online			x	С	150
R443	Internet / Social Media	Post about the second flyer of RAINBOW, by K3Y's official webpage	11/10/2022	Online			х	A,B	112
R444	Internet / Social Media	Share of RAINBOW's post about the second flyer of RAINBOW, in the LinkedIn account	11/10/2022	Online			х	G	13
R445	Internet / Social Media	Retweet of RAINBOW's post about the second flyer of RAINBOW	11/10/2022	Online			х	G	50
R446	Internet / Social Media	Share of RAINBOW's post about the second flyer of RAINBOW, in the Facebook account	11/10/2022	Online			х	G	6
R447	Internet / Social Media	Share of RAINBOW's post about a blog post entitled: "RAINBOW Power Line Surveillance via a Swarm of Drones – Definition of SLOs via RAINBOW", in the LinkedIn account	13/10/2022	Online			х	G	13
R448	Internet / Social Media	Retweet of RAINBOW's post about a blog post entitled: "RAINBOW Power Line Surveillance via a Swarm of	13/10/2022	Online			х	G	35



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		Drones – Definition of SLOs via RAINBOW"							
R449	Internet / Social Media	Share of RAINBOW's post about a blog post entitled: "RAINBOW Power Line Surveillance via a Swarm of Drones – Definition of SLOs via RAINBOW", in the Facebook account	13/10/2022	Online			х	G	15
R450	Internet / Social Media	Share of RAINBOW's post about the participation of the RAINBOW project at the Beyond Expo in Thessaloniki, Greece (29 September), in the LinkedIn account	17/10/2022	Online			x	G	35
R451	Internet / Social Media	Retweet of RAINBOW's post about the participation of the RAINBOW project at the Beyond Expo in Thessaloniki, Greece (29 September)	17/10/2022	Online			х	G	58
R452	Internet / Social Media	Share of RAINBOW's post about the participation of the RAINBOW project at the Beyond Expo in Thessaloniki, Greece (29 September), in the Facebook account	17/10/2022	Online			х	G	19
R453	Internet / Social Media	Share of RAINBOW's post about the 1st day of the 8th plenary meeting of the project in Nicosia, in the LinkedIn account	20/10/2022	Online			х	G	110
R454	Internet / Social Media	Retweet of RAINBOW's post about the 1st day of the 8th plenary meeting of the project in Nicosia	20/10/2022	Online			x	G	61
R455	Internet / Social Media	Share of RAINBOW's post about the 1st day of the 8th plenary meeting of the project in Nicosia, in the Facebook account	20/10/2022	Online			x	G	19
R456	Internet / Social Media	Share of RAINBOW's post about the 2nd day of the 8th plenary meeting of the project in Nicosia, in the LinkedIn account	26/10/2022	Online			х	G	23
R457	Internet / Social Media	Retweet of RAINBOW's post about the 2nd day of the 8th plenary meeting of the project in Nicosia	26/10/2022	Online			x	G	28
R458	Internet / Social Media	Share of RAINBOW's post about the 2nd day of the 8th plenary meeting of the project in Nicosia, in the Facebook account	26/10/2022	Online			х	G	13
R459	Internet / Social Media	Share of RAINBOW's post about an article that presents the interest of DOD on 'transformational' edge computing & fog computing technologies, in the LinkedIn account	28/10/2022	Online			x	G	22
R460	Internet / Social Media	Retweet of RAINBOW's post about an article that presents the interest of DOD on 'transformational' edge	28/10/2022	Online			x	G	14



