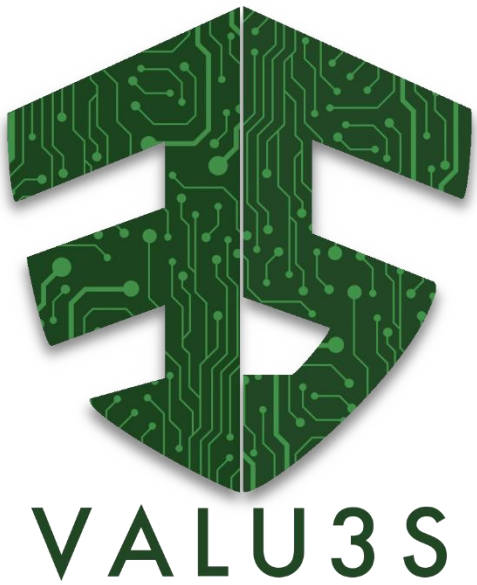

Verification and Validation of Automated Systems' Safety and Security

Interim communication activity report

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Project Coordinator	Behrooz Sangchoolie, behrooz.sangchoolie@ri.se, RISE Research Institutes of Sweden
Project Homepage	www.valu3s.eu
JU Grant Agreement	876852

ECSEL Joint Undertaking
Electronic Components and Systems for European Leadership

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Disclaimer

The views expressed in this document are the sole responsibility of the authors and do not necessarily reflect the views or position of the European Commission. The authors, the VALU3S Consortium, and the ECSEL JU are not responsible for the use which might be made of the information contained in here.

Project Overview

Manufacturers of automated systems and the manufacturers of the components used in these systems have been allocating an enormous amount of time and effort in the past years developing and conducting research on automated systems. The effort spent has resulted in the availability of prototypes demonstrating new capabilities as well as the introduction of such systems to the market within different domains. Manufacturers of these systems need to make sure that the systems function in the intended way and according to specifications which is not a trivial task as system complexity rises dramatically the more integrated and interconnected these systems become with the addition of automated functionality and features to them.

With rising complexity, unknown emerging properties of the system may come to the surface making it necessary to conduct thorough verification and validation (V&V) of these systems. Through the V&V of automated systems, the manufacturers of these systems are able to ensure safe, secure and reliable systems for society to use since failures in highly automated systems can be catastrophic.

The high complexity of automated systems incurs an overhead on the V&V process making it time-consuming and costly. VALU3S aims to design, implement and evaluate state-of-the-art V&V methods and tools in order to reduce the time and cost needed to verify and validate automated systems with respect to safety, cybersecurity and privacy (SCP) requirements. This will ensure that European manufacturers of automated systems remain competitive and that they remain world leaders. To this end, a multi-domain framework is designed and evaluated with the aim to create a clear structure around the components and elements needed to conduct V&V process through identification and classification of evaluation methods, tools, environments and concepts that are needed to verify and validate automated systems with respect to SCP requirements.

In VALU3S, 13 use cases with specific safety, security and privacy requirements will be studied in detail. Several state-of-the-art V&V methods will be investigated and further enhanced in addition to implementing new methods aiming for reducing the time and cost needed to conduct V&V of automated systems. The V&V methods investigated are then used to design improved process workflows for V&V of automated systems. Several tools will be implemented supporting the improved processes which are evaluated by qualification and quantification of safety, security and privacy as well as other evaluation criteria using demonstrators. VALU3S will also influence the development of safety, security and privacy standards through an active participation in related standardisation groups. VALU3S will provide guidelines to the testing community including engineers and researchers on how the V&V of automated systems could be improved considering the cost, time and effort of conducting the tests.

VALU3S brings together a consortium with partners from 10 different countries, with a mix of *industrial partners* (25 partners) from automotive, agriculture, railway, healthcare, aerospace and industrial automation and robotics domains as well as leading *research institutes* (6 partners) and *universities* (10 partners) to reach the project goal.

Consortium

RISE RESEARCH INSTITUTES OF SWEDEN AB	RISE	Sweden
STAM SRL	STAM	Italy
FONDAZIONE BRUNO KESSLER	FBK	Italy
KNOWLEDGE CENTRIC SOLUTIONS SL - THE REUSE COMPANY	TRC	Spain
UNIVERSITA DEGLI STUDI DELL'AQUILA	UNIVAQ	Italy
INSTITUTO SUPERIOR DE ENGENHARIA DO PORTO	ISEP	Portugal
UNIVERSITA DEGLI STUDI DI GENOVA	UNIGE	Italy
CAMEA, spol. s r.o.	CAMEA	Czech
IKERLAN S. COOP	IKER	Spain
R G B MEDICAL DEVICES SA	RGB	Spain
UNIVERSIDADE DE COIMBRA	COIMBRA	Portugal
VYSOKE UCENI TECHNICKE V BRNE - BRNO UNIVERSITY OF TECHNOLOGY	BUT	Czech
ROBOAUTO S.R.O.	ROBO	Czech
ESKISEHIR OSMANGAZI UNIVERSITESI	ESOGU	Turkey
KUNGLIGA TEKNISKA HOEGSKOLAN	KTH	Sweden
STATENS VAG- OCH TRANSPORTFORSKNINGSINSTITUT	VTI	Sweden
UNIVERSIDAD DE CASTILLA - LA MANCHA	UCLM	Spain
FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	FRAUNHOFER	Germany
SIEMENS AKTIENGESELLSCHAFT OESTERREICH	SIEMENS	Austria
RULEX INNOVATION LABS SRL	RULEX	Italy
NXP SEMICONDUCTORS GERMANY GMBH	NXP-DE	Germany
PUMACY TECHNOLOGIES AG	PUMACY	Germany
UNITED TECHNOLOGIES RESEARCH CENTRE IRELAND, LIMITED	UTRCI	Ireland
NATIONAL UNIVERSITY OF IRELAND MAYNOOTH	NUIM	Ireland
INOVASYON MUHENDISLIK TEKNOLOJI GELISTIRME DANISMANLIK SANAYI VE TICARET LIMITED SIRKETI	IMTGD	Turkey
ERGUNLER INSAAT PETROL URUNLERI OTOMOTIV TEKSTIL MADENCILIK SU URUNLER SANAYI VE TICARET LIMITED STI.	ERARGE	Turkey
OTOKAR OTOMOTIV VE SAVUNMA SANAYI AS - OTOKAR AS	OTOKAR	Turkey
TECHY BILISIM TEKNOLOJILERI DANISMANLIK SANAYI VE TICARET LIMITED SIRKETI - TECHY INFORMATION TECHNOLOGIESAND CONSULTANCY LIMITED COMPANY	TECHY	Turkey
ELECTROTECNICA ALAVESA SL	ALDAKIN	Spain
INTECS SOLUTIONS SPA	INTECS	Italy
LIEBERLIEBER SOFTWARE GMBH	LLSG	Austria
AIT AUSTRIAN INSTITUTE OF TECHNOLOGY GMBH	AIT	Austria
E.S.T.E. SRL	ESTE	Italy
NXP SEMICONDUCTORS FRANCE SAS	NXP-FR	France
BOMBARDIER TRANSPORTATION SWEDEN AB	BT	Sweden
QRTECH AKTIEBOLAG	QRTECH	Sweden
CAF SIGNALLING S.L	CAF	Spain
MONDRAGON GOI ESKOLA POLITEKNIKOA JOSE MARIA ARIZMENDIARRIETA S COOP	MGEP	Spain
INFOTIV AB	INFOTIV	Sweden
BERGE CONSULTING AB	BERGE	Sweden
CARDIOID TECHNOLOGIES LDA	CARDIOID	Portugal

Executive Summary

This document aims to report all the activities carried out within the frame of the Task 6.4 "*External communication including interaction with other, related projects*" during the second year of the VALU3S Project. The aforementioned activities have been performed according to the Initial Communication Plan drafted in Deliverable 6.6 [1] at Month 4, which also establish reference KPIs (available also in Chapter 3) for the evaluation of the success of the communication campaign. Moreover, these have been updated in the Final Communication Plan drafted in D6.14 [2] based on the intermediate results evaluated at M12 to understand the adequacy of the target values.

Contributors

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Reviewers

Fredrik Warg	RISE	2022-03-31, 2022-04-21
Enrico Ferrari	RULEX	2022-03-29
Behrooz Sangchoolie	RISE	2022-04-25, 2022-04-28

Revision History

Version	Date	Author (Affiliation)	Comment
0.1	24/02/2022	Davide Ottonello (STAM)	Table of Content
0.2	03/03/2022	Davide Ottonello (STAM)	Detailed Table of Content with expected contribution from each partner
0.3	16/03/2022	Davide Ottonello (STAM)	First draft
0.4	29/03/2022	Deborah Hugon (STAM)	Draft ready for first round of internal review
0.5	13/04/2022	Deborah Hugon (STAM)	Draft ready for second round of internal review
0.6	22/04/2022	Deborah Hugon (STAM)	Final draft with second round of corrections done
0.7	25/04/2022	Behrooz Sangchoolie (RISE)	Review of the first draft of the report.
0.8	27/04/2022	Deborah Hugon (STAM)	New draft after coordinator review
0.9	28/4/2022	Behrooz Sangchoolie (RISE)	Review of the second draft of the report, while making some minor formatting changes and adding additional comments to be addressed.
1.0	28/4/2022	Deborah Hugon (STAM)	Final draft to be submitted
1.1	28/4/2022	Behrooz Sangchoolie (RISE)	Review of the third draft of the report, while making some minor formatting changes.
1.2	28/4/2022	Behrooz Sangchoolie (RISE)	Final version of the report to be submitted.

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Acronyms

AI	Artificial Intelligence
D	Deliverable
DIH	Data Input Handler
DML	Data Manipulation Language
DoA	Description of the Action
GDPR	General Data Protection Regulation
IEEE	Institute of Electrical and Electronics Engineers
KPI	Key Performance Indicator
M	Project Month
MBD	Model-Based Design
ML	Machine Learning
Q	Quarter
RADAR	RAdio Detection And Ranging
R&D	Research and Development
SCP	Safety, Cybersecurity, and Privacy
SME	Small and Medium-sized Enterprises
V&V	Verification and Validation

Chapter 1 Introduction

This document is the fourth deliverable of Task 6.4 "*External communication including interaction with other, related projects*" and it aims to describe all the communication activities undertaken during the second year of the project. In line with the VALU3S Dissemination Roadmap drafted in the Grant Agreement, the communication strategy of the second year of the project has been almost dedicated to the promotion of project outcomes achieved so far. Activities planned, as well as contents selected to be delivered, has been decided to contribute to the reaching of the main Dissemination objectives and KPIs, as well as to pave the way towards the exploitation of project results.

Following the same structure of Deliverable D6.6 "*Initial Communication Plan*" [1], the activities are subdivided according to the different communication channels in which they are undertaken, specifically:

- Website
- Newsletter
- Social medias
- Events

Furthermore, also the activities dedicated to the interaction with other related projects will be reported. In the end, the Communication KPIs set first in D6.6 [1] and then in D6.14 [2] are assessed using intermediate results of the second year of the project.

The structure of this document is made as following. In Chapter 2, the activities performed in the second year of the project in order to achieve the Communication objectives are described. In Chapter 3, the effectiveness of the actions already implemented is evaluated according to Key Performance Indicators set in the initial version of the Communication Plan and reviewed in the Final Communication Plan. Finally, Chapter 4 presents the conclusions derived from the analysis of the second year of activities developed. In Appendix A, useful communication templates are presented.

Chapter 2 Interim Communication Activity Report

This chapter aims to describe all the Communication activities carried out in the second year of the project, with regards to the Final Communication Plan drafted in D6.6 [2]. The Chapter is subdivided according to the different communication channels set up for the project, and on which the VALU3S communication strategy mainly relies on. For each channel, the outputs of the communication activities are reported, highlighting the adherence with the Initial Communication Plan and the strategic pillars defined in that document.

2.1 Web Media

Most of the communication strategy of VALU3S project is focused on web media. This choice has been taken in light of the target audience of the project, which is supposed to be used to navigate these kinds of channels, but also due to the COVID-19 outbreak [3] and consequent restrictions which have significantly reduced opportunities for live meetings and events. As stated in the Initial Communication Plan, the communication strategy on web media is based on four main channels:

- The VALU3S website [4];
- The VALU3S LinkedIn profile [5];
- The VALU3S Twitter profile [6];
- The VALU3S YouTube channel [7].

In the following, activities of each channel are described in detail.

2.1.1 Website

The website is the main channel of the VALU3S project and therefore a large part of the communication activities has concerned the creation and publication of contents on it. The VALU3S website is designed to give to the visitor a complete overview of project scope, activities, partners, as well as ongoing and future events. The website is managed, updated, and maintained by RISE, but all the partners involved in the dissemination work package will contribute to the improvement of this tool and to the creation and implementation of valuable content.

Website Structure and Analytics

The website consists of several sections where the project details are presented, and these allow the user to gather as much information as possible about the project. The main structure currently contains new sections than those already present within the website during the first year of the project. The sections present since the birth of the website are the following:

- *Project*: a section containing subsection in which the user can find a project summary, a description of work packages, domains and use cases descriptions;
- *Partners*: the section presents the list and related information of the different partners belonging to the project consortium, divided into industries, universities and institutes, and the countries in which they are located;
- *News*: a section devoted to short articles aimed at informing visitors about the progress of the project and its outcomes, e.g., internal and external events, achievements, dissemination and communication actions, etc;

- *Events*: this section contains a virtual calendar reporting all the info on events connected to the project, both internal (e.g., General Assembly) and external (e.g., workshop in which VALU3S representatives make a speech);
- *Blog*: this section is dedicated to a series of articles inherent to the project topics or to the project itself. The articles have a scientific and industrial approach but, at the same time, they are accessible to a general audience. To date, 8 blog articles have been published;
- *Publications*: this section provides access to the scientific papers published by VALU3S partners within the project. To date, 30 publications have been submitted and are accessible from the website.
- *Contact*: this section contains contact information for the project coordinator and key information about the coordinating institution, RISE.

The Google Analytics for WordPress plugin is used for tracking the usage, reference channels and audience of the website. Every quarter a periodical report concerning the activities on the website is produced. The results are analysed to understand the trend of interaction of the audience and the results are valued in relation to the VALUES KPIs.

In order to maximize the number of visitors to the website, social media channels are exploited to redirect users from social profiles to the official website. For this purpose, every new activity on the website (e.g., publication of a new blog article) is sponsored with posts on social media profiles (see Figure 2.1).

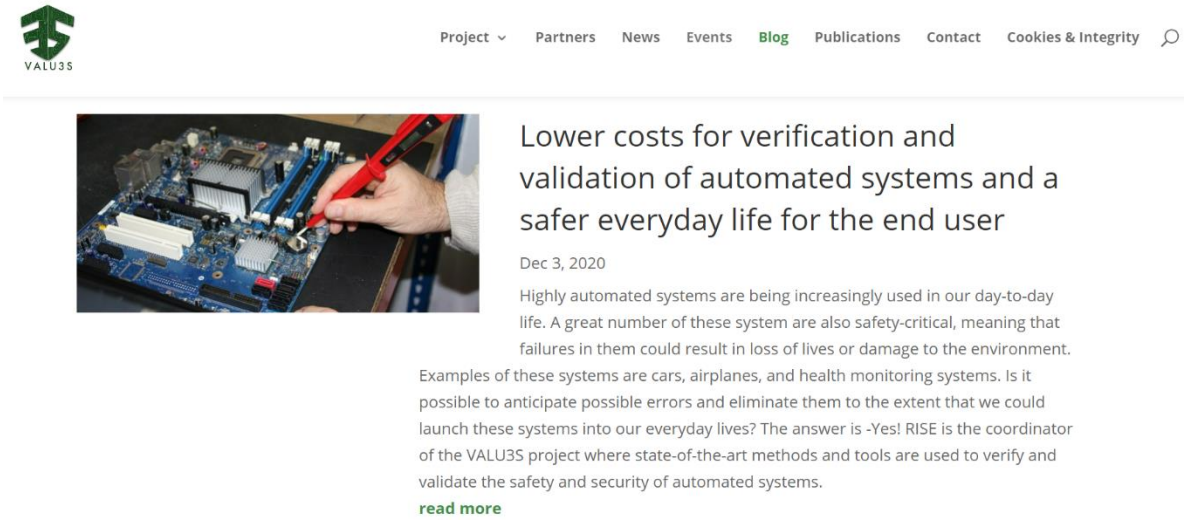


Figure 2.1 The first blog article published on the VALU3S website

New Sections on the Website

The dynamic sections of the website are constantly updated to provide visitors with new contents and info. The following sections have been added during the second year of the project:

- *Newsletters*: this section is dedicated to the latest newsletters issued by the project communicators. The page presents links that direct the user with one click to the past 6 newsletters available, as also requested by the review experts during the first review meeting.

- *Deliverables*: the section presents the list of currently submitted public deliverables. When the user clicks on the deliverable of interest, he/she is redirected to the pdf file for reading.
- *Media*: this section contains all the media made available in the various social channels, as requested by the project's review experts in the first review meeting. Currently all the videos uploaded to the project's YouTube channel could be viewed on the Media page of the website.

2.1.2 Web Newsletter

To communicate with organizations and individuals who are interested in the project, several newsletters are being produced during the project. These newsletters are sent out to different target groups. Interested individuals and organizations could subscribe to VALU3S newsletters by filling in the subscription form which is placed on the project website as well as on LinkedIn.

Distribution Frequency, Content, and Analysis

The newsletters are being distributed every third month:

- 1st: December 2020 – *From All of Us to All of You – A Merry Christmas and a Happy New year!* [8];
- 2nd: March 2021 – *The first year of the VALU3S project* [9];
- 3rd: June 2021 – *Getting ready for the project's first Annual Review* [10];
- 4th: September 2021 – *Evaluation of the first year of the VALU3S Project is now completed and the project continues its journey in its second year!* [11];
- 5th: December 2021 – *From All of Us to All of You – A Merry Christmas and a Happy New year!* [12].
- 6th: March 2022 – *A summary of the first quarter, 2022* [13].

The leaders of Task 6.1 - Task 6.4 are responsible for providing the Communication Manager with material to be used for the newsletters. Moreover, all project partners are encouraged to support leaders of Task 6.1 and Task 6.4 by providing useful material.

The newsletter contains a summary of all the new contents published on the website (news and blog articles), as well as a brief update on the progress of the project. It also presents new publications, events, and dissemination of results as well as promoting project videos and use case videos. Subscription to newsletters is monitored together with the analytics of the website.

Strategy to Increase the Numbers of Subscribers

The newsletter is, indeed, an essential means of communication because it allows to update visitors on the progress of the project and on the new contents published on the website in a pro-active way. This could significantly increase the number of returning visitors on the website and, consequently, create a strong engagement with a set of organizations and people which can be potential users of the VALU3S platform. To gain more subscribers from the preliminary target groups, the VALU3S communication team engage the VALU3S partners to become ambassadors by spreading the newsletter in their networks. To facilitate this process a separate newsletter with a "call-to-action" subscription button is sent out to the network. Every second month, VALU3S repeats the message "not a subscriber yet" in social media to invite new members to become subscribers. The subscription form is available online at [14].

In addition to the procedure described above, a dedicated selling email has been created and shared by VALU3S partners together with people belonging to target groups and potentially interested in VALU3S outputs. The selling email contains a link to a web page which describes the VALU3S project and the foreseen results in an easy and fashioned way, in order to attract the visitors and encourage them to visit websites, follow social profiles and subscribe to the newsletter. In fact, the web page has

embedded the same "call to action" button which is present in the newsletter page. The web page embedded in the selling email can be found at this link [15], while a preview is showcased in Figure 2.2.

Figure 2.2 Preview of the VALU3S selling email

2.1.3 Social Media Channels

Social media can be an incredibly effective tool for all types of products and communication campaigns. But the actual social networks that you choose can make a big impact on your chances of being successful. There are social media channels that reach nearly half of the earth's population, and there are others with much smaller, but more targeted audiences like Twitter in which there are most important representatives of the industry and tech worlds. Twitter has 321 million users which is not a small quantity but compared to other social media platforms such as Facebook and Instagram, it is. The choice of social media to use to sponsor a product must be made according to the specific needs and the target customers it aims to have.

The main social media channels on which the VALU3S project is sponsored are LinkedIn [5], Twitter [6] and YouTube [7]. In the following paragraphs, the activities carried out for each channel are reported in detail.

2.1.3.1 Detailed Report About Publications of Post on LinkedIn

LinkedIn is a freemium social networking web service, mainly used in the development of professional contacts and in the dissemination of specific contents relating to the job market. Therefore, it is considered one of the most useful social media channels for sponsoring the VALU3S project.
LinkedIn has been populated with different and frequent contents in order to keep the channel active and maximize the engagement of the audience. The main contents are the following:

- Post to sponsor activities on the website (e.g., news, events, publications)

- A periodic column dedicated to present the partners of the Consortium, describing their competences and roles in VALU3S through an infographic.

All the posts published on LinkedIn from M13 to M24 with relevant information are reported in the following table (Table 2.1). Note that, "reactions" means the sum of the responses received to each post. Currently, these are 5: the user can use *Like* to express an approval, *Celebrate* to praise an accomplishment or milestone like landing a new job or speaking at an event, or *Love* to express deep resonance and support, like a conversation about work life balance or the impact of mentorship. *Insightful* can help you recognize a great point or interesting idea, while *Curious* lets you show your desire to learn more or react to a thought-provoking topic. As a poster, these new reactions can help you better understand the impact your posts are having.

Table 2.1 Posts published on LinkedIn VALU3S page

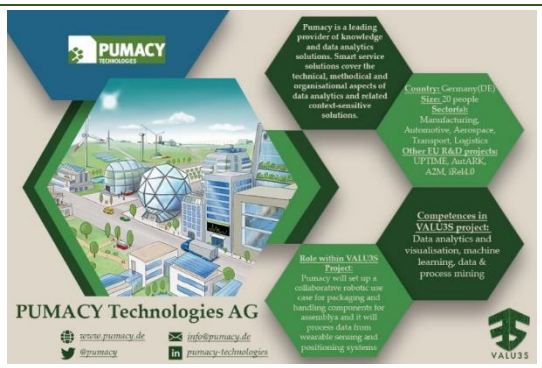
Date of publication	04/05/2021
Caption	The first year of VALU3S project has just finished. Progress status and intermediate results, as well as future challenges to be faced, will be discussed during the next remote Consortium Meeting on 18th-19th May. There will also be occasion, for sure, to further strengthen collaboration among partners, which look forward meeting each other live for the first time. Stay tuned! #ECSEL #R&D #automation #safety #verification #validation #cybersecurity #projectmeeting #electronics
Media content (picture/video/link to external website)	
Number of reactions	18 reactions
Date of publication	04/05/2021
Caption	Watch the VALU3S training session series, part four: Introduction to Model Checking. Video on "Introduction to Model Checking" by José Proença from Instituto Superior de Engenharia do Porto, in the scope of the first part of VALU3S 1st training session that took place online on the 25th of March 2021. Watch it here: https://lnkd.in/evnUxgR
Media content (picture/video/link to external website)	https://youtu.be/tU_aOytuqLg
Number of reactions	11 reactions

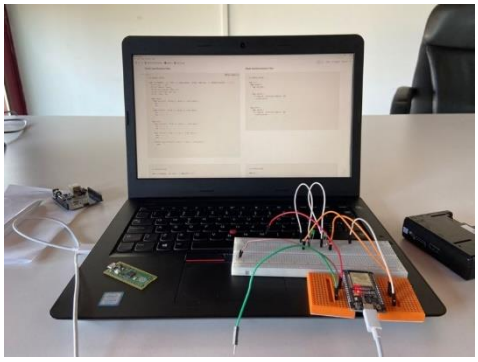
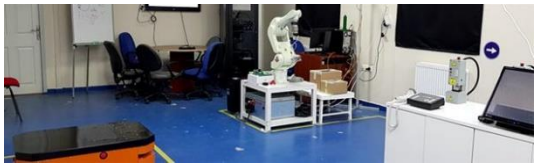
Date of publication	04/05/2021
Caption	Watch the VALU3S training session series, part three: Risk Analysis for Secure Automated Systems. Introductory video on "Risk Analysis for Secure Automated Systems" by Davide Ottonello from STAM, in the scope of the first part of VALU3S 1st training session that took place online on the 25th of March 2021. Watch it here: https://lnkd.in/gBFc44F
Media content (picture/video/link to external website)	https://www.youtube.com/watch?v=NVIrKQ4IxF4&t=553s
Number of reactions	16 reactions
Date of publication	5/05/20201
Caption	Not yet a subscriber of the VALU3S newsletter? Sign up here and get a project update 4 times a year. https://lnkd.in/esvA-Ha
Media content (picture/video/link to external website)	
Number of reactions	9 reactions
Date of publication	12/05/2021
Caption	VALU3S video teaser is OUT! The aim of the video is to explain project motivations and objectives in a nutshell, anticipating what will be the main outputs coming in the next months. Stay tuned, the best is yet to come 😉 https://lnkd.in/e9AASKA #VALU3S #teaser #safety #security #cybersecurity #automation #electronics #ECSEL #H2020 #verification #validation #research #development

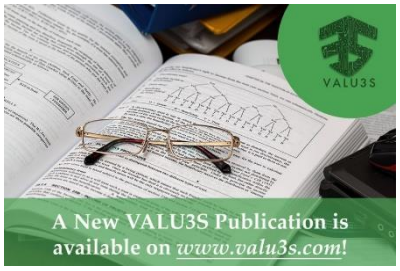
Media content (picture/video/link to external website)	https://www.youtube.com/watch?v=5IqCwSvk8tA
Number of reactions	22 reactions
Date of publication	18/05/2021
Caption	The first year of VALU3S project has just finished! Today and tomorrow, 18th-19th of May, the VALU3S Consortium meets for the fourth time, this time online. Progress status and intermediate results will be discussed, as well as future challenges to be faced. On the 19th the External Advisory Board will join us, and we look forward to hear their feedback and input on the work done so far in the project. Stay tuned! #ECSEL #R&D #automation #safety #verification #validation #cybersecurity #projectmeeting #electronics
Media content (picture/video/link to external website)	
Number of reactions	28 reactions
Date of publication	21/05/2020
Caption	Watch the VALU3S training session series, part four: Introduction to Model Checking. Video on "Introduction to Model Checking" by José Proença from Instituto Superior de Engenharia do Porto, in the scope of the first part of VALU3S 1st training session that took place online on the 25th of March 2021. Watch it here: https://lnkd.in/evnUxgR
Media content (picture/video/link to external website)	https://youtu.be/tU_aOytuqLg
Number of reactions	8 reactions

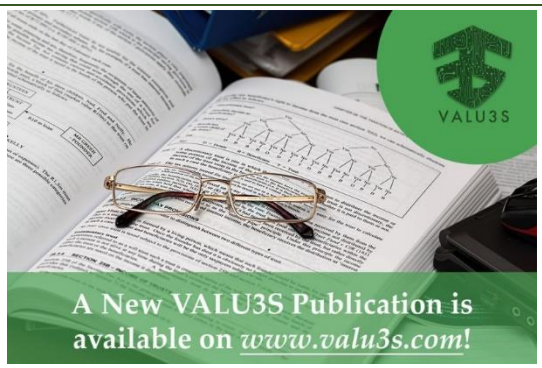
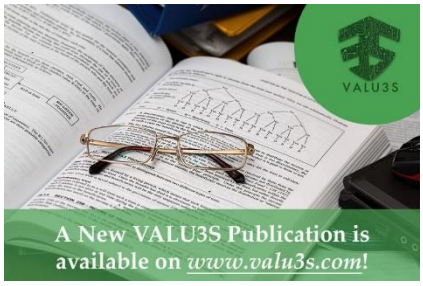
Date of publication	29/05/2021
Caption	Not yet a subscriber of the VALU3S newsletter? Stay tuned and sign up here: https://lnkd.in/esvA-Ha
Media content (picture/video/link to external website)	
Number of reactions	13 reactions
Date of publication	2/06/2021
Caption	Watch the VALU3S training session series, part five: Simulation-based fault and attack injection at system level. Introductory video on "Simulation-based fault and attack injection at system level" by Mateen Malik from RISE, in the scope of the first part of VALU3S 1st training session that took place online on the 25th of March 2021. Watch it here: https://lnkd.in/eQxtNJF
Media content (picture/video/link to external website)	https://youtu.be/tU_aOytuqLg
Number of reactions	6 reactions
Date of publication	10/06/2021
Caption	Watch the VALU3S training session series, part six: Virtual Architecture Development and Simulated Evaluation of Software Concepts with FERAL" by Thomas Bauer from FRAUNHOFER, in the scope of the second part of VALU3S 1st training session that took place online on the 22nd of March 2021. https://lnkd.in/eVqH7v5
Media content (picture/video/link to external website)	https://www.youtube.com/watch?v=YMHFFRsnI3s&t=2s
Number of reactions	13 reactions

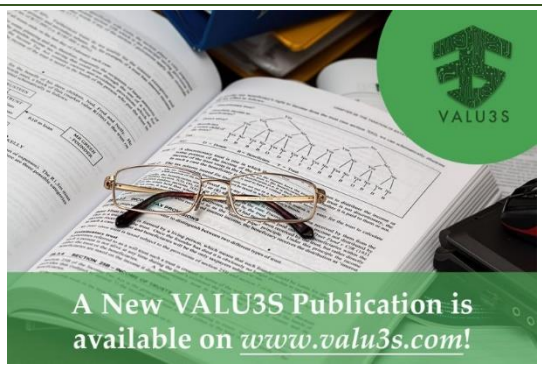
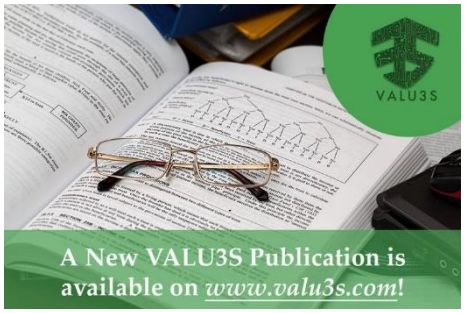
Date of publication	11/06/2021
Caption	Today VALU3S project would like to introduce you Intecs, an innovative company providing software & hardware technologies and products for safety-critical systems. Within the project, they contribute to the development of open source CHESS methodology and supporting toolset. #safety #security #cybersecurity #engineering #verification #validation #ECSEL #H2020 #research #development #modelling #innovation #electronics #robotics #industry
Media content (picture/video/link to external website)	
Number of reactions	13 reactions
Date of publication	11/06/2021
Caption	Watch the VALU3S training session series, part seven: "Model-implemented fault and attack injection" by Peter Folkesson from RISE, in the scope of the second part of VALU3S 1st training session that took place online on the 22nd of March 2021. https://lnkd.in/dFj77QK
Media content (picture/video/link to external website)	https://www.youtube.com/watch?v=HfTzYSVclXM
Number of reactions	10 reactions
Date of publication	12/06/2021
Caption	Today we would like to introduce you Pumacy Technologies AG, a German company providing solutions for knowledge and data analytics. Within VALU3S project, they will implement a Human-Robot cooperation use-case, bringing their expertise to analyse data coming from wearable sensing and position systems. #ECSEL #H2020 #electronics #safety #security #validation #verification #cybersecurity #robotics #cobot #dataanalytics #datamining #machinelearning #datavisualisation

Media content (picture/video/link to external website)	
Number of reactions	13 reactions
Date of publication	17/06/2021
Caption	VALU3S video teaser is OUT! The aim of the video is to explain project motivations and objectives in a nutshell, anticipating what will be the main outputs coming in the next months. Stay tuned, the best is yet to come 😉 https://lnkd.in/e9AASKA #VALU3S #teaser #safety #security #cybersecurity #automation #electronics #ECSEL #H2020 #verification #validation #research #development
Media content (picture/video/link to external website)	https://www.youtube.com/watch?v=5IqCwSvk8tA
Number of reactions	17 reactions
Date of publication	17/07/2021
Caption	Today the VALU3S First Year Project Review Meeting is virtually taking place. Main achievements of the first year of the project and the plans for next months will be presented to Project Officer and Reviewers. Despite this last difficult year, the VALU3S Consortium has finally reached this crucial milestone thanks to the strong commitment of all the partners. From tomorrow, we will start again to work hard for ensuring promised results in light of the next milestones. Stay tuned!
Media content (picture/video/link to external website)	https://media-exp1.licdn.com/dms/image/C4E22AQGPqBLty2XDOA/feedshare-shrink_2048_1536/0/1625123100268?e=1651104000&v=beta&t=2_x3Xx433Y_XHjgP1hLyStIZGyR3SnoEPFlLeuLgdSI

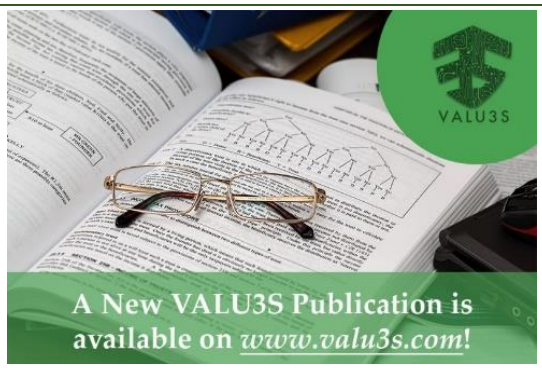
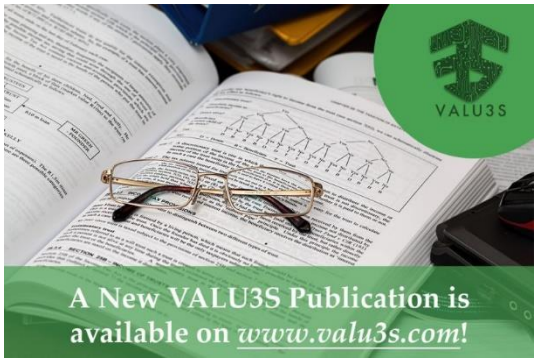
Number of reactions	26 reactions
Date of publication	19/07/2021
Caption	Today VALU3S project would like to introduce you to the fourth blog article of a series describing the work done by the VALU3S partners. This time we can read about Cyber-Physical Systems – Addressing Safety and Security Aspects in the Presence of Runtime Monitors. https://lnkd.in/eUvzGrR #verification #validation #automation #testing #datamanagement #modelling #simulation #electronics #security #cybersecurity #safety #ECSEL #H2020 #research #development
Media content (picture/video/link to external website)	
Number of reactions	16 reactions
Date of publication	24/07/2021
Caption	Today VALU3S project would like to introduce you to the fifth blog article of a series describing the work done by the VALU3S partners. This time we can read about Verification and validation methods for industrial robots. https://lnkd.in/e2AzJdP
Media content (picture/video/link to external website)	
Number of reactions	17 reactions
Date of publication	24/07/2021

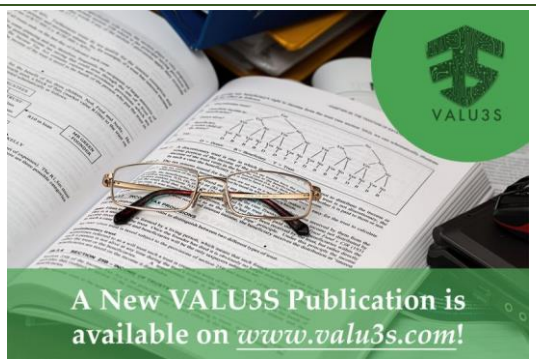
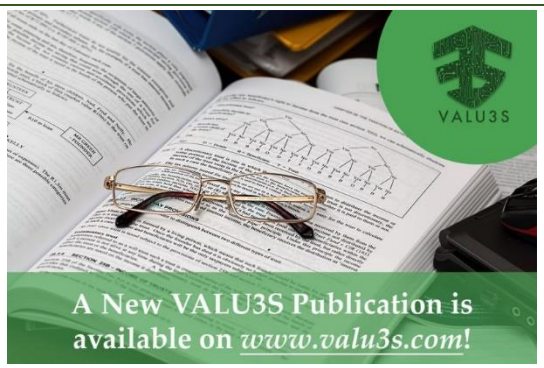
Caption	Watch the VALU3S training session series, part eight: "Model Based Failure Logic Analysis". Presentation entitled "Model Based Failure Logic Analysis" by Silvia Mazzini from INTECS, in the scope of the second part of VALU3S 1st training session that took place online on the 22nd of March 2021. Watch it here: https://lnkd.in/e6C2mVG
Media content (picture/video/link to external website)	https://www.youtube.com/watch?v=RYOVpTL6dso
Number of reactions	6 reactions
Date of publication	29/07/2021
Caption	New VALU3S publication addressing: Learning Markov Jump Affine Systems via Regression Trees for MPC. Get to know more about the contents of this publication by having a look at it in our website. https://lnkd.in/ejHNxNB
Media content (picture/video/link to external website)	
Number of reactions	7 reactions
Date of publication	22/07/2021
Caption	New VALU3S publication addressing: Learning Markov Jump Affine Systems via Regression Trees for MPC. Get to know more about the contents of this publication by having a look at it in our website. https://lnkd.in/ejHNxNB

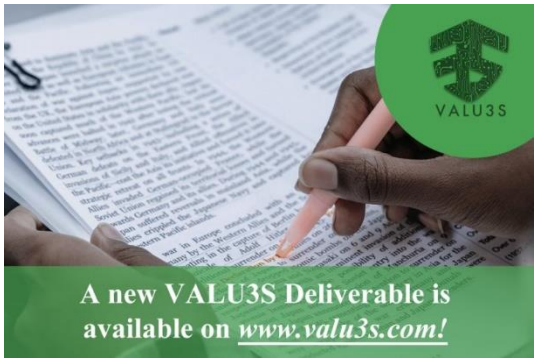
Media content (picture/video/link to external website)	
Number of reactions	7 reactions
Date of publication	29/07/2021
Caption	New VALU3S publication addressing: Implementing Hybrid Semantics: From Functional to Imperative, Theoretical Aspects of Computing. Get to know more about the contents of this publication by having a look at it in our website. https://lnkd.in/ejHNxNB
Media content (picture/video/link to external website)	
Number of reactions	1 reaction
Date of publication	30/07/2021
Caption	New VALU3S publication addressing: The VALU3S ECSEL Project: Verification and Validation of Automated Systems Safety and Security. Get to know more about the contents of this publication by having a look at it in our website. https://lnkd.in/ejHNxNB

Media content (picture/video/link to external website)	
Number of reactions (likes, comments, shares)	4 reactions
Date of publication	30/07/2021
Caption	New VALU3S publication addressing "Digital Twins Are Not Monozygotic -- Cross-Replicating ADAS Testing in Two Industry-Grade Automotive Simulators". Get to know more about the contents of this publication by having a look at it in our website. https://lnkd.in/ejHNxNB
Media content (picture/video/link to external website)	
Number of reactions	3 reactions
Date of publication	30/07/2021
Caption	New VALU3S publication addressing "A review of single and multi hazard risk assessment approaches for critical infrastructures protection". Get to know more about the contents of this publication by having a look at it in our website. https://lnkd.in/ejHNxNB

Media content (picture/video/link to external website)	
Number of reactions	1 reaction
Date of publication	30/07/2021
Caption	New VALU3S publication addressing "Learning affine predictors for MPC of nonlinear systems via artificial neural networks". Get to know more about the contents of this publication by having a look at it in our website. https://lnkd.in/ejHNxNB
Media content (picture/video/link to external website)	
Number of reactions	6 reactions
Date of publication	30/07/2021
Caption	New VALU3S publication addressing "Test Automation with Grad-CAM Heatmaps -- A Future Pipe Segment in MLOps for Vision AI?". Get to know more about the contents of this publication by having a look at it in our website. https://lnkd.in/ejHNxNB

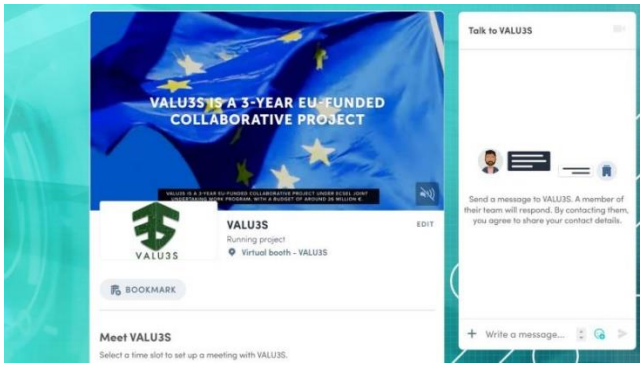
Media content (picture/video/link to external website)	
Number of reactions	7 reactions
Date of publication	30/07/2021
Caption	New VALU3S publication addressing "Exploring the Assessment List for Trustworthy AI in the Context of Advanced Driver-Assistance Systems". Get to know more about the contents of this publication by having a look at it in our website. https://lnkd.in/ejHNxNB
Media content (picture/video/link to external website)	
Number of reactions	6 reactions
Date of publication	30/07/2021
Caption	New VALU3S publication addressing "A Proposal for the Classification of Methods for Verification and Validation of Safety, Cybersecurity, and Privacy of Automated Systems". Get to know more about the contents of this publication by having a look at it in our website. https://lnkd.in/ejHNxNB