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		computing & fog computing technologies							
R461	Internet / Social Media	Share of RAINBOW's post about an article that presents the interest of DOD on 'transformational' edge computing & fog computing technologies, in the Facebook account	28/10/2022	Online			х	G	12
R462	Internet / Social Media	Share of RAINBOW's post about a blog post that introduces RAINBOW's Data Placement techniques for the Fog Continuum, in the LinkedIn account	01/11/2022	Online			х	G	38
R463	Internet / Social Media	Retweet of RAINBOW's post about a blog post that introduces RAINBOW's Data Placement techniques for the Fog Continuum	01/11/2022	Online			х	G	29
R464	Internet / Social Media	Share of RAINBOW's post about a blog post that introduces RAINBOW's Data Placement techniques for the Fog Continuum, in the Facebook account	01/11/2022	Online			х	G	13
R465	Internet / Social Media	Post about a blog post entitled: "Drone Swarm Mobility Models", by K3Y's official webpage	02/11/2022	Online			х	A,B	94
R466	Internet / Social Media	Share of RAINBOW's post about a blog post entitled: "Drone Swarm Mobility Models", in the LinkedIn account	02/11/2022	Online			х	G	43
R467	Internet / Social Media	Retweet of RAINBOW's post about a blog post entitled: "Drone Swarm Mobility Models"	02/11/2022	Online			х	G	24
R468	Internet / Social Media	Share of RAINBOW's post about a blog post entitled: "Drone Swarm Mobility Models", in the Facebook account	02/11/2022	Online			х	G	15
R469	Internet / Social Media	Share of RAINBOW's post about the participation of the RAINBOW project during the poster session of the 9th Technology Forum in Thessaloniki, Greece (29 September), in the LinkedIn account	7/11/2022	Online			x	G	28
R470	Internet / Social Media	Retweet of RAINBOW's post about the participation of the RAINBOW project during the poster session of the 9th Technology Forum in Thessaloniki, Greece (29 September)	7/11/2022	Online			х	G	37
R471	Internet / Social Media	Share of RAINBOW's post about the participation of the RAINBOW project during the poster session of the 9th Technology Forum in Thessaloniki, Greece (29	7/11/2022	Online			х	G	16



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		September), in the Facebook account							
R472	Internet / Social Media	Share of RAINBOW's post about a blog post entitled: "Verifying the RAINBOW Security Model", in the LinkedIn account	9/11/2022	Online			х	G	35
R473	Internet / Social Media	Retweet of RAINBOW's post about a blog post entitled: "Verifying the RAINBOW Security Model"	9/11/2022	Online			х	G	19
R474	Internet / Social Media	Share of RAINBOW's post about a blog post entitled: "Verifying the RAINBOW Security Model", in the Facebook account	9/11/2022	Online			х	G	11
R475	Internet / Social Media	Post about a press release which issued regarding the 8th Plenary meeting, by K3Y's official webpage	11/11/2022	Online			х	A,B	84
R476	Internet / Social Media	Share of RAINBOW's post about a press release which issued regarding the 8th Plenary meeting, in the LinkedIn account	11/11/2022	Online			х	G	29
R477	Internet / Social Media	Retweet of RAINBOW's post about a press release which issued regarding the 8th Plenary meeting	11/11/2022	Online			х	G	20
R478	Internet / Social Media	Share of RAINBOW's post about a press release which issued regarding the 8th Plenary meeting, in the Facebook account	11/11/2022	Online			х	G	7
R479	Internet / Social Media	Share of RAINBOW's post about a scientific paper that was presented at the 2022 International Conference on Availability, Reliability and Security (ARES), in the LinkedIn account	15/11/2022	Online			x	G	30
R480	Internet / Social Media	Retweet of RAINBOW's post about a scientific paper that was presented at the 2022 International Conference on Availability, Reliability and Security (ARES)	15/11/2022	Online			х	G	46
R481	Internet / Social Media	Share of RAINBOW's post about a scientific paper that was presented at the 2022 International Conference on Availability, Reliability and Security (ARES), in the Facebook account	15/11/2022	Online			x	G	13
R482	Internet / Social Media	Post about the RAINBOW's banner, by K3Y's official webpage	16/11/2022	Online			х	A,B	101
R483	Internet / Social Media	Share of RAINBOW's post about the banner of RAINBOW, in the LinkedIn account	16/11/2022	Online			х	G	27
R484	Internet / Social Media	Retweet of RAINBOW's post about the banner of RAINBOW	16/11/2022	Online			х	G	25
R485	Internet / Social Media	Share of RAINBOW's post about the banner of RAINBOW, in the Facebook account	16/11/2022	Online			х	G	5