Media content (picture/video/link to external website)	
Number of reactions	15 reactions
Date of publication	30/07/2021
Caption	New VALU3S publication addressing "Dynamic fault injection into digital twins of safety-critical systems". Get to know more about the contents of this publication by having a look at it in our website. https://lnkd.in/ejHNxNB
Media content (picture/video/link to external website)	
Number of reactions	6 reactions
Date of publication	30/07/2021
Caption	VALU3S video teaser is OUT! The aim of the video is to explain project motivations and objectives in a nutshell, anticipating what will be the main outputs coming in the next months. Stay tuned, the best is yet to come. https://lnkd.in/e7efWit
Media content (picture/video/link to external website)	https://www.youtube.com/watch?v=5IqCwSvk8tA&t=3s

Number of reactions	10 reactions
Date of publication	11/09/2021
Caption	Today we want to high-light our new section “Deliverables”! We have today uploaded six new ones and you can read them all here: https://lnkd.in/eJrxjgnp We are constantly updating with new interesting documentation. Stay tuned and follow the project progress.
Media content (picture/video/link to external website)	
Number of reactions	19 reactions
Date of publication	11/09/2021
Caption	Today the VALU3S project meets the Horizon Results Booster Team. The partners will attend a workshop that will try to assist the consortium in the exploitation of its outputs. Let's do some business!
Media content (picture/video/link to external website)	
Number of reactions	22 reactions
Date of publication	11/11/2021

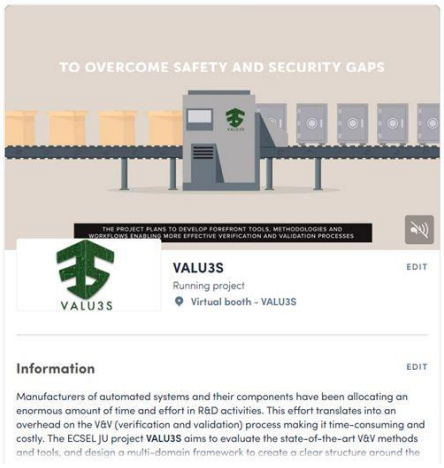
Caption	VALU3S partner INFOTIV Qualified for final phase in AI test challenge! We are happy to report a brilliant goal achieved by INFOTIV, one of the partners of VALU3S consortium. In fact, in the article "INFOTIV QUALIFIED FOR FINAL PHASE IN AI TEST CHALLENGE" we can read that INFOTIV research group was recently part of a Swedish team for the "2021 IEEE Autonomous Driving AI Test Challenge". They are proud to announce that out of 119 teams entering the fierce competition our team placed itself among the top 13 that were qualified for the final phase of the challenge. This milestone is even more important since INFOTIV is working on the same topics within VALU3S project, indeed we are very pleased to have such competent team on board! Read more about this exciting project at https://lnkd.in/ehksnuc7 #infotiv #innovations #IEEE #IEEE #test #ai #artificialintelligence
Media content (picture/video/link to external website)	N.A.
Number of reactions	11 reactions
Date of publication	11/11/2021
Caption	Today we present three new publications at the VALU3S website. – Featured Team Automata – Efficient and Effective Generation of Test Cases for Pedestrian Detection – Verification and validation of an automated robot inspection cell for automotive body-in-white: a use case for the VALU3S ECSEL project. Read them all under our section publications: https://lnkd.in/ejHNxNB
Media content (picture/video/link to external website)	
Number of reactions	11 reactions
Date of publication	11/11/2021

Caption	This week VALU3S would like to introduce you @ESOGU, a Turkish University based in Eskişehir. Within the project, they will develop and validate #verification methods for #safety & #security of #industrialrobots #ECSEL #H2020 #research #development #cybersecurity #privacy #industry40 #automation #electronics #electronicsystems
Media content (picture/video/link to external website)	
Number of reactions	17 reactions
Date of publication	16/11/2021
Caption	One and a half year into the VALU3S project! Today and tomorrow, 10th-11th of November, the VALU3S Consortium meets for the fifth time in an online meeting. Progress status as well as the results obtained since the beginning of the 2nd year of the project will be discussed! To keep up to date about the project progress, subscribe to our newsletter: https://lnkd.in/esvA-Ha. Stay tuned! #ECSEL #R&D #automation #safety #verification #validation #cybersecurity #projectmeeting #electronics
Media content (picture/video/link to external website)	
Number of reactions	28 reactions
Date of publication	11/11/2021

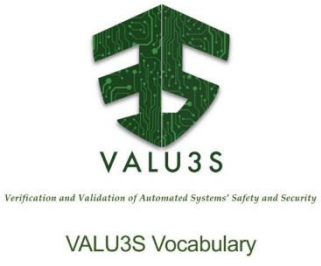
Caption	Today VALU3S project would like to introduce you to the sixth blog article of a series describing the work done by the VALU3S partners. This time we meet Dr Matt Matt Luckcuck and Dr Marie Farrell from the Department of Computer Science at Maynooth University, both researcher working on the VALU3S project. They discuss how robust Formal Methods can help to verify autonomous systems. https://lnkd.in/eTtRS-9S #university #project #computerscience
Media content (picture/video/link to external website)	
Number of reactions	10 reactions
Date of publication	16/11/2021
Caption	Meet VALU3S at EFECS2021! VALU3S crew is waiting for you at #EFECS2021, the European Forum for Electronic Components and Systems, which will be held online from today to Thursday 25th. Visit our virtual booth to find interesting materials about the project and chat with us at this link: https://lnkd.in/e-XZga5n #ECSEL #automation #verification #validation #cybersecurity #privacy #safety #engineering #manufacturing #robotics #research #development
Media content (picture/video/link to external website)	
Number of reactions	16 reactions
Date of publication	16/11/2021

Caption	Workshop of HiPEAC 2022 sponsored by VALU3S Project. The VALU3S project has the pleasue to announce to its following community that it is a sponsor of the STEADINESS – System Engineering and Dependability in Cyber-Physical Systems workshop, which is one of three workshops that are part of the CPS Segment of HiPEAC 2022, taking place on the Januray 19th, 2022, in Budapest, Hungary. For more details on how to submit to STEADINESS or to any of the remaing workshops of the CPS Segment can be consulted in HiPEAC's programme webpage https://lnkd.in/ew-7i8CX #project #engineering
Media content (picture/video/link to external website)	
Number of reactions	11 reactions
Date of publication	16/11/2021
Caption	The Infotiv research group was part of a Swedish team for the "2021 IEEE Autonomous Driving AI Test Challenge". During the challenge, the team designed a tool to aid the automatic generation of various traffic scenarios to verify and validate the safety functionality of autonomous systems. We are sharing our experience and challenges that we faced for testing Apollo autonomous driving systems in SVL simulator in SAST (Swedish Association for Software Testing) Väst conference on November 30, starting at 10:40 until 11:20. Free online registration: https://lnkd.in/eGDFAeqg Conference website: https://lnkd.in/ec3KV3VK Free online registration: https://lnkd.in/eGDFAeqg
Media content (picture/video/link to external website)	
Number of reactions	11 reactions

Date of publication	21/11/2021
Caption	This week VALU3S project would like to introduce another important partner of the consortium, Mondragon Goi Eskola Politeknikoa (MGEP). They are leading the creation of the multi-dimensional layered framework for V&V and develop an approach for simulation based testing involving human worker in a Human-Robot collaboration context. #ECSEL #ECS #verification #validation #security #cybersecurity #privacy #robotics #electronics #automation #automatedsystems #research #development
Media content (picture/video/link to external website)	
Number of reactions	11 reactions
Date of publication	10/12/2021
Caption	VALU3S project represented at EFECS2021. EFECS2021, the European Forum for Electronic Components and Systems, has been successfully held on 23rd-25th November 2021. VALU3S Consortium, after the good experience of the last edition, took part also to the EFECS2021 by arranging again a virtual booth within which visitors could find materials, videos and other resources about the project, as well as even chat with the project representatives. The booth has been visited by several people participating to the event and has been significantly appreciated by visitors. Read more: https://lnkd.in/etpWz5mv #event #project

Media content (picture/video/link to external website)	
Number of reactions	14 reactions
Date of publication	20/12/2021
Caption	VALU3S Training sessions. One of the objective of the VALU3S project is to revisit and identify the weaknesses of relevant safety and security standards and develop a concrete strategy to influence the development of new standards. Standardisation is therefore central to the project and thus several efforts are being made by the partners, including the organization of a series of internal training sessions focused on standards that are relevant for the topics of the project. The next training session will be on the 16th of December 2021 and will address two standards: - ISO/SAE 21434 Road vehicles — Cybersecurity engineering, whose purpose is to ensure that OEMs and all participants in the supply chain have structured processes in place that support a “Security by Design” process. - ISO/DPAS 5112 Road vehicles — Guidelines for auditing cybersecurity engineering, whose purpose is to to help organizations to audit the cybersecurity achieved for their own organization and along the supply chain. As usual, the training session will be recorded and made available in our YouTube channel and project website, and will also be announce in our usual channels. If these standards are relevant for you, stay tuned.

Media content (picture/video/link to external website)	
Number of reactions	11 reactions
Date of publication	20/12/2021
Caption	VALU3S Welcomes Cardio-ID to the Consortium. We are happy to announce that CardioID (www.cardio-id.com) is now part of the VALU3S consortium. CardioID is a spin-off of Instituto de Telecomunicações and Instituto Superior Técnico (University of Lisbon), born out of research on pattern recognition and machine learning methods applied to the study of biological signals (biosignals), especially the electrocardiogram (ECG). CardioID's activities within the scope of the VALU3S project will be center around a use case that focuses on CardioWheel, the company's offering for the automotive vertical – a steering wheel cover that acquires, in a non-intrusive way, the ECG of the driver, and triggers alerts of driver-change and drowsiness. Read more at the VALU3S website: https://lnkd.in/e4cMVq34 #research #machinelearning #automotive
Media content (picture/video/link to external website)	
Number of reactions	13 reactions
Date of publication	20/12/2021

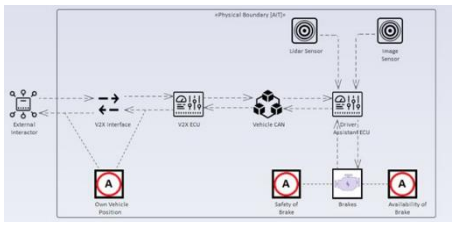
Caption	To facilitate, the VALUES communication team has created a MEDIA section on the web with all available videos: https://valu3s.eu/media/ The videos are categorized in “Promotion videos”, “Training sessions”, “Project Use Cases in a Nuthell” and “Methods & Tools in a Nutshell”. You can also find all the videos on Youtube: https://lnkd.in/eM8WQFu4 VALU3S Communication team.
Media content (picture/video/link to external website)	
Number of reactions	9 reactions
Date of publication	20/12/2021
Caption	VALU3S Project vocabulary. The systems and software engineering disciplines, techniques, and processes have vastly advanced during past decades. The progress is so rapid that terminology is updated in different domains simultaneously, which allows more definitions representing the same thing or unambiguous definitions leading to misunderstanding and faults in designs. This document was prepared to collect terms used specifically in the context of the VALU3S project and to unify or narrow down their definitions. Find the vocabulary here: https://lnkd.in/eRP9HMuh
Media content (picture/video/link to external website)	

Number of reactions	11 reactions
Date of publication	20/12/2021
Caption	Did you miss the VALU3S december newsletter? No worries. Read it here: https://lnkd.in/gtKf78dC Stay tuned and become a subscriber: https://lnkd.in/esvA-Ha
Media content (picture/video/link to external website)	
Number of reactions	11 reactions
Date of publication	20/01/2022
Caption	Today VALU3S project would like to introduce you to the seventh blog article of a series describing the work done by the VALU3S partners. This time we meet ErArGe - Ergünler Co. Ltd. R&D Center on the topic: Trusted Digital Twin of cyber-physical systems. Read the article here: https://lnkd.in/eVHRf-ni #digital #cyber #project
Media content (picture/video/link to external website)	
Number of reactions	11 reactions

Date of publication	22/02/20212
Caption	From today to Thursday the 6th General Assembly and Consortium Meeting of VALU3S project is going to take place. Partners are going to take stock about ongoing activities and plan the upcoming ones to achieve and demonstrate valuable results in the last year of the project. This General Assembly will also include a dedicated timeslot to showcase features and functionalities of all the tools delivered (or under development) by VALU3S partner. #H2020 #ECSEL #safety #security #cybersecurity #privacy #verification #validation #automatedsystems #electronics #components
Media content (picture/video/link to external website)	
Number of reactions	22 reactions

Date of publication	10/03/2022
Caption	Be on the alert! On 10 March the VALU3S consortium will meet again with the Horizon Results Booster for a second workshop on business plan development and market analysis. Don't miss it! Let's keep doing business! Read more: https://lnkd.in/ehHyi72i
Media content (picture/video/link to external website)	

Number of reactions	11 reactions
Date of publication	10/03/2022
Caption	Behrooz Sangchoolie, the coordinator of VALU3S project, will participate to SAFER Research and Project Day on Friday 11th March presenting main objectives and outcomes of our project and how it contributes to increase safety and security of automated systems we use in our daily lives. #verification #validation #automation #safety #security #automatedsystems #electronics #cybersecurity #privacy #H2020 #ECSEL #research #development
Media content (picture/video/link to external website)	
Number of reactions	12 reactions
Date of publication	10/03/2022
Caption	Are you interested in tackling the cross-community challenges of R&D for enabling technologies, functional properties or system engineering? If so, we are pleased to invite you to the HiPEAC's workshops on future safety-critical collaborative systems! When? The workshops will take place on 20-22 June, 2022. Where? The conference will be held in Budapest, Hungary. Why participate? The workshops take a new approach looking to improve representation and promote technology bridging among the contributing communities working on these cyber-physical systems. You can read the details in the program. Managing dependability plays an important role in this. Spaces are limited - please, confirm your attendance by registering here. Paper contributions are also encouraged. The submission instructions can be found here. For more information, reach out to: Dr. Charles Robinson (charles.robinson@thalesgroup.com) Dr. Matteo Rucco (matteo.rucco@spindox.it)

Media content (picture/video/link to external website)	
Number of reactions	6 reactions
Date of publication	20/03/2022
Caption	Today VALU3S project would like to introduce you to the eight blog article of a series describing the work done by the VALU3S partners. This time we meet AIT on the topic: Threat Modelling and Risk Management with THREATGET. Read the article here: https://lnkd.in/e8YcHFdD #digital #cyber #project
Media content (picture/video/link to external website)	
Number of reactions	11 reactions
Date of publication	20/03/2022

Caption	Report from VALU3S Business Plan Development Workshop, 2022. On March 10th the VALU3S consortium attended the Business Plan Development Workshop provided by Horizon Results Booster, an initiative created by the European Commission to support the dissemination, exploitation and development of business plans of European funded projects. This Workshop was given as part of the application made by VALU3S for Service 2, entitled as the workshop itself to improve its existing business plan. During the interactive morning lecture, the consortium received tailor-made training and support with one of its key exploitable results, namely the web-based repository that is being developed and populated with cutting-edge V&V methods and tools. More precisely, emphasis was put on market analysis, business strategy, operations plans and competitor identification and analysis. To this end, the web-based repository was characterized, identifying its value with respect to current solutions on the market, potential stakeholders and analysing the most suitable go-to-market approach. Overall, the workshop provided all attendees with a holistic view of the business plan, which they can later use in their individual exploitation. If you found these sessions useful, stay tuned, more news will be coming soon!
Media content (picture/video/link to external website)	
Number of reactions	9 reactions
Date of publication	24/03/2022
Caption	Listen to the VALU3S use case nr 3: Radar System for ADAS. Manuel Schmidt from NXP presents the use-case with a special reference to its role in VALU3S. Moreover, they list the needs for the use case and the expectations from VALU3S developments. https://lnkd.in/eKZS6v8Z
Media content (picture/video/link to external website)	https://www.youtube.com/watch?v=qhH2huhZm_A&t=3s

Number of reactions	5 reactions
Date of publication	25/03/2022
Caption	Listen to the VALU3S use case nr 4: Human-Robot-Interaction in Semi-Automatic Assembly Processes. Pumacy Technologies AG presents the fourth use case of the VALU3S project with a special reference to its role in VALU3S. Moreover, they list the needs for the use case and the expectations from VALU3S developments. https://lnkd.in/eQ2sNX8k #robotsforhumans #interaction #assembly
Media content (picture/video/link to external website)	https://www.youtube.com/watch?v=I0E2NzWY5zs
Number of reactions	9 reactions

2.1.3.2 Detailed Report About Publications of Post on Twitter

Twitter is a microblogging and social networking service on which users post and interact with messages known as "tweets". Registered users can post, like, and retweet tweets, but unregistered users can only read them. Generally, users access Twitter through its website interface or its mobile-device application software ("app"). This social media channel has been chosen since it allows to expand the network of contacts interested in the fields on which the project is focused.

All the posts published on Twitter from M13 until M24 are reported in the following table (Table 2.2) with the relative relevant information.

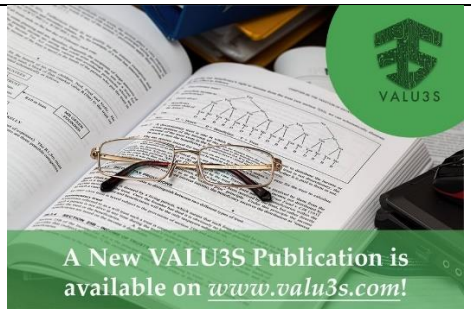
Table 2.2 Posts published on VALU3S Twitter profile

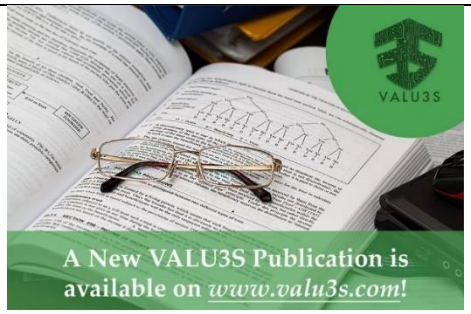
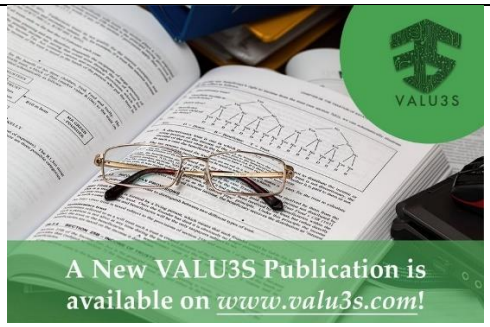
Date of publication	10/05/2021
Caption	Watch the VALU3S training session series, part three: Risk Analysis for Secure Automated Systems.
Media content (picture/video/link to external website)	https://youtu.be/NVIrKQ4IxF4
Number of reactions (likes, retweet, comment)	0 like, 0 retweet, 0 comments
Date of publication	10/05/2021

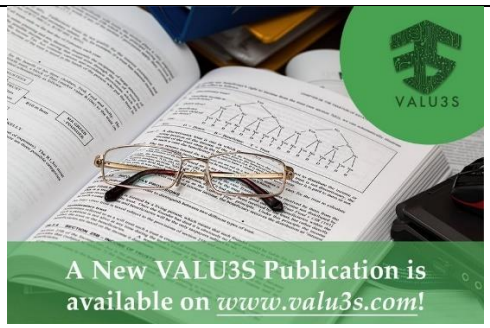
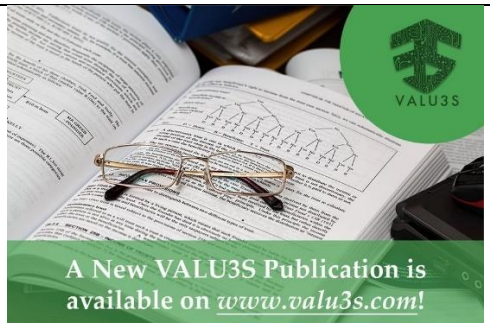
Caption	Watch the VALU3S training session series, part four: Introduction to Model Checking.
Media content (picture/video/link to external website)	https://youtu.be/tU_aOytuqLg
Number of reactions (likes, retweet, comment)	0 likes, 0 retweet, 0 comments
Date of publication	10/05/2021
Caption	The first year of VALU3S project has just finished. Progress status, intermediate results and future challenges will be discussed during the next remote Consortium Meeting on 18th-19th May. #ECSEL #automation #safety #verification #validation #cybersecurity #electronics
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	12 likes, 13 retweet, 0 comments
Date of publication	11/05/2021
Caption	Not yet a subscriber of the VALU3S newsletter? Sign up here and get a project update 4 times a year. https://lnkd.in/esvA-Ha
Media content (picture/video/link to external website)	https://t.co/o9U9wvksJp 
Number of reactions (likes, retweet, comment)	0 likes, 1 retweet, 0 comments