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R486	Internet / Social Media	Post about the participation of RAINBOW in the European Big Data Value Forum 2022 (23 November), by K3Y's official webpage	18/11/2022	Online		х	A,B	108
R487	Internet / Social Media	Share of RAINBOW's post about the participation of RAINBOW in the European Big Data Value Forum 2022 (23 November), in the LinkedIn account	18/11/2022	Online		х	G	53
R488	Internet / Social Media	Retweet of RAINBOW's post about the participation of RAINBOW in the European Big Data Value Forum 2022 (23 November)	18/11/2022	Online		х	G	30
R489	Internet / Social Media	Share of RAINBOW's post about the participation of RAINBOW in the European Big Data Value Forum 2022 (23 November), in the Facebook account	18/11/2022	Online		х	G	12
R490	Internet / Social Media	Post about the 10th issue of the RAINBOW newsletter, by K3Y's official webpage	22/11/2022	Online		x	A,B	71
R491	Internet / Social Media	Share of RAINBOW's post about the 10th issue of the RAINBOW newsletter, in the LinkedIn account	22/11/2022	Online		х	G	22
R492	Internet / Social Media	Retweet of RAINBOW's post about the 10th issue of the RAINBOW newsletter	22/11/2022	Online		х	G	24
R493	Internet / Social Media	Share of RAINBOW's post about the 10th issue of the RAINBOW newsletter, in the Facebook account	22/11/2022	Online		х	G	18
R494	Internet / Social Media	Share of RAINBOW's post about a blog post entitled: "5G Network Slicing Emulation for Fog applications", in the LinkedIn account	24/11/2022	Online		х	G	48
R495	Internet / Social Media	Retweet of RAINBOW's post about a blog post entitled: "5G Network Slicing Emulation for Fog applications"	24/11/2022	Online		х	G	36
R496	Internet / Social Media	Share of RAINBOW's post about a blog post entitled: "5G Network Slicing Emulation for Fog applications", in the Facebook account	24/11/2022	Online		х	G	13
R497	Internet / Social Media	Share of RAINBOW's post about the RAINBOW International Hackathon event organized by DTU, POLITO and TUW (1 Dec.), in the LinkedIn account	28/11/2022	Online		x	G	21
R498	Internet / Social Media	Retweet of RAINBOW's post about the RAINBOW International Hackathon event organized by DTU, POLITO and TUW (1 Dec.)	28/11/2022	Online		х	G	24
R499	Internet / Social Media	Post about the upcoming Use Case 3 Webinar: Power Line Surveillance via Swarm of Drones (2 December), by K3Y's official webpage	29/11/2022	Online		х	A,B	67



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R500	Internet / Social Media	Share of RAINBOW's post about the upcoming Use Case 3 Webinar: Power Line Surveillance via Swarm of Drones (2 December), in the LinkedIn account	29/11/2022	Online		x	G	24
R501	Internet / Social Media	Retweet of RAINBOW's post about the upcoming Use Case 3 Webinar: Power Line Surveillance via Swarm of Drones (2 December)	29/11/2022	Online		х	G	35
R502	Internet / Social Media	Share of RAINBOW's post about the upcoming Use Case 3 Webinar: Power Line Surveillance via Swarm of Drones (2 December), in the Facebook account	29/11/2022	Online		х	G	15
R503	Internet / Social Media	Share of RAINBOW's post about the RAINBOW Hackathon event organized by UCY (3 Dec.), in the LinkedIn account	30/11/2022	Online		х	G	21
R504	Internet / Social Media	Retweet of RAINBOW's post about the RAINBOW Hackathon event organized by UCY (3 Dec.)	30/11/2022	Online		х	G	28
R505	Internet / Social Media	Share of RAINBOW's post about the RAINBOW Hackathon event organized by UCY (3 Dec.), in the Facebook account	30/11/2022	Online		х	G	13
R506	Internet / Social Media	Share of RAINBOW's post about the RAINBOW Hackathon event organized by AUTH (3 Dec.), in the LinkedIn account	02/12/2022	Online		х	G	19
R507	Internet / Social Media	Retweet of RAINBOW's post about the RAINBOW Hackathon event organized by AUTH (3 Dec.)	02/12/2022	Online		х	G	36
R508	Internet / Social Media	Share of RAINBOW's post about the RAINBOW Hackathon event organized by AUTH (3 Dec.), in the Facebook account	02/12/2022	Online		х	G	11
R509	Internet / Social Media	Post about the RAINBOW's poster, by K3Y's official webpage	02/12/2022	Online		х	A,B	53
R510	Internet / Social Media	Share of RAINBOW's post about the poster of RAINBOW, in the LinkedIn account	02/12/2022	Online		х	G	32
R511	Internet / Social Media	Retweet of RAINBOW's post about the poster of RAINBOW	02/12/2022	Online		х	G	28
R512	Internet / Social Media	Share of RAINBOW's post about the poster of RAINBOW, in the Facebook account	02/12/2022	Online		х	G	3
R513	Internet / Social Media	Post about the upcoming Use Case 2 Webinar: Digital Transformation of Urban Mobility (6 December), by K3Y's official webpage	05/12/2022	Online		х	A,B	44
R514	Internet / Social Media	Share of RAINBOW's post about the upcoming Use Case 2 Webinar: Digital Transformation of Urban Mobility (6 December), in the LinkedIn account	05/12/2022	Online		х	G	11
R515	Internet / Social Media	Retweet of RAINBOW's post about the upcoming Use Case 2 Webinar: Digital	05/12/2022	Online		х	G	17