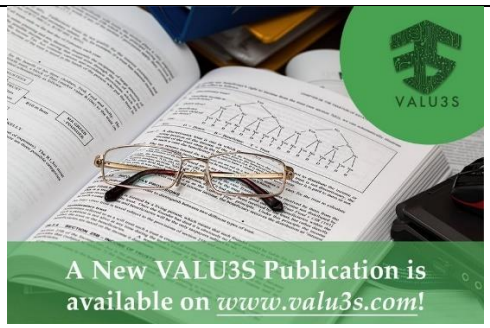
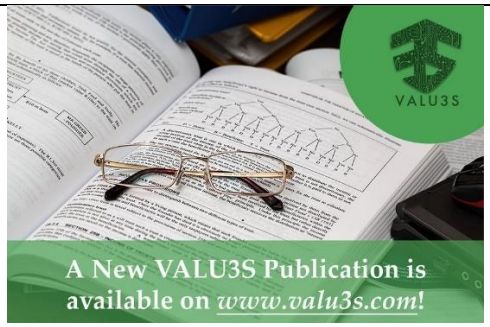
Date of publication	12/05/2021
Caption	VALU3S video teaser is OUT! The aim of the video is to explain project motivations and objectives in a nutshell, anticipating what will be the main outputs coming in the next months. https://lnkd.in/e9AASKA #VALU3S #teaser #safety #security #cybersecurity #automation #H2020
Media content (picture/video/link to external website)	https://youtu.be/5IqCwSvk8tA
Number of reactions (likes, retweet, comment)	0 likes, 2 retweet, 0 comments
Date of publication	18/05/2021
Caption	The first year of VALU3S project has just finished! Today and tomorrow, 18th-19th of May, the VALU3S Consortium meets for the fourth time, this time online. Progress status and intermediate results will be discussed, as well as future challenges to be faced. Stay tuned!
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	2 likes, 3 retweet, 0 comments
Date of publication	26/05/2021
Caption	Watch the VALU3S training session series, part five: Simulation-based fault and attack injection at system level.
Media content (picture/video/link to external website)	https://youtu.be/OH6HeHP5j0U

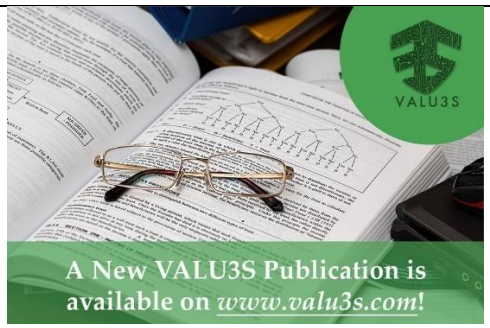
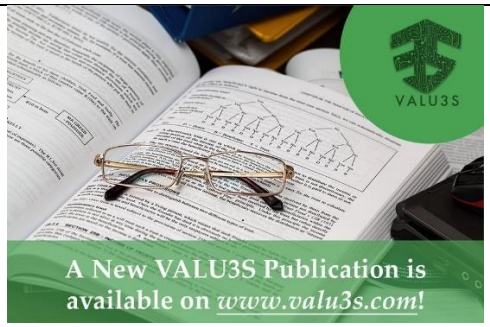
Number of reactions (likes, retweet, comment)	0 likes, 0 retweet, 0 comments
Date of publication	31/05/2021
Caption	Watch the VALU3S training session series, part six: Virtual Architecture Development and Simulated Evaluation of Software Concepts with FERAL.
Media content (picture/video/link to external website)	https://youtu.be/YMHFFRsnI3s
Number of reactions (likes, retweet, comment)	2 likes, 3 retweet, 0 comments
Date of publication	08/06/2021
Caption	Watch the VALU3S training session series, part seven: "Model-implemented fault and attack injection" by Peter Folkesson from RISE, in the scope of the second part of VALU3S 1st training session that took place online on the 22nd of March 2021.
Media content (picture/video/link to external website)	https://youtu.be/HfTzYSVclXM
Number of reactions (likes, retweet, comment)	2 likes, 2 retweet, 0 comments
Date of publication	24/06/2021
Caption	VALU3S video teaser is OUT! The aim of the video is to explain project motivations and objectives in a nutshell, anticipating what will be the main outputs coming in the next months. Stay tuned, the best is yet to come 😉 https://lnkd.in/e9AASKA #VALU3S #safety #security
Media content (picture/video/link to external website)	https://youtu.be/5IqCwSvk8tA
Number of reactions (likes, retweet, comment)	2 likes, 2 retweet, 1 comments

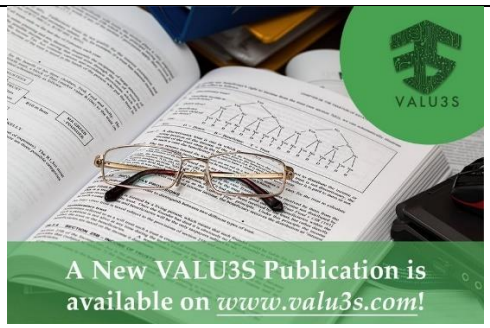
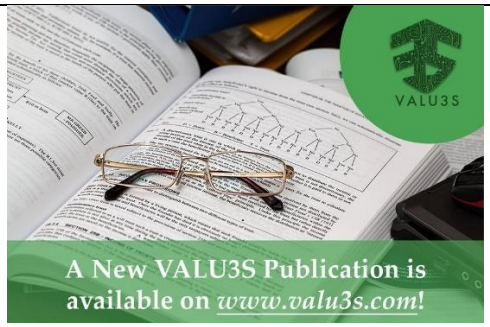
Date of publication	054/07/2021
Caption	Watch the VALU3S training session series, part eight: "Model Based Failure Logic Analysis". Presentation by Silvia Mazzini from INTECS. Watch it here:
Media content (picture/video/link to external website)	https://youtu.be/RYOVpTL6dso
Number of reactions (likes, retweet, comment)	3 likes, 2 retweet, 0 comments
Date of publication	07/07/2021
Caption	New VALU3S publication addressing: Learning Markov Jump Affine Systems via Regression Trees for MPC. Get to know more about the contents of this publication by having a look at it in our website. https://lnkd.in/ejHNxNB
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 1 retweet, 0 comments
Date of publication	07/07/2021
Caption	New VALU3S publication addressing: Implementing Hybrid Semantics: From Functional to Imperative, Theoretical Aspects of Computing. Get to know more about the contents of this publication by having a look at it in our website. https://valu3s.eu/publications/

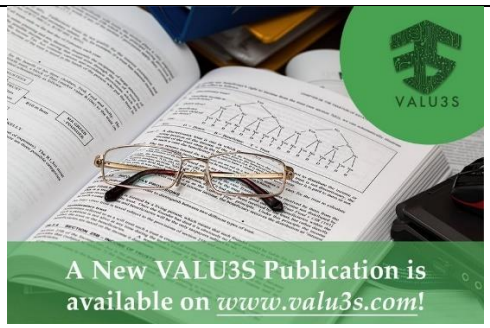
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 1 retweet, 0 comments
Date of publication	07/07/2021
Caption	New VALU3S publication addressing: The VALU3S ECSEL Project: Verification and Validation of Automated Systems Safety and Security. Get to know more about the contents of this publication by having a look at it in our website. https://valu3s.eu/publications/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 1 retweet, 0 comments
Date of publication	07/07/2021
Caption	New VALU3S publication addressing "Digital Twins Are Not Monozygotic -- Cross-Replicating ADAS Testing in Two Industry-Grade Automotive Simulators". Get to know more about the contents of this publication by having a look at it in our website. https://valu3s.eu/publications/

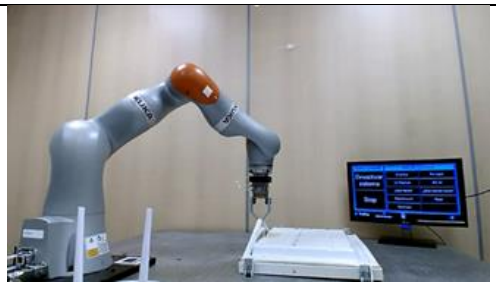
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 1 retweet, 0 comments
Date of publication	07/07/2021
Caption	New VALU3S publication addressing "A review of single and multi hazard risk assessment approaches for critical infrastructures protection". Get to know more about the contents of this publication by having a look at it in our website. https://valu3s.eu/publications/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 1 retweet, 0 comments
Date of publication	07/07/2021
Caption	New VALU3S publication addressing "Learning affine predictors for MPC of nonlinear systems via artificial neural networks". Get to know more about the contents of this publication by having a look at it in our website. https://valu3s.eu/publications/

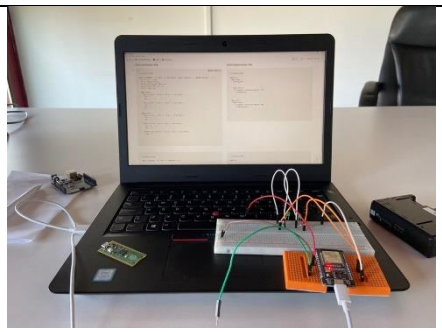
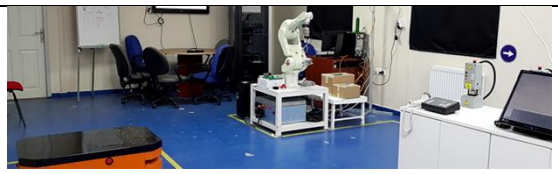
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 1 retweet, 0 comments
Date of publication	07/07/2021
Caption	New VALU3S publication addressing "Implicit Semi-Algebraic Abstraction for Polynomial Dynamical Systems". Get to know more about the contents of this publication by having a look at it in our website. https://valu3s.eu/publications/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 1 retweet, 0 comments
Date of publication	07/07/2021
Caption	New VALU3S publication addressing "Test Automation with Grad-CAM Heatmaps -- A Future Pipe Segment in MLOps for Vision AI?". Get to know more about the contents of this publication by having a look at it in our website. https://valu3s.eu/publications/

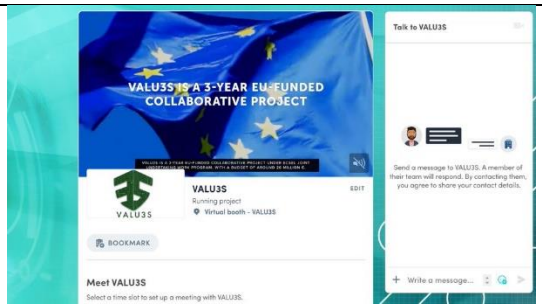
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	2 likes, 2 retweet, 0 comments
Date of publication	07/07/2021
Caption	New VALU3S publication addressing "Exploring the Assessment List for Trustworthy AI in the Context of Advanced Driver-Assistance Systems". Get to know more about the contents of this publication by having a look at it in our website. https://valu3s.eu/publications/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 1 retweet, 0 comments
Date of publication	07/07/2021
Caption	New VALU3S publication addressing "A Proposal for the Classification of Methods for Verification and Validation of Safety, Cybersecurity, and Privacy of Automated Systems". Get to know more at our website. https://valu3s.eu/publications/

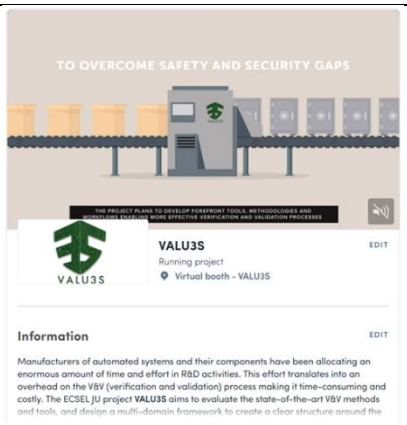
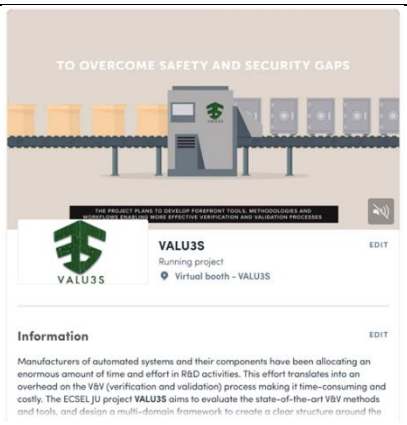
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 1 retweet, 0 comments
Date of publication	07/07/2021
Caption	New VALU3S publication addressing "Dynamic fault injection into digital twins of safety-critical systems". Get to know more about the contents of this publication by having a look at it in our website. https://valu3s.eu/publications/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 1 retweet, 0 comments
Date of publication	07/07/2021
Caption	VALU3S video teaser is OUT! The aim of the video is to explain project motivations and objectives in a nutshell, anticipating what will be the main outputs coming in the next months. Stay tuned, the best is yet to come.
Media content (picture/video/link to external website)	https://youtu.be/5IqCwSvk8tA
Number of reactions (likes, retweet, comment)	1 likes, 2 retweet, 0 comments

Date of publication	04/10/2021
Caption	Watch the workshop "Verification and validation methods for Robotic Systems", part of the Turkish Robotics Conference. Participants from the side of VALU3S were OTOKAR and ERARGE. https://youtube.com/watch?v=tM1NSUvrazM.
Media content (picture/video/link to external website)	https://youtu.be/tM1NSUvrazM
Number of reactions (likes, retweet, comment)	2 likes, 2 retweet, 0 comments
Date of publication	05/10/2021
Caption	We are happy to report a brilliant goal achieved by INFOTIV, one of the partners of VALU3S consortium. INFOTIV Qualified for final phase in AI test challenge! Watch here:
Media content (picture/video/link to external website)	https://youtu.be/t--3hBYU72Y
Number of reactions (likes, retweet, comment)	2 likes, 1 retweet, 0 comments
Date of publication	14/10/2021
Caption	Today we present three new publications at the VALU3S website. Read them all under our section publications: https://valu3s.eu/publications/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	2 likes, 2 retweet, 0 comments

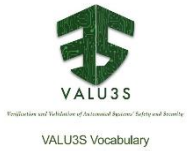
Date of publication	12/11/2021
Caption	Today VALU3S project would like to introduce you to the second blog article. This time we can read about Collaborative robotics – A way to ease recycling and enhance labour market inclusion, by ALDAKIN. https://valu3s.eu/collaborative-robotics-a-way-to-ease-recycling-and-enhance-labour-market-inclusion/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 1 retweet, 0 comments
Date of publication	12/11/2021
Caption	Today VALU3S project would like to introduce you to the third blog article. This time we can read about Security of Automated systems – exploiting risk assessment as countermeasure against cyber-threats, by STAM. https://valu3s.eu/security-of-automated-systems-exploiting-risk-assessment-as-countermeasure-against-cyber-threats/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 1 retweet, 0 comments
Date of publication	12/11/2021
Caption	Today VALU3S project would like to introduce you to the fourth blog article. This time we can read about Cyber-Physical Systems – Addressing Safety and Security Aspects in the Presence of Runtime Monitors.

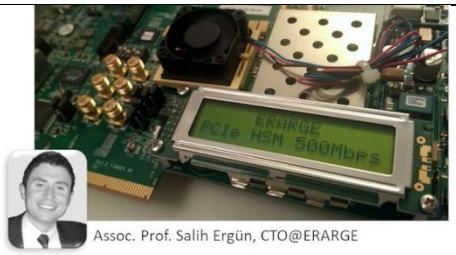
	https://valu3s.eu/cyber-physical-systems-addressing-safety-and-security-aspects-in-the-presence-of-runtime-monitors/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 1 retweet, 0 comments
Date of publication	12/11/2021
Caption	Today VALU3S project would like to introduce you to the fifth blog article of a series describing the work done by the VALU3S partners. This time we can read about Verification and validation methods for industrial robots. https://valu3s.eu/verification-and-validation-methods-for-industrial-robots/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	4 likes, 2 retweet, 0 comments
Date of publication	12/11/2021
Caption	Today VALU3S project would like to introduce you to the sixth blog article. This time we meet Dr Matt Matt Luckcuck and Dr Marie Farrell. They discuss how robust Formal Methods can help to verify autonomous systems. https://valu3s.eu/formally-verifying-autonomous-systems/
Media content (picture/video/link to external website)	

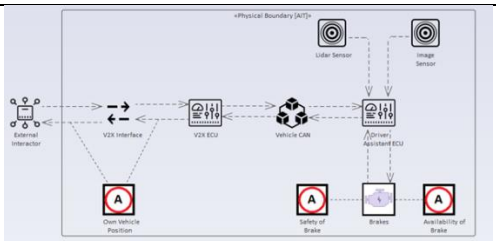
Number of reactions (likes, retweet, comment)	5 likes, 3 retweet, 0 comments
Date of publication	23/11/2021
Caption	VALU3S crew is waiting for you at #EFECS2021, the European Forum for Electronic Components and Systems, which will be held online from today to Thursday 25th. Visit our virtual booth: https://lnkd.in/e-XZga5n
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	2 likes, 2 retweet, 0 comments
Date of publication	23/11/2021
Caption	The VALU3S project has the pleasue to announce that it is a sponsor of the STEADINESS – System Engineering and Dependability in Cyber-Physical Systems workshop, Januray 19th, 2022, in Budapest, Hungary. For more info: https://hipeac.net/2022/budapest/#/program/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	0 likes, 0 retweet, 0 comments
Date of publication	07/12/2021
Caption	VALU3S project represented at EFECS2021!

	VALU3S took part of the event by arranging again a virtual booth within which visitors could find materials, videos and other resources about the project, as well as even chat with the project representatives: https://valu3s.eu/valu3s-project-represented-at-efecs2021/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	2 likes, 1 retweet, 0 comments
Date of publication	16/12/2021
Caption	VALU3S project represented at EFECS2021, the European Forum for Electronic Components and Systems, on 23rd-25th November 2021. Read more: https://valu3s.eu/valu3s-project-represented-at-efecs2021/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	0 likes, 0 retweet, 0 comments
Date of publication	16/12/2021
Caption	VALU3S Training sessions.

	Standardisation is central to the VALU3S project and the last training was held on the 16th of December 2021 addressing two standards. Read more here: https://valu3s.eu/valu3s-traning-session-2021/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 0 retweet, 0 comments
Date of publication	16/12/2021
Caption	ALU3S Welcomes Cardio-ID to the Consortium. We are happy to announce that CardioID (http://cardio-id.com) is now part of the VALU3S consortium. Read more here: https://valu3s.eu/valu3s-welcomes-cardio-id-to-the-consortium/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 0 retweet, 0 comments
Date of publication	16/12/2021
Caption	To facilitate, the VALUES communication team has created a MEDIA section on the web with all available videos: https://valu3s.eu/media/ Welcome!

Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	2 likes, 3 retweet, 0 comments
Date of publication	16/12/2021
Caption	VALU3S Project vocabulary. This document was prepared to collect terms used specifically in the context of the VALU3S project and to unify or narrow down their definitions: https://valu3s.eu/new-a-valu3s-project-vocabulary/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 0 retweet, 0 comments
Date of publication	20/12/2021
Caption	Did you miss the VALU3S december newsletter? No worries. Read it here: https://lnkd.in/gtKf78dC Stay tuned and become a subscriber: https://lnkd.in/esvA-Ha
Media content (picture/video/link to external website)	

Number of reactions (likes, retweet, comment)	1 likes, 1 retweet, 0 comments
Date of publication	11/01/2022
Caption	Today VALU3S project would like to introduce you to the seventh blog article describing the work done by the VALU3S partners. This time we meet ErArGe - Ergünler Co. Ltd. R&D Center on the topic: Trusted Digital Twin of cyber-physical systems: https://lnkd.in/eVHRf-ni
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	1 likes, 2 retweet, 0 comments
Date of publication	22/02/2022
Caption	From today to Thursday the 6th General Assembly and Consortium Meeting of VALU3S project is going to take place. Partners are going to take stock about ongoing activities and plan the upcoming ones to achieve and demonstrate valuable results in the last year of the project.
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	7 likes, 6 retweet, 0 comments
Date of publication	15/03/2022
Caption	Today VALU3S project would like to introduce you to the eight blog article of a series describing the work done by the VALU3S partners. This time we meet AIT on the topic: Threat Modelling and Risk Management with THREATGET.

	Read the article here: https://lnkd.in/e8YcHFdD
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	2 likes, 1 retweet, 0 comments
Date of publication	15/03/2022
Caption	Report from VALU3S Business Plan Development Workshop, 2022. On March 10th the VALU3S consortium attended the Business Plan Development Workshop provided by Horizon Results Booster. Read more about the event here: https://valu3s.eu/report-from-valu3s-business-plan-development-workshop-2022/
Media content (picture/video/link to external website)	
Number of reactions (likes, retweet, comment)	2 likes, 1 retweet, 0 comments
Date of publication	23/03/2022
Caption	Listen to the VALU3S use case nr 3: Radar System for ADAS. Manuel Schmidt from NXP presents the use-case with a special reference to its role in VALU3S. Moreover, they list the needs for the use case and the expectations from VALU3S developments.

Media content (picture/video/link to external website)	https://youtu.be/qhH2huhZm_A
Number of reactions (likes, retweet, comment)	2 likes, 2 retweet, 0 comments
Date of publication	24/03/2022
Caption	Listen to the VALU3S use case nr 4: Human-Robot-Interaction in Semi-Automatic Assembly Processes. Pumacy Technologies AG presents the fourth use case of the VALU3S project with a special reference to its role in VALU3S.
Media content (picture/video/link to external website)	https://youtu.be/I0E2NzWY5zs
Number of reactions (likes, retweet, comment)	2 likes, 1 retweet, 0 comments

2.1.3.3 Detailed Report About Publications of Video on YouTube

Video contents are essential for a dissemination activity. In fact, YouTube is the platform chosen to sponsor the project through videos of interest for our target audiences. It could help to increase the views and that is why a channel has been opened on this platform. The intention is to publish several video contents to increase the level of interest regarding the project. All the videos published from M13 to M24 on the YouTube channel are reported in the Table 2.3 with the relevant information.

Table 2.3 videos published on VALU3S YouTube channel

Date of publication	15/05/2021
Title	Virtual Architecture Development and Simulated Evaluation of Software Concepts with FERAL
Duration	33 min and 12 sec
Description of the video content	Presentation entitled "Virtual Architecture Development and Simulated Evaluation of Software Concepts with FERAL" by Thomas Bauer from FRAUNHOFER, in the scope of the second part of VALU3S 1st training session that took place online on the 22nd of March 2021.
Number of views, likes, comments	37 views, 0 likes, 0 comments
Date of publication	15/05/2021
Title	Model-implemented fault and attack injection

Duration	27 min and 54 sec
Description of the video content	Presentation entitled "Model-implemented fault and attack injection" by Peter Folkesson from RISE, in the scope of the second part of VALU3S 1st training session that took place online on the 22nd of March 2021.
Number of views, likes, comments	45 views, 1 like, 0 comments
Date of publication	15/05/2021
Title	Model Based Failure Logic Analysis
Duration	30 min and 58 sec
Description of the video content	Presentation entitled "Model Based Failure Logic Analysis" by Silvia Mazzini from INTECS, in the scope of the second part of VALU3S 1st training session that took place online on the 22nd of March 2021.
Number of views, likes, comments	37 views, 0 likes, 0 comments
Date of publication	15/05/2021
Title	Formalising Verifiable Requirements
Duration	25 min and 52 sec
Description of the video content	Presentation entitled "Formalising Verifiable Requirements" by Marie Farrell from NUIM, in the scope of the second part of VALU3S 1st training session that took place online on the 22nd of March 2021.
Number of views, likes, comments	51 views, 4 likes, 0 comments
Date of publication	15/05/2021
Title	Simulating Traffic Scenarios using CARLA
Duration	29 min and 13 sec
Description of the video content	Presentation entitled "Simulating Traffic Scenarios using CARLA" by INFOTIV, in the scope of the first part of VALU3S 1st training session that took place online on the 22nd of March 2021.
Number of views, likes, comments	504 views, 5 likes, 0 comments

Date of publication	15/05/2021
Title	Model-Based Assurance and Certification
Duration	31 min and 44 sec
Description of the video content	Presentation entitled "Model-Based Assurance and Certification" by Jose Luis la Vara from UCLM, in the scope of the second part of VALU3S 1st training session that took place online on the 22nd of March 2021.
Number of views, likes, comments	28 views, 0 likes, 0 comments
Date of publication	15/05/2021
Title	Valu3s Introduction Movie
Duration	2 min and 0 sec
Description of the video content	VALU3S is a 3-years collaborative project funded by ECSEL JU under Horizon 2020 Work Programme. The project, started on May 2020, will last until April 2023 with a consortium composed by more than 40 partners coming from 10 different European countries. Nowadays, automation is heavily deployed in several applications which require high safety standards, however the spotlight is always focused on functionality. Furthermore, high complexity of automated systems make verification and validation time-consuming and costly. For these reasons, VALU3S project aims to design, implement and evaluate forefront methods and tools that will reduce time and cost for verification and validation while increasing safety and security performances of automated systems. VALU3S will demonstrate and validate the proposed framework within 13 realistic pilots in different fields: automotive, railways, aerospace, agriculture, health and industrial robotics. For further information and updates on project results, please visit our website (www.valu3s.eu), follow us on LinkedIn (https://www.linkedin.com/company/valu3s-project/) and Twitter (https://twitter.com/valu3s_project)
Number of views, likes, comments	174 views, 10 likes, 0 comments
Date of publication	15/06/2021
Title	Black-Box Testing for Security-Informed Safety of Automated Driving System
Duration	4 min and 18 sec

Description of the video content	Martin Skoglund from RISE, Research Institute of Sweden, in this video depicts main features of Black-Box Testing method applied to Security-Informed Safety of Automated Driving System and what outstanding improvements are foreseen within VALU3S project.
Number of views, likes, comments	16 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Human Interaction Safety Analysis (HISA)
Duration	4 min and 25 sec
Description of the video content	Fredrik Warg from RISE, Research Institute of Sweden, in this video explains the main phases of the Human Interaction Safety Analysis and the future improvements during the developments within the VALU3S project
Number of views, likes, comments	5 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Model-implemented fault/attack injection
Duration	4 min and 52 sec
Description of the video content	Peter Folkesson from RISE, Research Institute of Sweden, in this video discusses about MODIFI (MODel-Implemented Fault Injection tool) which is a fault/attack injection tool for Simulink models. Moreover, he shows the current limitations addressed by pre- and post-injection.
Number of views, likes, comments	16 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	V&V of machine learning-based systems using simulators
Duration	3 min and 6 sec
Description of the video content	Joakim Rosell from RISE, Research Institute of Sweden, in this video speaks about the machine learning based systems simulators used as verification and validation methods. In details, he lists the motivations and the main goals of the method; furthermore an explanation of the its future improvements in VALU3S are depicted.
Number of views, likes, comments	25 views, 2 likes, 0 comments

Date of publication	15/06/2021
Title	Safety Case Re-Use
Duration	3 min and 56 sec
Description of the video content	VTI, the Swedish National Road and Transport Research Institute, presents the methodology which they intend to use within VALU3S project, Safety Case Re-Use and its goal. Moreover, they discuss about the methodology improvements which will be developed within VALU3S.
Number of views, likes, comments	11 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Driving Simulators as Verification and Validation Tools
Duration	3 min and 44 sec
Description of the video content	VTI, the Swedish National Road and Transport Research Institute, presents the driving simulators currently used by the company. Finally, they discuss about the future improvement in VALU3S regarding the driving simulators and the example applications.
Number of views, likes, comments	10 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Knowledge-Centric System Artefact Quality Analysis
Duration	3 min and 20 sec
Description of the video content	Jose Luis de la Vara from UCLM, Universidad de Castilla-La Mancha, e Luis Alonso from TRC, The Reuse Company, present the method which is part of their contribution within the VALU3S project, Knowledge-Centric System Artefact Quality Analysis. After an overview of the analysis, Jose Luis de la Vara depicts its future improvements during the project.
Number of views, likes, comments	2 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Use case 13: Industrial Drives for Motion Control
Duration	4 min and 9 sec

Description of the video content	Bernhard Fischer and martin Matschnig from SIEMENS present the use-case with a special reference to its role in VALU3S. Moreover, they list the needs for the use case and the expectations from VALU3S developments.
Number of views, likes, comments	20 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Risk Analysis
Duration	6 min and 25 sec
Description of the video content	Deborah Hugon from STAM presents the steps which are in the risk analysis and she shows the state of the art of the tool developed in previous projects by the company. Finally, she presents the future improvements which STAM will develop during the VALU3S project.
Number of views, likes, comments	2 views, 10 likes, 0 comments
Date of publication	15/06/2021
Title	Bi-directional On-chip-instrument-interface OCII
Duration	1 min and 33 sec
Description of the video content	Manuel Schmidt from NXP presents the method which they will use during the VALU3S development, the Bi-directional On-chip-instrument-interface OCII. After an overview of the method, the future improvements during the project are illustrated.
Number of views, likes, comments	18 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Remote testing capabilities
Duration	4 min and 10 sec
Description of the video content	Manuel Schmidt from NXP presents the remote testing capabilities of the company and the improvements which will be implemented during the developments of the VALU3S project.
Number of views, likes, comments	4 views, 0 likes, 0 comments

Date of publication	15/06/2021
Title	Smart test evaluation database
Duration	3 min and 42 sec
Description of the video content	Manuel Schmidt from NXP speaks about the smart test evaluation database, the method which will be used during the VALU3S development. Finally, he presents the improvements which will be implemented during the VALU3S project.
Number of views, likes, comments	4 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Test Case Generation from Meta-Language
Duration	3 min and 26 sec
Description of the video content	Manuel Schmidt from NXP speaks about the Test Case Generation from Meta-Language, one of the methods which will be used during the VALU3S development. Finally, he presents the improvements which will be implemented during the VALU3S project.
Number of views, likes, comments	7 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Machine Learning Model Validation
Duration	2 min and 28 sec
Description of the video content	Manuel Schmidt from NXP speaks about the Machine Learning Model Validation, one of the methods which will be used during the VALU3S development.
Number of views, likes, comments	6 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Failure Detection and Diagnosis (FDD)
Duration	7 min and 16 sec
Description of the video content	PUMACY TECHNOLOGY presents the methodology which uses during the development of the VALU3S project. After having illustrated the main

	objectives and described the methodology, the future improvements that will be obtained with the progress of the VALU3S project are shown.
Number of views, likes, comments	6 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Use Case 4: Human-Robot-Interaction in Semi-Automatic Assembly Processes
Duration	5 min and 19 sec
Description of the video content	PUMACY TECHNOLOGY presents the fourth use case of the VALU3S project with a special reference to its role in VALU3S. Moreover, they list the needs for the use case and the expectations from VALU3S developments.
Number of views, likes, comments	27 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Mutation Testing Based Fault Injection Tool (IM-FIT)
Duration	6 min and 14 sec
Description of the video content	IMGTD, Inovasyon Muhendislik Ltd. Sti., presents the methodology which uses during the development of the VALU3S project, the software Fault Injection Method. After having illustrated the main objectives and described the methodology, the future improvements that will be obtained with the progress of the VALU3S project are shown.
Number of views, likes, comments	24 views, 3 likes, 0 comments
Date of publication	15/06/2021
Title	Simulation-based Robot Verification Testing Tool (SRVT)
Duration	5 min and 25 sec
Description of the video content	IMGTD, Inovasyon Muhendislik Ltd. Sti., presents the methodology which uses during the development of the VALU3S project, the Simulation-based Robot Verification Testing Tool. After having illustrated the main objectives and described the methodology, the future improvements are shown.
Number of views, likes, comments	11 views, 2 likes, 0 comments

Date of publication	15/06/2021
Title	Penetration Testing
Duration	2 min and 36 sec
Description of the video content	OTOKAR presents one of the methodologies which uses during the development of the VALU3S project, the penetration testing. After having illustrated the main objectives and described the methodology, the future improvements are shown.
Number of views, likes, comments	3 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Runtime Verification Based on Formal Specification
Duration	2 min and 55 sec
Description of the video content	OTOKAR presents one of the methodologies which uses during the development of the VALU3S project, the Runtime Verification Based on Formal Specification. After having illustrated the main objectives and described the methodology, the future improvements are shown.
Number of views, likes, comments	7 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Simulation-Based Fault Injection at System Level
Duration	2 min and 47 sec
Description of the video content	OTOKAR presents one of the methodology which uses during the development of the VALU3S project, the Simulation-Based Fault Injection at System Level. After having illustrated the main objectives and described the methodology, the future improvements are shown
Number of views, likes, comments	7 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Use Case 11: Automated Robot Inspection Cell for Quality Control of Automotive Body-in-White
Duration	5 min and 22 sec

Description of the video content	OTOKAR presents the use case 11 with a special reference to its role in VALU3S. Moreover, they list the needs for the use case and the expectations from VALU3S developments.
Number of views, likes, comments	12 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Use Case 7: Human-Robot Collaboration in a Disassembly Process with Workers with Disabilities
Duration	6 min and 41 sec
Description of the video content	ALKADIN presents the use case 7 of the VALU3S project with a special reference to its role in VALU3S. Moreover, they list the needs for the use case and the expectations from VALU3S developments.
Number of views, likes, comments	18 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Use case 6: Agriculture Robot
Duration	5 min and 47 sec
Description of the video content	ESTE presents the use case 6 of the VALU3S project with a special reference to its role in VALU3S. Moreover, they list the needs for the use case and the expectations from VALU3S developments.
Number of views, likes, comments	9 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Model Based Safety Analysis with Failure Logic Analysis
Duration	5 min and 41 sec
Description of the video content	INTECS presents the methodology which uses during the development of the VALU3S project, the Model Based Safety Analysis with Failure Logic Analysis. After having illustrated the main objectives and described the methodology, the future improvements that will be obtained with the progress of the VALU3S project are shown.
Number of views, likes, comments	12 views, 0 likes, 0 comments

Date of publication	15/06/2021
Title	Use case 10: Safe function out-of-context
Duration	3 min and 46 sec
Description of the video content	BT presented the use case 10 of the VALU3S project with a special reference to its role in VALU3S. Moreover, they list the needs for the use case and the expectations from VALU3S developments.
Number of views, likes, comments	21 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	ULISES framework
Duration	3 min and 57 sec
Description of the video content	Mondragon University presents a method that is going to be applied in the use case 7, the Ulises framework
Number of views, likes, comments	5 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Vulnerability and Attack Injection
Duration	4 min and 56 sec
Description of the video content	José Fonseca from COIMBRA presents one of the methodologies which uses during the development of the VALU3S project, the Vulnerability and Attack Injection. After having illustrated the main objectives and described the methodology, the future improvements are shown.
Number of views, likes, comments	2 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Software-Implemented Fault Injection
Duration	3 min and 58 sec
Description of the video content	Frederico Cerveira from COIMBRA presents one of the methodologies which uses during the development of the VALU3S project, the Software-Implemented Fault Injection. After having illustrated the main objectives and described the methodology, the future improvements are shown

Number of views, likes, comments	15 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Model-Based Formal Specification and Verification of Robotic Systems
Duration	5 min and 46 sec
Description of the video content	ESOGU presents one of the methodologies which uses during the development of the VALU3S project, the Model-Based Formal Specification and Verification of Robotic Systems. After having illustrated the main objectives and described the methodology, the future improvements are shown
Number of views, likes, comments	18 views, 1 likes, 0 comments
Date of publication	15/06/2021
Title	Static Analysis
Duration	6 min and 46 sec
Description of the video content	BUT, Brno University of Technology, presents one of the methods which uses during the development of the VALU3S project, the Static Analysis. After having illustrated the main objectives and described the methodology, the future improvements are shown
Number of views, likes, comments	9 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Dynamic Analysis of Concurrent Programs
Duration	7 min and 59 sec
Description of the video content	BUT, Brno University of Technology, presents one of the methods which uses during the development of the VALU3S project, the Dynamic Analysis of Concurrent Programs. After having illustrated the main objectives and described the methodology, the future improvements are shown.
Number of views, likes, comments	7 views, 0 likes, 0 comments

Date of publication	15/06/2021
Title	Vulnerability Analysis of Cryptographic Modules Against Hardware-Based Attacks
Duration	4 min and 17 sec
Description of the video content	ERARGE, Ergünler Co., Ltd. R&D Center, presents one of the methodologies which uses during the development of the VALU3S project, the Vulnerability Analysis of Cryptographic Modules Against Hardware-Based Attacks. After having illustrated the main objectives and described the methodology, the future improvements are shown.
Number of views, likes, comments	17 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Interface fault injection
Duration	11 min and 35 sec
Description of the video content	Nuno Laranjeiro from COIMBRA presents one of the methodologies which uses during the development of the VALU3S project, the Interface fault injection. After having illustrated the main objectives and described the methodology, the future improvements are shown.
Number of views, likes, comments	17 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Use case 3: Radar System for ADAS
Duration	3 min and 8 sec
Description of the video content	Manuel Schmidt from NXP presents the use-case with a special reference to its role in VALU3S. Moreover, they list the needs for the use case and the expectations from VALU3S developments.
Number of views, likes, comments	27 views, 1 like, 0 comments
Date of publication	15/06/2021
Title	Virtual & Augmented Reality-Based User Interaction V&V and Technology Acceptance
Duration	3 min and 35 sec

Description of the video content	Arturo Garcia from UCLM, Universidad de Castilla-La Mancha, depicts one of the methods developed during the VALU3S project, Virtual & Augmented Reality-Based User Interaction Verification and Validation and Technology Acceptance. After an overview of the analysis, Arturo Garcia depicts its future improvements during the project.
Number of views, likes, comments	6 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Kalman filter-based fault detector
Duration	5 min and 46 sec
Description of the video content	Francesco Smarra and Alessandro D'Innocenzo from UnivAQ, Università degli Studi dell'Aquila, presents one of the two methodologies which uses during the development of the VALU3S project, the Kalman filter-based fault detector.
Number of views, likes, comments	46 views, 4 likes, 0 comments
Date of publication	15/06/2021
Title	Intrusion Detection for WSN based on WPM State Estimation
Duration	2 min and 22 sec
Description of the video content	UnivAQ, Università degli Studi dell'Aquila, presents one of the two methodologies which uses during the development of the VALU3S project, the Intrusion Detection for WSN based on WPM State Estimation.
Number of views, likes, comments	7 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Wireless interface network security assessment
Duration	5 min and 38 sec
Description of the video content	Fabio Patrone from UNIGE, University of Genoa, presents the method which they will develop and improve within the VALU3S project, Wireless interface network security assessment.
Number of views, likes, comments	13 views, 0 likes, 0 comments

Date of publication	15/06/2021
Title	Use case 9: Autonomous Train Operation
Duration	5 min and 51 sec
Description of the video content	CAF Signalling presents the use case 9 of the VALU3S project with a special reference to its role in VALU3S. Moreover, they list the needs for the use case and the expectations from VALU3S developments.
Number of views, likes, comments	19 views, 0 likes, 0 comments
Date of publication	15/06/2021
Title	Simulation-based Fault and Attack Injection at system-level
Duration	5 min and 31 sec
Description of the video content	Mateen Malik from RISE, Research Institute of Sweden, in this video explains the main phases of the Simulation-based Fault and Attack Injection at system-level and the future improvements during the developments within the VALU3S project
Number of views, likes, comments	16 views, 0 likes, 0 comments
Date of publication	15/07/2021
Title	VALU3S - First Training Session (Part 2 - Complete)
Duration	3 hours 0 min and 7 sec
Description of the video content	Second part of the VALU3S First Training Session that took place online on the 22nd of April 2021. In this second part, six training modules were presented that covered six different V&V methods that are part of the baseline of the project: 1. Virtual Architecture Development and Simulated Evaluation of Software Components with FERAL. 2. Simulating Traffic Scenarios using CARLA. 3. Model-Implemented Fault and Attack Injection. 4. Model-Based Assurance and Certification. 5. Model-Based Failure Logic Analysis. 6. An Introduction to Formal Specification and Verification.

Number of views, likes, comments	13 views, 0 likes, 0 comments
Date of publication	15/07/2021
Title	VALU3S - First Training Session (Part 1 - Complete)
Duration	2 hours 12 min and 26 sec
Description of the video content	First part of the VALU3S First Training Session that took place online on the 25th of March 2021. In this first part, five training modules were presented that covered five different V&V methods that are part of the baseline of the project: 1. Wireless Interface Network Security Assessment. 2. Runtime Verification Based on Formal Specifications. 3. Risk Analysis for Secure Automated Systems. 4. Introduction to Model Checking. 5. Simulation-based fault and attack injection at system level.
Number of views, likes, comments	25 views, 0 likes, 0 comments
Date of publication	21/04/2022
Title	Standardisation Training Session 1 - CEN ISO/IEEE 11073
Duration	43 min and 59 sec
Description of the video content	Medical Devices are key for improved wellbeing within our society, and growing to become more and more automated and address evergrowing challenging task in medical treatments. Learn more about CEN ISO/IEEE 11073, a standard focused on medical device communication, by watching this VALU3S training session
Number of views, likes, comments	6 views, 0 likes, 0 comments
Date of publication	21/04/2022
Title	Standardisation Training Session 5 - ANSI/UL 4600
Duration	27 min and 31 sec
Description of the video content	Autonomous Systems and products are a main player in the process of making our society more and more digital, helping us to overcome societal tasks with high degree of safety. Get to know more about one of the

	standards that focus on evaluating fully autonomous products requiring no human driver supervision.
Number of views, likes, comments	3 views, 0 likes, 0 comments
Date of publication	21/04/2022
Title	Standardisation Training Session 2 - ISO/SAE 21434
Duration	49 min and 29 sec
Description of the video content	Cybersecurity is a fundamental area to develop automated system on which we can trust! Get to know more about relevant standards focusing on this area by watching this training session!
Number of views, likes, comments	3 views, 0 likes, 0 comments
Date of publication	21/04/2022
Title	Standardisation Training Session 3 - ISO 26262
Duration	1 hours 21 min and 57 sec
Description of the video content	Do you want to get to know ISO 26262 and ISO/PAS 21448, two of the more relevant standards focused on safety? Take the opportunity and watch this video, where Christoph Schmitter, from VALU3S partner AIT, gives a very interesting overview about these two standards.
Number of views, likes, comments	5 views, 0 likes, 0 comments
Date of publication	21/04/2022
Title	Standardisation Training Session 4 - DO-178C
Duration	52 min and 33 sec
Description of the video content	DO-178C is the de facto document by which the certification authorities all commercial software-based aerospace systems. Get to know more about this standard, and its associated DO-333 supplement by watching this VALU3S training session.
Number of views, likes, comments	4 views, 0 likes, 0 comments

2.1.3.4 Analysis of Social Media Channels Statistics

The results achieved during the second year of the project provides the basis to fix the communication strategy weaknesses and set new objectives to be achieved in the coming months. In this section, the

data obtained from web analytics in the quarters 5-8 of the project are reported and analysed. For each quarter and each social media channel, the values recorded and the variation between these and those relating to the previous quarter are illustrated. The variations related to Q5 refer also to the values reported in the previous deliverable for Q4.