 $\begin{array}{l} D7.3 - Open\mbox{-Source Contributions, Dissemination, Clustering and Workshop Activities Report - Final \\ Date: 31.12.2022 \end{array}$ 

Dissemination Level: PU

		Transformation of Urban Mobility (6 December)							
R516	Internet / Social Media	Share of RAINBOW's post about the upcoming Use Case 2 Webinar: Digital Transformation of Urban Mobility (6 December), in the Facebook account	05/12/2022	Online			х	G	8

## III.12 UNISYSTEMS

Referen ce	Activities	Short description (name, title, URL, etc.)	Date (start date - end date)	Place	Level  = local / R = regional / N national / E = EU / W = worldwide)  R N E W			' W =	Audience (characteristics of the target group)	Reach (size / no of organisations / persons reached approximately)
R1	Lobbying / Networking	Collaboration with DataVaults project	8/4/2021	Online			х		B, C, D	
R2	,	Collaboration with GLASS project	10/6/2021	Online			х		B, C, D	
R3	, ,,	Collaboration with InGov project	15/6/2021	Online			х		B, C, D	
R4	Newspapers /	Research, Development & Innovation initiatives report March 2022	4/4/2022	Online				х	B, C, D	

# III.13 CRF

Referen ce	Activities	Short description (name, title, URL, etc.)	Date (start date - end date)	Place	tiona	Level / R = re al / E = orldwice N	EU /		Audience (characteristics of the target group)	Reach (size / no of organisations / persons reached approximately)
R1	Internet / Social Media	Share of RAINBOW's post by LinkedIn personal account	08/09/2020	Online				х	G	318
R2	Internet / Social Media	Share of RAINBOW's post by LinkedIn personal account	05/11/2020	Online		-		х	G	152
R2	Internet / Social Media	Share of RAINBOW's post by LinkedIn personal account	03/03/2021	Online				х	G	99
R4	Internet / Social Media	Share of RAINBOW's post by Facebook personal account	03/03/2021	Online				х	G	
R5	Internet / Social Media	Share of RAINBOW's post by LinkedIn personal account	22/03/2021	Online				х	G	80



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Dissemination Level: PU

R6	Internet / Social Media	Share of RAINBOW's post by LinkedIn personal account	23/03/2021	Online			x	G	15
R7	Internet /	Share of RAINBOW's post by	23/03/2021	Online			х	G	13
	Social Media	LinkedIn personal account							
R8	Internet / Social Media	Share of RAINBOW's post by LinkedIn personal account	07/04/2021	Online			х	G	106
R9	Internet / Social Media	Share of RAINBOW's post by LinkedIn personal account	25/05/2021	Online			х	G	
R10	Newspapers / Magazines	Stellantis Collaboration funded Projects eBook - 2021	30/05/2021	Stellantis Intranet			x	В	
R11	Newspapers / Magazines	Stellantis Collaboration funded Projects eBook - 2022	10/052022	Stellantis Intranet			х	В	
R12	Internet / Social Media	Share of RAINBOW's post by LinkedIn personal account		Online			х	G	
R13	Internet / Social Media	Post by LinkedIn personal account		Online			х	G	
R14	Internet / Social Media	Share of RAINBOW's post by LinkedIn personal account		Online			х	G	
R15	Internet / Social Media	Share of RAINBOW's post by LinkedIn personal account		Online			х	G	
R16	Internet / Social Media	Share of RAINBOW's post by LinkedIn personal account		Online			х	G	
R17	Internet / Social Media	5G Connected Vehicles Blog	18/03/2022	Online			х	G	
R18	Meetings	Stellantis Design Review	09/09/2022	Stellantis Intranet			х	В	
R19	Meetings	Stellantis Design Review	11/07/2022	Stellantis Intranet			х	В	
R20	Meetings	Stellantis Design Review	14/03/2022	Stellantis Intranet			х	В	
R21	Workshops	AEES Stellantis Town Hall	15/02/2022	Stellantis Intranet			х	В	

## III.14 BIBA

Referen ce	Activities	Short description (name, title, URL, etc.)	Date (start date - end date)	Place	•	tiona	Level / R = re al / E = orldwice	gion EU /	7	Audience (characteristics of the target group)	Reach (size / no of organisations / persons reached
					L	R	N	E	W		approximately)
R1	Internet /	BIBA Official Website: http://www.biba.uni- bremen.de/forschung/projekte /laufende-projekte.html	13.10.2020	Online					х	G	200
R2	e-mails	LogDynamics Newletter April 2020: http://www.logdynamics.de/up	14.04.2020	Online			<u>x</u>			B,C,D	350



D7.3 – Open-Source Contributions, Dissemination, Clustering and Workshop Activities Report - Final Date: 31.12.2022

Dissemination Level: PU

		loads/media/NewsletterApril20 20.pdf								
R2	Scientific Publications	Scientific Publication under RAINBOW at SysInt 2020 Conference: https://www.sciencedirect.com /science/article/pii/S23519789 20321454?via%3Dihub	24.12.2020	Bremen, Germany (Online)				х	A,B,C	50
R4	Internet / Social Media	Sharing RAINBOW Newsletter via Personal Profile on LinkedIn	02.03.2021	Online				х	G	50
R5	Internet / Social Media	Sharing RAINBOW Post via Personal Profile on LinkedIn	09.03.2021	Online				х	G	50
R6	Internet / Social Media	Sharing RAINBOW Post via Personal Profile on LinkedIn	18.03.2021	Online				x	G	100
R7	Internet / Social Media	Sharing RAINBOW Post via Personal Profile on LinkedIn	23.03.2021	Online				х	G	13
R8	Internet / Social Media	Sharing RAINBOW Post via Personal Profile on LinkedIn	27.03.2021	Online				х	G	100
R9	Internet / Social Media	Sharing RAINBOW Post via Personal Profile on LinkedIn	29.03.2021	Online				х	G	150
R10	Newspapers / Magazines	BIBA Year Report for 2019/2020: https://www.biba.uni- bremen.de/fileadmin/user_upl oad/BIBA-Jahresbericht_2019- 20.pdf	01.04.2021	Online/ Printed Reported	х	х	х		C, D, E, F	500-750
R11	Internet / Social Media	Sharing RAINBOW Post via Personal Profile on LinkedIn	27.04.2021	Online				х	G	100
R12	Internet / Social Media	Sharing RAINBOW Post via Personal Profile on LinkedIn	14.0.52021	Online				х	G	200
R13	Internet / Social Media	Sharing RAINBOW Post via Personal Profile on LinkedIn	21.06.2021	Online				х	G	150
R14	Internet / Social Media	Sharing RAINBOW Post via Personal Profile on LinkedIn	21.06.2021	Online				х	G	150
R15	Internet / Social Media	Sharing RAINBOW Post via Personal Profile on LinkedIn	12.06.2021	Online				х	G	300
R16	Internet / Social Media	Sharing RAINBOW Post via Personal Profile on LinkedIn	04.11.2021	Online				х	G	250

# III.15 MSP

Referen ce	Activities	Short description (name, title, URL, etc.)	Date (start date - end date)	Place	•	tiona	Level / R = re al / E = orldwid	EU /	7	Audience (characteristics of the target group)	Reach (size / no of organisations / persons reached approximately)
R1	Internet / Social Media	http://uav.com.pl/pl/projekty- ue/a-fog-platform-for-secured- iot-servicesrainbow (Polish) And http://uav.com.pl/en/_54/_73	10.07.2020	online					х	G	



Swarm of Drones

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INAI	NBOW					
	(English) MSP web pages with active links					
	preparation of the footage for a company mail with the information on Rainbow					