Analysis of Social Media Channels Statistics for the 5st Quarter (Q5)

The results of the website analysis in the fifth quarter are presented in Table 2.4. The number of site visitors is up from the previous quarter, as is the number of visitors returning to the page. Despite this, the number of pageviews and new visitors is lower than the values previously evaluated. Note that, the bounce rate occurs when a user leaves the site after having viewed a single web page within few seconds. The percentage showed in the tables indicates how many users visit the website for a short time compared to the total number of users who access it. This is up from the fourth quarter.

Table 2.4 Website analytics of the fifth quarter (M13-M15)

	Website (valu3s.eu)		
	Statistics	**Q5**	**Variation compared to previous Quarter**
M13-15	**Number of Sessions**	1511	+61
	Number of pageviews	2895	-27
	Bounce rate (%)	58,57%	+15,25%
	New Visitors	814	-195
	Returning visitors	364	+327

Moreover, the feedback received from the project's LinkedIn (Table 2.5) account is relatively growing. In particular, the number of new updates stands out, which has increased significantly compared to the previous quarter.

Table 2.5 LinkedIn analytics for the fifth quarter (M13-M15)

	LinkedIn		
	Statistics	**Q5**	**Variation compared to previous Quarter**
M13-15	**Number of posts published**	30	+15
	Number of new followers	20	+12
	Number of total followers	224	+20
	New updates (reactions, comments, share)	574	+308
	Engagement rate, calculated as: (Clicks + Likes + Comments + Shares + Follows) / Impressions	6%	-2,2%
	Total number of visitors	75	-33

Twitter (Table 2.6) has a low number of subscriptions and interactions compared to LinkedIn. This is due to the lower popularity of this social media channel within the general audience; in this year

followers have grown, therefore the strategy to maintain Twitter as an alternative of LinkedIn can be considered worth to be kept also during the last year of the project. Even if the size of the audience of Twitter is limited, it is essential to exploit this channel to cover a wider spectrum of potential end-users interested in VALU3S outcomes. All the parameters belonging to the statistics are almost constant with respect to the previous quarter with the exception of the number of impressions: these show an exceptionally high value with a high variation with respect to the previous reference period.

Table 2.6 Twitter analytics for the fifth quarter (M13-M15)

	Twitter		
	Statistics	**Q5**	**Variation compared to previous Quarter**
M13-15	**Number of Tweets**	23	+14
	Number of new followers	6	-3
	Number of total followers	53	+6
	Number of Link clicks	0	+0
	Number of Retweets	14	+10
	Number of Likes	15	+7
	Number of Replies	0	+0
	Number of Impressions	3240	+809

As can be seen in Table 2.7, in the fifth quarter numerous videos have been published, highly viewed, and the number of subscribers has increased. Despite this, there has been no increase in impressions (likes, dislikes or shares). This indicates poor video publicizing activities. As a corrective action, in the next post promoting the publication of new videos visitors will be encouraged to share the videos they like.

Table 2.7 YouTube analytics for the fifth quarter (M13-M15)

	YouTube		
	Statistics	**Q5**	**Variation compared to previous Quarter**
M13-15	**Number of videos uploaded**	50	+45
	Number of Subscribers	37	+7
	Number of likes	0	-4
	Number of Dislikes	0	+0
	Number of Shares	0	+0
	Number of views for all uploaded videos	624	+393

Analysis of Social Media Channels Statistics for the 6th Quarter (Q6)

The values recorded on the website (Table 2.8) are lower in the sixth quarter than the previous one. Such fluctuation of the data is acceptable, considering that absolute number of visitors is still high compared with expectations defined in the Communication KPIs.

Table 2.8 Website analytics for the sixth quarter (M16-M18)

	Website (valu3s.eu)		
	Statistics	**Q6**	**Variation compared to previous Quarter**
M16-18	**Number of Sessions**	926	-585
	Number of pageviews	1758	-1137
	Bounce rate (%)	68,25%	+9,7%
	New Visitors	591	-223
	Returning visitors	28	-336

The LinkedIn analytics (Table 2.9) reports mostly negative data: the number of reactions is decreasing deeply, while the number of visitors, post published and new followers have decreased slightly. Low values of this indicators can be due also to the fact that this quarter occurred during summer, indeed it is quite normal to observe a decrease of traffic because of holidays (especially in LinkedIn, which is dedicated to business activity). Despite these negative values, the number of total followers and engagement rate increased marginally.

Table 2.9 LinkedIn analytics for the sixth quarter (M16-M18)

	LinkedIn		
	Statistics	**Q6**	**Variation compared to previous Quarter**
M16-18	**Number of post published**	6	-24
	Number of new followers	10	-10
	Number of total followers	234	+10
	New updates (reactions, comments, share)	99	-475
	Engagement rate, calculated as: (Clicks + Likes + Comments + Shares + Follows) / Impressions	7%	1%
	Total number of visitors	52	-23

The numbers relating to activities on Twitter (Table 2.10) show slight fluctuations compared with the previous quarter, with the exception of the number of impressions, which is significantly lower than in the previous month. This could be acceptable considering that Q5 achieved very significant results in term of audience.

Table 2.10 Twitter analytics for the sixth quarter (M16-M18)

	Twitter		
	Statistics	**Q6**	**Variation compared to previous Quarter**
M16-18	**Number of Tweets**	4	-19
	Number of new followers	7	+1
	Number of total followers	60	+7
	Number of Link clicks	0	+0
	Number of Retweets	2	-12
	Number of Likes	4	-11
	Number of Replies	0	+0
	Number of Impressions	2061	-1179

Finally, YouTube numbers (Table 2.11) indicate that no new videos have been uploaded in this quarter. This explains the decrease in viewing of all videos since the lack of new videos did not capture user attention on the VALU3S channel.

Table 2.11 YouTube analytics for the sixth quarter (M16-M18)

	YouTube		
	Statistics	**Q6**	**Variation compared to previous Quarter**
M16-18	**Number of videos uploaded**	0	-50
	Number of Subscribers	40	+3
	Number of likes	0	+0
	Number of Dislikes	0	+0
	Number of Shares	0	+0
	Number of views for all uploaded videos	343	-281

Analysis of Social Media Channels Statistics for the 7st Quarter (Q7)

The interactions recorded on the website (Table 2.12) have increased in this quarter, with a bounce rate which reports a very slight decrease. This could mean that the attention to the website led to new sessions and increased interest in the page.

Table 2.12 Website analytics for the seventh quarter (M19-M21)

	Website (valu3s.eu)		
	Statistics	**Q7**	**Variation compared to previous Quarter**
M19-21	**Number of Sessions**	1185	+259
	Number of pageviews	2213	+455
	Bounce rate (%)	67.34%	-1%
	New Visitors	817	+226
	Returning visitors	148	+148

The activities on LinkedIn (Table 2.13) show a positive trend: a valued number of posts have been published and a bunch of new followers have been achieved also during this quarter. The content of these posts must be improved because the engagement rate seems to remain stagnant in the different quarters.

Table 2.13 LinkedIn analytics for the seventh quarter (M19-M21)

	LinkedIn		
	Statistics	**Q7**	**Variation compared to previous Quarter**
M19-21	**Number of post published**	13	+7
	Number of new followers	33	+23
	Number of total followers	267	+33
	New updates (reactions, comments, share)	209	+110
	Engagement rate, calculated as: (Clicks + Likes + Comments + Shares + Follows) / Impressions	6%	-0,2%
	Total number of visitors	89	+37

In this quarter Twitter (Table 2.14) shows slight positive variations. The number of impressions is very high, so it is a strength of this social media channel.

Table 2.14 Twitter analytics for the seventh quarter (M19-M21)

	Twitter		
	Statistics	**Q7**	**Variation compared to previous Quarter**
M19-21	**Number of Tweets**	15	+11
	Number of new followers	10	+3
	Number of total followers	70	+10
	Number of Link clicks	0	+0
	Number of Retweets	17	+15
	Number of Likes	23	+19
	Number of Replies	0	+0
	Number of Impressions	2554	+493

Finally, in this quarter no new video has been uploaded on YouTube (Table 2.15), so all the parameters are significantly constant with the exception of the number of subscribers and the number of video viewings, which increased slightly compared with the values recorded in the previous quarter. It is clear that the best way to keep the momentum is to frequently publish new videos planning in advance a schedule which should cover the last year of the project. The schedule will specify contents and timing of the videos to be published.

Table 2.15 YouTube analytics for the seventh quarter (M19-M21)

	YouTube		
	Statistics	**Q7**	**Variation compared to previous Quarter**
M19-21	**Number of videos uploaded**	5	+5
	Number of Subscribers	49	+9
	Number of likes	0	+0
	Number of Dislikes	0	+0
	Number of Shares	0	+0
	Number of views for all uploaded videos	407	+64

Analysis of Social Media Channels Statistics for the 8th Quarter (Q8)

The values associated to the activities on the website (Table 2.16) show an increase about the number of sessions, pageviews and new visitors. It could be a consequence of the high amount of new articles published in the blog and advised through the social medias. Moreover, the returning visitors result in a higher number than the previous quarter. Finally, the bounce rate decreases compared to the values recorded in the previous quarter. This negative result could be due to an insufficient involvement of visitors and that whoever enters the website is not really intrigued by the content.

Table 2.16 Website analytics for the eighth quarter (M22-M24)

	Website (valu3s.eu)		
	Statistics	Q8	**Variation compared to previous Quarter**
M22-24	**Number of Sessions**	1680	495
	Number of pageviews	3454	1241
	Bounce rate (%)	48,39%	-19%
	New Visitors	1218	401
	Returning visitors	224	76

The number shown by the analysis of the exploitation of the LinkedIn channel to disseminate the project (depicted in Table 2.17) represent a slight increase on the total number of followers, while all the other parameters are decreasing. This implies that in the third year of the project we will need to use this channel in a smarter way with the aim of capturing more of the users' attention.

Table 2.17 LinkedIn analytics for the eighth quarter (M22-M24)

	LinkedIn		
	Statistics	Q8	**Variation compared to previous Quarter**
M22-24	**Number of post published**	12	-1
	Number of new followers	9	-24
	Number of total followers	276	9
	New updates (reactions, comments, share)	125	-84
	Engagement rate, calculated as: (Clicks + Likes + Comments + Shares + Follows) / Impressions	5%	-1%
	Total number of visitors	59	-30

Consistently with the data obtained for the previous quarters, Twitter is the least used the social media compared to other channels (see Table 2.18). However, there is a negative variation compared to the previous quarter, in particular regarding the number of total impressions and reactions which has decreased significantly. This is due to the low number of tweets published compared to the previous quarter, which did not allow it to attract the attention of many and new users.

Table 2.18 Twitter analytics for the eighth quarter (M22-M24)

	Twitter		
	Statistics	**Q8**	**Variation compared to previous Quarter**
M22-24	**Number of Tweets**	9	-6
	Number of new followers	0	-10
	Number of total followers	70	0
	Number of Link clicks	0	0
	Number of Retweets	23	6
	Number of Likes	24	1
	Number of Replies	0	0
	Number of Impressions	2482	-72
	Number of total reactions (likes + comments + retweets + shares)	2529	-65

Finally, YouTube (Table 2.19) reports a significant increase in terms of number of views for all uploaded videos. Instead, the other parameters have remained almost the same of the previous quarter, but this is justified by the low number of new uploaded videos. In the next year, a new approach involving the release of videos more extended in time and not all at once could be followed.

Table 2.19 YouTube analytics for the eighth quarter (M22-M24)

	YouTube		
	Statistics	**Q8**	**Variation compared to previous Quarter**
M22-24	**Number of videos uploaded**	0	0
	Number of Subscribers	54	5
	Number of likes	0	0
	Number of Dislikes	0	0
	Number of Shares	0	0
	Number of views for all uploaded videos	570	163

2.1.3.5 New Contents for the Third Year

In order to keep the social medias active and produce interesting contents that can maximize engagement of the audience, the Consortium is already working on new contents. Specifically:

- *Use-case interviews:* a short video interview in which use-case owners can describe their needs and how VALU3S tools and methods have showcased to be capable to solve them. The interviews will be recorded in the second half of the third year of the project, exploiting live meetings (e.g., General Assembly) or tools to enable remote interviews.

- *VALU3S final video:* as in the first year of the project a VALU3S video-teaser has been introduced in order to describe objectives of the project, it is foreseen to realize a final video in which demonstrations of solutions developed are showcased.

It is clear that contents already organized, such as Partner profiles, publications, blog articles, etc. are intended to be continued up to the end of the project and, whenever possible, increased in frequency, quantity and quality.

2.2 Participation in Events

One of the pillars of VALU3S Communication strategy is the undertaking of communication activities during events, both arranging them to present project outcomes and also participation in fairs, conferences, etc.

Unfortunately, the parallel outbreak of the COVID-19 pandemics [3], which has heavily affected the whole first and second year of the project, has significantly limited the possibility to arrange and/or participate in live events. As a backup plan, VALU3S consortium has participated in several online events, even if the engagement is quite far from that of face-to-face presentation and speeches. On the other hand, online events have been also an opportunity to create dedicated communication materials to spread VALU3S project awareness among stakeholders and people of both industrial and scientific communities. Note that, these contents have been created for the first year of the project, but they are still valid for the second year.

2.2.1 Creation of Communication Materials for Events

With the goal of building typical communication materials that are suited to events, two posters and two flyers were prepared containing the fundamental information necessary to effectively convey the importance of the research, innovation, and developments that are being targeted by the VALU3S consortium, and how that can bring considerable impact to highly automated systems.

For the case of the posters, a roll-out and a typical A0 sized poster, the following information is present:

- **Identification:** name and acronym of the project.
- **Ambition:** identifies the overarching problem being addressed by the project, an provides a short text highlighting how the project will indeed address the problem.
- **Envisioned V&V framework:** an image identifying the dimensions and layers of the envisioned V&V framework, and their validation on use cases.
- **Application domains:** identification of the several application domains targeted by VALU3S use cases.
- **Consortium:** identification of the countries involved in the project, the logos of the members of the consortium, and a depiction of the geographical distribution along European territory.
- **Acknowledgments:** the legal text acknowledging the project's funding entities

The project is presented in its roll-out version in Appendix A.1 and in its A0 format in Appendix A.2.

Regarding the produced leaflet, the information present is the following:

- **Identification:** name and acronym of the project, the links for the project's pages in the three social networks considered by the project, which are LinkedIn, Twitter, and YouTube, and finally the link for the project's website.
- **Contacts:** the contact of the project coordinator and of the institution.

- **Ambition (about the project):** identifies the overarching problem being addressed by the project, an provides a diagram and short text highlighting how the project will indeed address the problem.
- **Envisioned V&V framework:** an image identifying the dimensions and layers of the envisioned V&V framework, and their validation on use cases.
- **Application domains:** identification of the several application domains targeted by VALU3S use cases.
- **Consortium:** identification of the countries involved in the project, the logos of the members of the consortium, and a depiction of the geographical distribution along European territory.
- **Acknowledgments:** the legal text acknowledging the project's funding entities

The actual leaflet is presented in Appendix A.3 and in Appendix A.4.

Finally, we consider important to note that as the project progresses, refinement to the presented materials or the production of new materials assuming the same forms will take place, according to the identified needs.

2.2.2 Past Events

Due to the impossibility to participate to live conferences and fairs during the first and the second year of the project, VALU3S partners have tried to sponsor the project and its activities during online events. In the following, a list of events arranged by the consortium or in which one or more partners have participated is reported.

Formal Methods for Autonomous Systems

The workshop on Formal Methods for Autonomous Systems (FMAS 2021) was held on the 21st and 22nd of October 2021 online due to the COVID-19 restrictions. Formal Methods are a broad range of mathematically-based techniques for robust software development. Autonomy presents a variety of challenges to verification and validation, and the workshop invited researchers from both the Autonomy and Formal Methods communities to present their work on the robust verification and validation of almost any kind of autonomous or automated system. FMAS 2021 featured research presentations covering a broad range of topics and sectors within the scope of the workshop. The 12 accepted papers contained examples of autonomy in railway dispatching, medical treatments, autonomous vehicles, and in human-autonomy collaboration, for example. The papers covered many styles of autonomy, including work on Belief-Desire-Intention Agents and a variety of Machine Learning approaches. A wide range of Formal Methods were presented as well, including Runtime Verification, Model Checking, and Theorem Proving.

FMAS 2021 had two invited speakers, who presented larger collections of work. Prof. Clare Dixon from the University of Manchester in the UK, presented a broad collection of research on the topic of verifying autonomous robot systems. Dr Divya Gopinath from the Robust Software Engineering (RSE) group at NASA Ames Research Center in the USA, presented a variety of formal approaches to quantify and verify Deep Neural Networks.

EFECS2021

On 23th and 25th November 2021, a team representing VALU3S project has participated to EFECS2021 [16], an international fair concerning electronic systems and components. The edition of 2021 has been held online, however the event has hosted speeches and presentation from relevant industrial, as well as from European Commission representatives.

VALU3S team has exploited the possibility to create a virtual interactive booth hosted in an online platform provided by EFECS organizers themselves. The booth has been enriched with information

about the projects and media contents, such as roll-out and leaflet (described in the section before) and a short video explaining the project in a nutshell available at this link [17].

Furthermore, within the booth there was also the possibility to have one-to-one chat and calls with visitors, like in a real fair booth. The final appearance of the booth is shown in Figure 2.3.

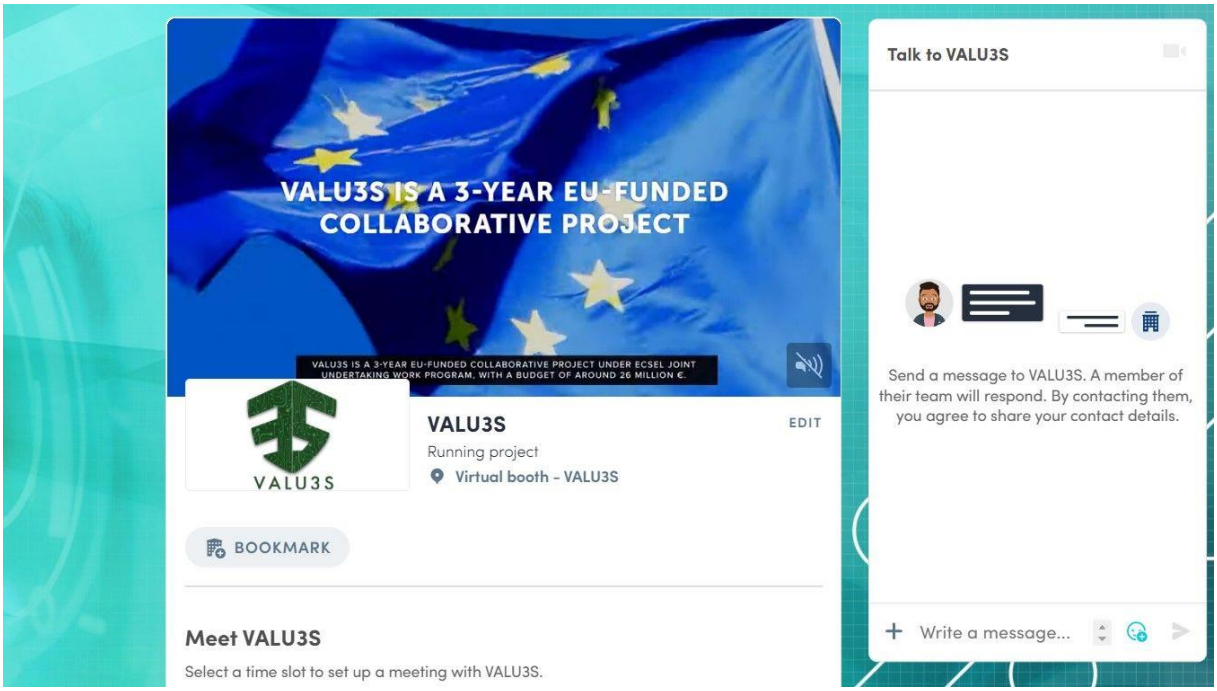


Figure 2.3 Final appearance of the booth during EFECS2020

CRITICAL-CHAINS Workshop

VALU3S project has been represented at the public online workshop organized by CRITICAL CHAINS consortium [18] on 17th December 2021. Critical-Chains is a 3-year research and innovation programme funded with the support of the European Commission Horizon 2020 Programme with a focus on Internet of Things (IOT) & Blockchain-Enabled Security Framework for Fintech Integrated New Generation Cyber-Physical Systems to support the Financial Sector. The Critical-Chains Consortium represents a strong chemistry of relevant expertise and an inclusive set of stakeholders comprising end-users (customers), Corporate Equity Reduction Transactions (CERTs) the financial sector (Banks & Central CounterPartiess) and the Insurance sector.

Because of common topics between the projects and because of the establishment of an official liaison within Task 6.4, VALU3S was invited to present project objectives and progresses to CRITICAL CHAINS consortium and to external stakeholders invited to the event.

2.2.3 Planned Events

In order to schedule in advance the participation to relevant events, a shared spreadsheet has been created to periodically collect input from partners about planned participation to events in coming months. Table 2.20 contains all the events currently indicated by the VALU3S partners for the third year of the project (from May 2022 to April 2023):

Table 2.20 All the planned events for the third year of the project

VALU3S participant	Event	Type	Date	Venue
UCLM	3rd International Workshop on Quality and Measurement of Software Model-Driven Development (QUAMES) 2022	Workshop	May 17, 2022	Barcelona, Spain
UCLM	16th International Conference on Research Challenges in Information Science (RCIS 2022)	Conference	17-20 May 2022	Barcelona, Spain
NXP	International Wireless Industry Consortium (IWPC) Workshop on Radar 2023	Workshop	20-21 May 2023	Berlin
Otokar	Busworld Turkey	Fair	26-28 May 2022	İstanbul, Turkey
CAF	World Congress on Railway Research 2022	Conference	6-10 June 2022	Birmingham, United Kingdom
INFOTIV	Eurostar	Conference	7-10 June 2022	Copenhagen, Denmark
FRAUNHOFER, AIT, BUT	3rd Summer School on Cyber Physical Systems and Internet of Things	Summer School	7-11 June 2022	Budva, Montenegro & Online
UCLM	XXV Ibero-American Conference on Software Engineering (CIbSE 2022)	Conference	20-24 June 2022	Cordoba, Argentina (online conference for most of its parts)
RISE	The 52nd Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN)	Conference	27-30 June 2022	Baltimore, Maryland, USA

VALU3S participant	Event	Type	Date	Venue
IMTGD	International Conference on INnovations in Intelligent SysTems and Applications	Conference	8-12 August 2022	Biarritz, France
ALDAKIN MGEP	31st IEEE International Conference on Robot & Human Interactive Communication	Conference	29 August - 2 September 2022	Naples, Italy
UCLM	9th International Workshop on Next Generation of System Assurance Approaches for Critical Systems (SASSUR 2022)	Workshop	06 September 2022	Online
RISE	The 41st International Conference on Computer Safety, Reliability and Security	Conference	6-9 September 2022	Munich, Germany
RISE	18th European Dependable Computing Conference	Conference	12-15 September 2022	Zaragoza, Spain
IMTGD	Signal Processing and Communications Applications Conference (SİU) 2022	Conference	16-18 May 2022	Safranbolu, Turkey
IMTGD	Turkish Robotics Conference	Conference	5-6 May 2022	Istanbul, Turkey
IMTGD	Innovations in Intelligent Systems and Applications Conference	Conference	7-9 September 2022	Antalya, Turkey

Furthermore, VALU3S plans to employ considerable efforts in organizing a winter school in the third year of the project. Although the final date is not yet defined (nor the location or other organizational details), it is expected that such a winter school will take place early in 2023.

Moreover, it is also a target of the project to organize at least on training workshops to external audiences and efforts will be maintained in monitoring for opportunities to organize VALU3S sponsored events co-located with larger forums, such as international conferences in the areas within the scope of the project. Furthermore, VALU3S Consortium plans to organize a series of public

workshops during summer and autumn 2022, as well as other conferences to disseminate first outcomes of the second year of the project.

2.3 Liaisons with Other Related Projects

The establishment of liaisons with other related projects has been included into VALU3S Communication activities in order to build fruitful relationships with other R&D projects concerning the topics faced in VALU3S, as well as to maximise the impact of the dissemination actions by reaching the widest audience possible. Projects have been selected when the establishment of a mutually beneficial liaison is possible, when the topics treated in both projects are similar, as well as the objectives they aim to achieve. Moreover, these actions aim to ensure the birth of opportunities for exploitation of the VALU3S platform after the project. Initially, partners carried out a screening of potential related projects in which at least one partner of Task 6.4 is involved. In order to facilitate the communication between the two Project consortia, a Liaison Manager has been appointed, i.e., a specific person in charge of managing the communication related to the aforementioned actions and representing VALU3S at external events of the other Project. Specifically, the Liaison Manager should fulfil the following duties:

- The Liaison Manager should contact the Coordinator of the Other Related Project, send to him the Informal Letter for Liaison establishment (see Appendix A.5) via email and wait for a positive feedback;
- The Liaison Manager should invite a representative of the Other Related Project to join any event open to public arranged by VALU3S Consortium by sending an official invitation to the Coordinator of the Other Related Project at least 30 days before the date fixed for the event. This action should be carried out both for online and live events;
- The Liaison Manager should participate to any public event (remote or live) arranged by the Other Related Project and, if possible, represent the VALU3S project by means of speech, presentation, distribution of material or any other communication actions;
- The Liaison Manager should inform the Coordinator of the Other Related Project about any dissemination and communication action whom the VALU3S Communication team consider worth to be shared with external entities;
- The Liaison Manager should contact the Dissemination Manager of the Other Related Project to gather a content to be used to prepare a post concerning the Other Related Project which will be published on VALU3S social media channels;
- The Liaison Manager should provide the Dissemination Manager of the Other Related Project with a content to be published on social media channels of the Other Related Project. This content will be prepared in Task 6.4.

2.3.1 List of Other Related Projects

The following tables (from Table 2.21 to Table 2.34) contain the selected other projects invited to the Liaison and a brief description. The projects have been selected starting from the first screening made within D6.6 [1], which has been refined in the following months.

In detail, for each project some information will be reported such as the partner coordinating the project, its duration and one or more points of contact with VALU3S project (e.g., topics, activities, etc.).

Table 2.21 SAFETY4RAILS project

Acronym of the project	SAFETY4RAILS

Complete title of the project	Data-based analysis for safety and security protection, for detection, prevention, mitigation and response in trans-modal metro and railway networks
Type of project	H2020: SU-INFRA01-2018-2019-2020, Prevention, detection, response and mitigation of combined physical and cyber threats to critical infrastructure in Europe; Innovation Action
Coordinator	Fraunhofer-Gesellschaft, Ernst-Mach-Institut
Duration	24 months (October 2020 – September 2022)
Description	Railways and Metros are safe, efficient, reliable and environmentally friendly mass carriers, and they are becoming even more important means of transportation given the need to address climate change. However, being such critical infrastructures turns metro and railway operators as well as related intermodal transport operators into attractive targets for cyber and/or physical attacks. The SAFETY4RAILS project will deliver methods and systems to increase the safety and recovery of track-based inter-city railway and intra-city metro transportation. It addresses both cyber-only attacks (such as impact from WannaCry infections), physical-only attacks (such as the Madrid commuter trains bombing in 2014) and combined cyber-physical attacks, which an important emerging scenario are given increasing IoT infrastructure integration.
Common aspects with VALU3S	• Vulnerability analysis of digitised infrastructures • Cyber-physical security and safety threat modelling • Verification and validation of automated systems in critical infrastructures Shared partners: ERARGE, STAM

Table 2.22 SECREDAS project

Acronym of the project	SECREDAS
Complete title of the project	Product Security for Cross Domain Reliable Dependable Automated Systems
Type of project	ECSEL
Coordinator	NXP Semiconductors (NL)
Duration	36 months (May 2018 – April 2021)
Description	The SECREDAS project consortium will build a reference architecture for Secure and Safe Automated systems compliant with the new GDPR Regulation. SECREDAS strives to increase trust into cyber-physical systems by establishing new design and development methodologies to integrate cross-domain cybersecurity and safety related technologies.
Common aspects with VALU3S	SECREDAS is one of the first funded ECSEL Joint Undertaking projects that looks at security, safety and privacy across multiple application domains: Road, Rail and Health. VALU3S follows up on this, sharing the aspects of security, safety and privacy in an even larger group of domains

	(including industrial control), but with a focus on validation and verification instead of design and development. Shared partners are: AIT, BUT, FRAUNHOFER, RISE

Table 2.23 SHAREWORK project

Acronym of the project	SHAREWORK
Complete title of the project	Safe and effective human-Robot cooperation towards a better competiveness on current automation lack manufacturing processes.
Type of project	H2020
Coordinator	EURECAT, Centre Tecnologic de Catalunya
Duration	48 months (November 2018 - October 2022)
Description	SHAREWORK project develops a Europe-wide smart modular solution integrated by different software and hardware modules to allow robots to physically interact with humans within a collaborative production environment without the need for physical protection barriers. The project boosts process productivity and improves the ergonomics and safety of those workstations where it is implemented.
Common aspects with VALU3S	• SHAREWORK is totally focused on automated systems, especially collaborative robots • One of SHAREWORK topic is safety of the robotic system • Validation and verification methods are exploited to ensure safety of automated systems Shared Partners: STAM, FRAUNHOFER

Table 2.24 CyReV project

Acronym of the project	CyReV (phase I and II)
Complete title of the project	Cyber Resilience for Vehicles
Type of project	Swedish national project funded by Vinnova FFI
Coordinator	Volvo Technology AB (RISE is a partner in the consortium)
Duration	42 months (April 2019 – December 2022)
Description	The introduction of autonomous and connected vehicles has brought new cybersecurity challenges to the automotive industry and put requirements on the dependability of vehicles in the presence of cyber-attacks. CyReV focuses on cybersecurity for automotive in-vehicle systems in a changing environment.
Common aspects with VALU3S	Verification and validation, fault and attack injection, safety and cybersecurity analysis, interplay between safety and cybersecurity.

	Shared partners: RISE

Table 2.25 Critical-chains project

Acronym of the project	Critical-Chains
Complete title of the project	IOT- & Blockchain-Enabled Security Framework for New Generation Critical Cyber-Physical Systems In Finance Sector
Type of project	H2020- SU-DS05-2018-2019 - Digital security, privacy, data protection and accountability in critical sectors Research & Innovation Action
Coordinator	University of Reading
Duration	36 Months (July 2019-June-2022)
Description	Cyber-physical systems refer to systems requiring interaction between computers, communication channels and physical devices. These are used in numerous transactions including banking processes, insurance infrastructures, financial procedures and others. Designed to make things easier, they also face many threats. The EU-funded Critical-Chains project aims to offer a triangular accountability solution bringing a novel integrated security model and framework to effectively support privacy and protect from illegal transactions, money trafficking and internet fraud. Fast and client-friendly, thanks to innovative cloud-based "X-as-a Service", it will be tested for social, ethical, legal and reliability values and validated for banking, insurance and financial markets.
Common aspects with VALU3S	• Both projects cover the topics related to the protection of critical infrastructures which are defined in the NIS Directive • ENISA threat taxonomy and cyber-physical protection in IoT-enabled smart financial systems are parallel to the SCP notion in VALU3S • Use of AI for flow modelling and anomaly detection similar to the V&V notion in VALU3S • Hardware- and software-based cyber resilience solutions are being developed in both projects. Shared Partners: ERARGE

Table 2.26 DCE3C Programme

Acronym of the project	DCE3C Programme
Complete title of the project	Dependability Co-Engineering Programme
Type of project	Project in preparation (ECSEL KDT (Key Digital Technologies) or H2020/Horizon Europe)
Coordinator	Thales France

Duration	Continuous Activity
Link	LinkedIn group: https://www.linkedin.com/groups/13935472/
Description	SIEMENS and AIT were part of the predecessor project AQUAS, where Dependability Co-engineering (DCE) was in focus. Since Dependability attributes like Safety, Security and Reliability are at the heart of VALU3S there is a very strong link to DCE. Even AQUAS is over now there are ongoing activities to foster DCE and establish a sustainable community. SIEMENS and AIT are part of the coordination comity of the "DCE Programme" founded by Thales. This informal initiative is a good hub to interlink VALU3S with other ongoing and upcoming projects.
Common aspects with VALU3S	Six of the VALU3S partners were already involved in AQUAS: RGB, BUT, INTECS, SIEMENS, UNIVAQ and AIT AQUAS Methodology includes Combined Safety/Security analysis methods as enhancement of standard V&V processes. There is as strong link to Industrial Drives for Motion Control use case, which build up on results of AQUAS.

Table 2.27 Treasure project

Acronym of the project	Treasure
Complete title of the project	Improved Automated Traceability for Assurance of Safety-Critical Systems
Type of project	Regional
Coordinator	UCLM, Jose Luis de la Vara
Duration	39 months (Jan 2020 – Mar 2023)
Description	Treasure aims to increase the cost-effectiveness of automated traceability for SCS assurance by developing a model-driven and ontology-based approach.
Common aspects with VALU3S	Both VALU3S and Treasure deal with the improvement of traceability management by means of techniques that exploit ontologies. Traceability information quality is another area of interest in common. Shared partner: UCLM

Table 2.28 iRel40 project

Acronym of the project	iRel40
Complete title of the project	Intelligent Reliability 4.0

Type of project	ECSEL
Coordinator	Infineon (TRC and UCLM are partners)
Duration	36 months (May 2020 – Apr 2023)
Description	iRel40 has the ultimate goal of improving reliability of electronic components and systems by reducing failure rates along the entire value chain.
Common aspects with VALU3S	Quality of automated systems is an area on which both projects will work. The use of model-based techniques and of ontology-based ones to this end is another point in common. Shared partners: TRC, UCLM

Table 2.29 Arrowhead Tools project

Acronym of the project	Arrowhead Tools
Complete title of the project	Arrowhead Tools for Engineering of Digitalisation Solutions
Type of project	ECSEL
Coordinator	Luleå Tekniska Universitet
Duration	39 months (May 2019 – Jul 2022)
Description	The Arrowhead Tools project aims for digitalisation and automation solutions for the European industry, which will close the gaps that hinder the IT/OT integration by introducing new technologies in an open-source platform for the design and run-time engineering of IoT and System of Systems. The project will provide engineering processes, integration platform, tools and tool chains for the cost-efficient development of digitalisation, connectivity and automation system solutions in various fields of application.
Common aspects with VALU3S	The engineering processes, integration platform, tools and tool chains that Arrowhead Tools is considering includes V&V aspects. Shared partners: TRC

Table 2.30 NewControl project

Acronym of the project	NewControl
Complete title of the project	Integrated, Fail-Operational, Cognitive Perception, Planning and Control Systems for Highly Automated Vehicles
Type of project	ECSEL
Coordinator	AVL List

Duration	45 months (Apr 2019 – Dec 2022)
Description	NewControl will develop and deliver virtualized platforms for each vehicular sub-system essential to autonomous operation at SAE Level 3+. Each of these unifies the critical components required to realize a specific function – perception, cognition, control – through vertical integration within an adaptive (not rigid) architectural framework. The resulting virtual platforms effectively deliver specific functionalities as services to the vehicular platform, abstracting internal implementation, enabling portability to different application domains, and facilitating modular development of automation that is guaranteed as safe by design.
Common aspects with VALU3S	NewControl also deals with V&V of automated systems; more concretely, of autonomous vehicle features. Solutions that consider system artefact quality management and compliance with standards will be developed in NewControl and in VALU3S. Shared partners: TRC

Table 2.31 IoD project

Acronym of the project	IoD
Complete title of the project	Internet of DevOps
Type of project	Celtic-Plus
Coordinator	KTH
Duration	36 months (Jan 2019 – Dec 2021)
Description	IoD is developing a methodology on how to apply DevOps principles in large organizations, taking into account typical constraints from classical Telecom & CPS industries, e.g., related to the integration of legacy systems, or the need to perform quality assurance of processes. Basic integration services deployed on Internet and Cloud technologies will be provided for supporting lifecycle traceability across data silos, and for enhancing process automation, i.e., paving the way towards Future Internet for integrated development and operational environments for software-intensive applications.
Common aspects with VALU3S	Method integration, tool integration, and traceability are areas that both IoD and VALU3S address. Shared partners: TRC

Table 2.32 HUBCAP project

Acronym of the project	HUBCAP
Complete title of the project	Digital Innovation HUBs and Collaborative Platform for Cyber-Physical Systems

Type of project	H2020
Coordinator	Aarhus University
Duration	36 months (Jan 2020 – Dec 2022)
Description	The HUBCAP project aims at establishing a cloud-based center of innovation and collaboration among companies, research institutes and competence centers to help SMEs try and adopt Model-Based Design (MBD) technology. It builds on seven established Digital Innovation Hubs (DIHs) in seven European countries, each embedded in its regional innovation ecosystem, offering complementary technical expertise, experimental capabilities, and specialist knowledge in Cyber-Physical Systems (CPS) application domains. From this base, HUBCAP will create a growing and sustainable European network offering SMEs opportunity to undertake experiments, seek investment, access expertise and training, and form new business links. HUBCAP will lower barriers for SMEs to realize the potential of growing autonomy in CPS by accessing advanced MBD technology, providing training and guidance, and acting as a gateway to the full network of all registered DIHs specializing in CPS. Half the project funding will go to supporting SMEs, including open call funding for SMEs join the ecosystem and experiment with MBD technology. HUBCAP will extend an existing open collaboration platform to enable SMEs to co-create, analyse and validate new CPS products in a virtual setting, by accessing CPS assets (models, tools, services) and experimenting with new solutions, de-risking investments in skills or resources.
Common aspects with VALU3S	Model-based design techniques for V&V Shared partner: FBK

Table 2.33 SMILE III project

Acronym of the project	SMILE III
Complete title of the project	Safety analysis and verification/validation of ML based systems
Type of project	National
Coordinator	RISE
Duration	24 months (April 2020 – March 2022)
Description	The SMILE program develops method(s) that allow DML-based functions to be included into safety critical vehicular applications. The SMILE III project further develops the Safety Cage concept developed within SMILE I/II, into a reference system architecture and prototype(s), while facilitating compliance with the evolving safety standards.
Common aspects with VALU3S	V&V for safety critical ML-based system Shared partner: RISE

Table 2.34 MIDAS project

Acronym of the project	MIDAS
Complete title of the project	Anonymising data collection for traffic Safety
Type of project	National
Coordinator	RISE
Duration	36 months (April 2020 – March 2023)
Description	MIDAS aims to solve the problem of anonymity regarding video data collected in real traffic environments. MIDAS develops machine learning algorithms to replace sensitive information in images, so that they can be saved for future use while complying with the GDPR.
Common aspects with VALU3S	Machine learning, privacy protection Shared partner: RISE

Chapter 3 Evaluation of Interim Communication Plan Effectiveness

This chapter aims to continue the evaluation of the effectiveness of activities defined in the Initial Communication Plan (and refined in the final version) and started in the Initial Communication Activity Report. Indeed, the progress status of Communication KPIs set in D6.6 [1] and further enhanced in D6.14 [2] are assessed and analysed to understand possible corrective actions.

3.1 Assessment of Communication KPIs

Table 3.1 contains the KPIs set in D6.6 [1] and those that have been added in D6.14 [2]; for each of them, the target value is specified as well as the current status at M24. Based on feedback collected during the first year of the project, the KPIs have been updated: two new KPIs have been added (Comm-KPI-8 is introduced to monitor the activities concerning the establishment of liaisons with other related projects, while Comm-KPI-9 is introduced to monitor the regular publishment of the newsletter). Moreover, the target value of some existing KPIs have been increased: Comm-KPI-1 has been increased from at least 2000 to at least 3000 since the analysis of the first year of the project has shown that this KPI has been successfully achieved. The target value of Comm-KPI-4 has been increased from at least 40 to at least 60, since the analysis of the first year of the project has shown that 57 posts have been published even if the project was just at its beginning. Comm-KPI-5 is foreseen to grow and indeed the target value has been changed from at least 800 to at least 1000 reactions to published posts. The target value of Comm-KPI-7 has been increased from at least 3 to at least 5 speeches in public events per year. The KPI has been barely achieved in the first year, but the end of the COVID-19 crisis [5] and the restart of live events have favoured a better result in the second and an even better result is expected for the third year of the project. The aforementioned KPIs will be assessed again at the end of the project to evaluate the final results of communication activities and Task 6.4.

It is worth to note that some KPIs are expressed "per year", therefore it is possible to clearly define if they are achieved or not, while others are expressed as total at the end of the project. For the latter, to date it is only possible to understand if the trend is positive or negative.

Table 3.1 Communication KPIs progress status at Month 24

KPI	Description	Target Value	Current state (M24)	Variation target value – current state	Status (achieved, in progress, missed)
Comm-KPI-1	Number of accesses to the VALU3S website per year	>=3000	5302	+2302	Achieved
Comm-KPI-2	Average Number of new recipients of	>=100	72	-28	Missed

KPI	Description	Target Value	Current state (M24)	Variation target value – current state	Status (achieved, in progress, missed)
	newsletters per year				
Comm-KPI-3	Number of followers on VALU3S social media pages (LinkedIn + Twitter + YouTube)	>=500	400	-100	In progress
Comm-KPI-4	Number of posts published on VALU3S social media pages per year (LinkedIn + Twitter + YouTube)	>=60	162	+102	Achieved
Comm-KPI-5	Number of reactions to published posts (likes, comments, shares, retweets) on social media pages per year	>= 1000	1063	+633	Achieved
Comm-KPI-6	Participation in fairs and exhibitions per years	>=3	6	+3	Achieved
Comm-KPI-7	Number of speeches (and/or presentations) in public events per year	>=5	5	0	Achieved
Comm-KPI-8	Number of established liaisons with other related projects	>=10	14	+4	In progress but already achieved

KPI	Description	Target Value	Current state (M24)	Variation target value – current state	Status (achieved, in progress, missed)
Comm-KPI-9	Number of newsletters sent out	>=8	6	-2	In progress

The KPIs are briefly discussed below.

Even if the target value has been increased from 2000 to 3000, KPI-1 has been easily achieved thanks to the constant dissemination done through social media pages with posts which can redirect the visitor to the website. In order to keep this trend positive, the website should be frequently updated with new contents (news, blog articles, publications, events, etc.) also in the last year of the project.

KPI-2 has not been achieved, since new recipients of newsletter in the second year have been fewer than expected. Overall, the VALU3S newsletter has 144 subscribers, therefore the average number of recipient per year is 72, which is slightly below the goal set in the Communication Plan. Corrective actions have already been put in place like selling email described in Section 2.1.2 in order to improve the trend in the third year. It is worth to notice also that now past newsletters are available on the website as requested by the project's review experts in the first review meeting, indeed no subscription is now required for visitors to read the content of the newsletters. This could reduce the number of subscribers in a not negligible way. However, having the newsletters published on the project's website contributes significantly to the dissemination of the project results.

KPI-3 is still in progress and should be evaluated at the end of the project. To date, the target has been almost achieved, so it is reasonable to consider that will be reached in a couple of months and at the end of the project the number of subscribers will be higher than expected. This is a great result obtained thanks to strategy of publications on social medias, which creates the right engagement with followers.

KPI-4 has been successfully achieved and this is a crucial result, since it means that the activity on social media has been sufficiently intensive and continuous.

KPI-5 has been largely achieved on the basis of the target value set previously. In general, this is an indication that contents published are appreciated by audience.

KPI-6 and KPI-7 have been achieved, even if with difficulty because of the COVID-19 outbreak and consequent restrictions which have significantly penalized the arrangement/participation of/to events. However, negative impact of COVID-19 has been mitigated thanks to the effort of the consortium in participating to online events, as backup plan, as well as to arrange online presentations and conferences.

Comm-KPI-8 has been introduced to monitor the activities concerning the establishment of liaisons with other related projects. The target value that should be reached at the end of the project is the establishment of at least 10 active liaisons. To date, the KPI has been already achieved thanks to the establishment of 14 liaisons.

Comm-KPI-9 has been introduced to monitor the regular publishment of the newsletter. It is expected to send out at least 8 newsletters. To date, 6 newsletters have been sent out but, considering that they are published every quarter, it is realistic to reach the target value at the end of the project.

Chapter 4 Conclusion

The document has reported in detail all the activities undertaken to date within Task 6.4 "*External communication including interaction with other, related projects*", as well as the results achieved. The report highlights that the activities promised within the Initial Communication Plan have been duly performed with remarkable results. In fact, communication channels promised in the DoA [19] have been established and contents delivered through them have been frequent and appropriated for the target audience already identified. Furthermore, the Communication KPIs set up in the Final Communication Plan for the second year have been almost achieved, even if the target values have been increased compared to the Initial Plan. While for what concerns KPIs set for the end of the project, they all show a positive trend that should be kept and possibly improved in the next year. At the same time, for the single KPI which has not been achieved, corrective actions have been already implemented to invert the trend.

Communication activities will play an important role in the final phase of the project, in order to showcase results obtained by partners such as solutions developed. Results of the first years of the projects have highlighted that the consortium has the capacity to carry out effective and impactful communication activities, therefore it is expected that in the third and last year of the project these skills will be fully exploited to maximize work done up to date.

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Appendix A Communication Templates

A.1 VALU3S Roll-Out Poster

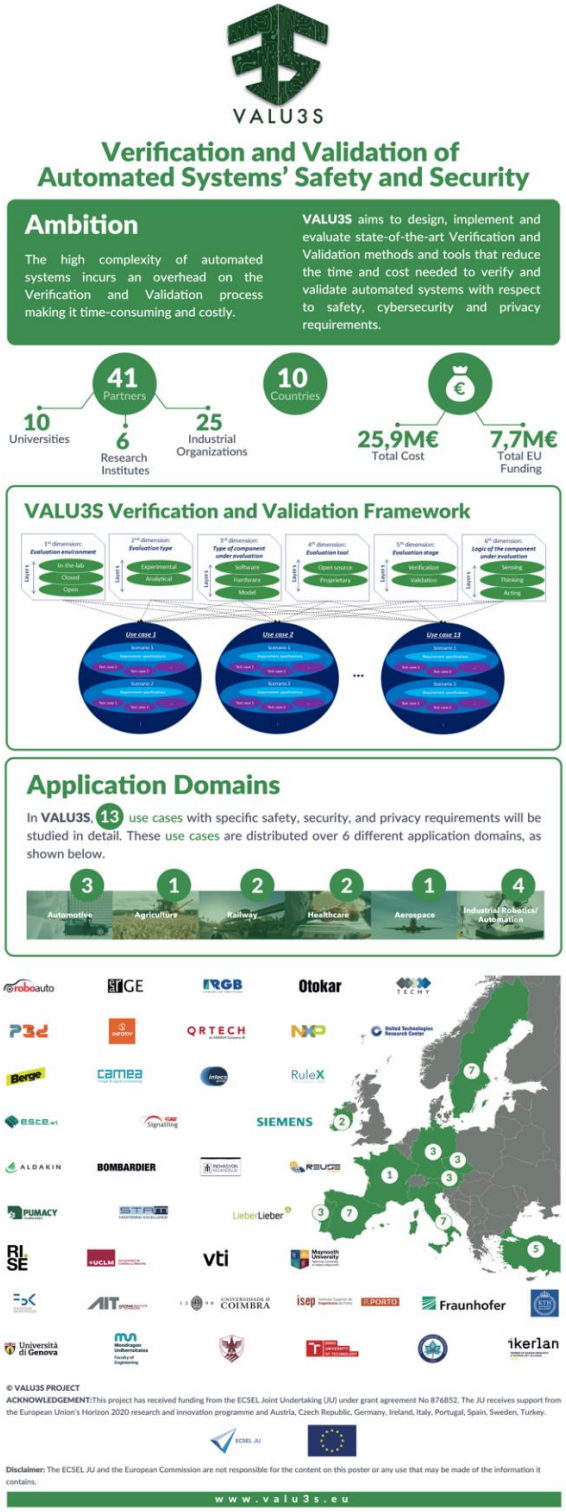


Figure A.4.1 VALU3S roll-out poster.

A.2 VALU3S Standard Poster

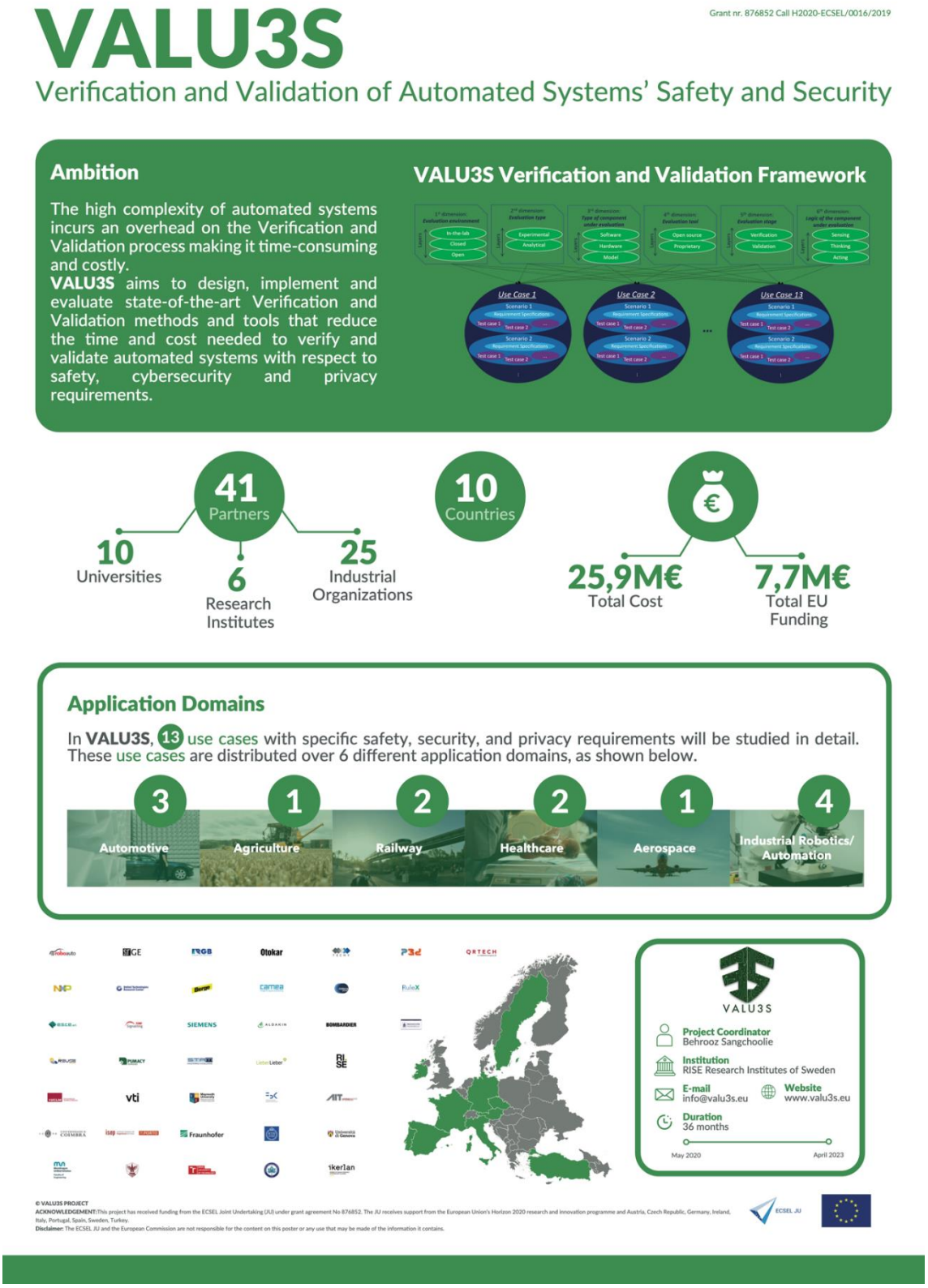


Figure A.4.2 VALU3S standard poster.

A.3 VALU3S Leaflet (Front)

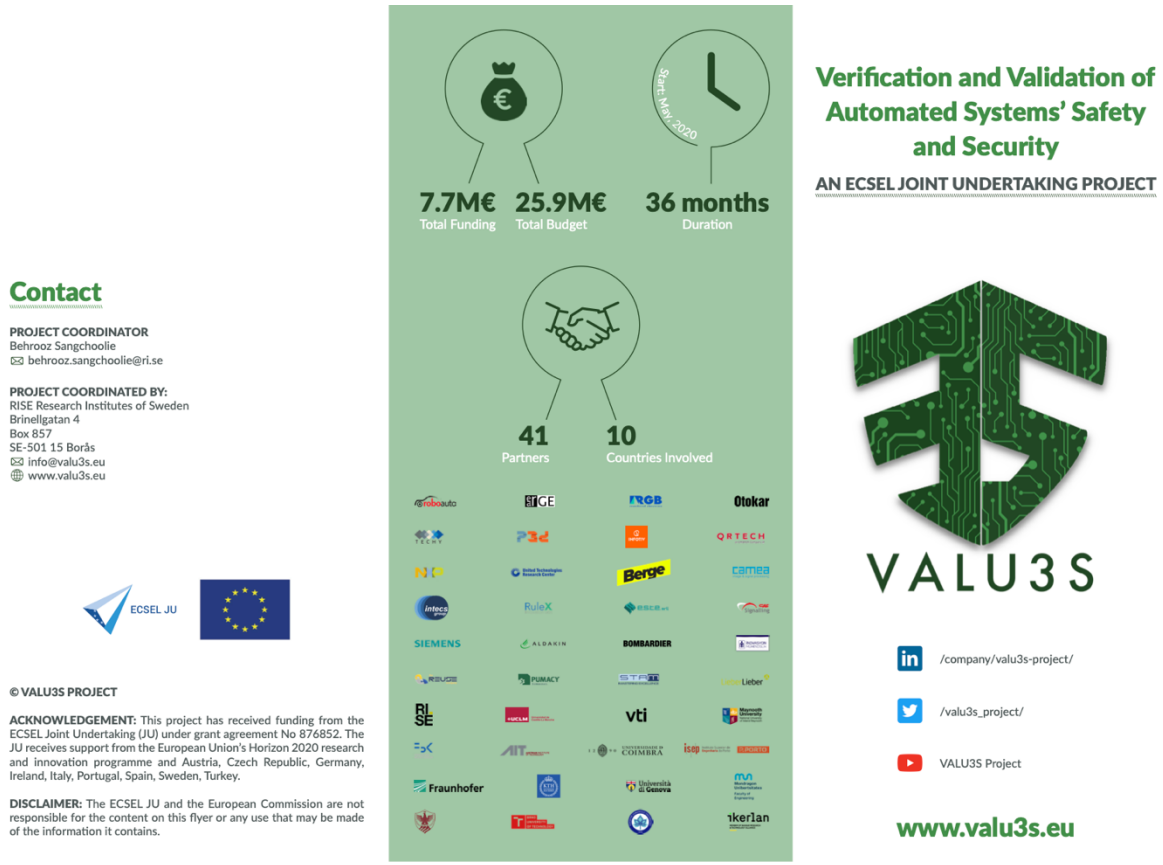


Figure A.4.3 VALU3S leaflet (front).

A.4 VALU3S Leaflet (Back)

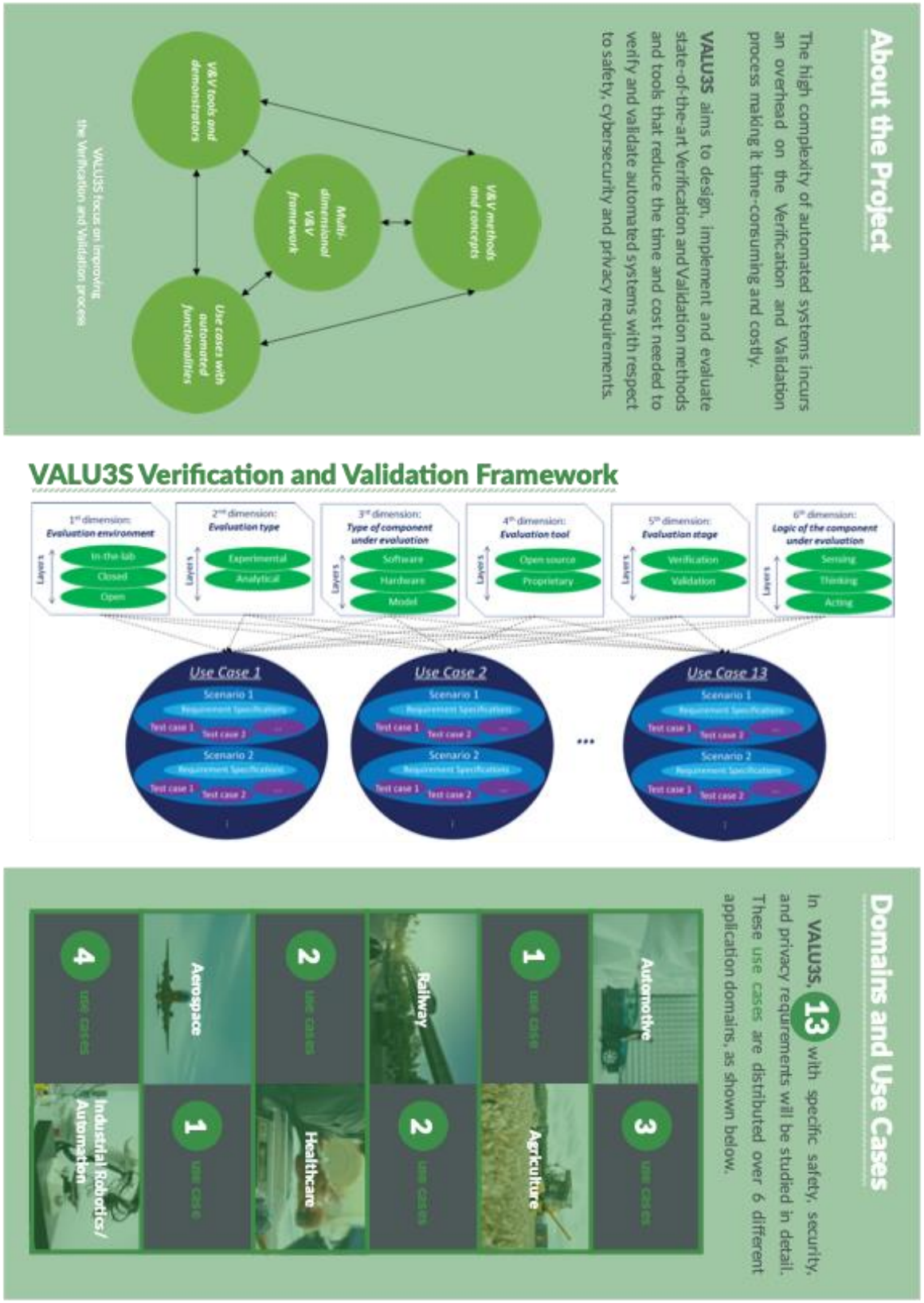


Figure A.4.4 VALU3S leaflet (back).

A.5 Informal Letter Liaison Establishment Template

21/01/2021

Subject: Request for the establishment of a liaison with VALU3S Project

Dear Coordinator,

I am Davide Ottonello and I am writing to you as the Communication leader of **VALU3S** (GA 876852), an ECSEL JU (Joint Undertaking) Project coordinated by *RISE Research Institute of Sweden* which aims to improve safety and security of automated systems through innovative verification and validation methods and tools.

Within VALU3S Communication activities, we have decided to include the establishment of liaisons with other related projects in order to build fruitful relationships with other relevant partners in the Electronics sector, as well as to maximise the impact of our dissemination actions by reaching the widest audience possible. For this purpose, the project you are coordinating has been selected as suitable for the establishment of a profitable liaison, since the topics treated in both projects are similar, as well as the objectives they aim to achieve.

When it comes to practical aspects of the liaison, we mainly foresee the following concrete actions:

- Your Project Consortium shall invite at least one VALU3S representative to any Project public event (live or online) and, if possible, the representative could have the possibility to present VALU3S Project by means of speech, distribution of material, etc;
- Vice versa, VALU3S Consortium shall invite at least one representative of your Project Consortium and allow it to present your Project by means of speech, distribution of material, etc;
- Your Project Social Media profiles shall follow the VALU3S ones and vice versa (limited to the channels currently used by both projects);
- Your Project Social Media profiles shall publish at least one content promoting VALU3S Project (which will be provided by VALU3S Communication leader);
- Vice Versa, VALU3S Social Media channels shall publish at least one content sponsoring your Project (provided by your Dissemination manager);
- Finally, your Project Consortium shall inform VALU3S Consortium about any opportunity to carry out joint dissemination, communication and/or exploitation actions aimed at maximise the impact of both projects on scientific and industrial community. Vice Versa, VALU3S Consortium will inform in turn your Project Consortium in case of the aforementioned opportunities.

In order to facilitate the communication between the two Project consortia, we have appointed a Liaison Manager, i.e. a specific figure in charge of managing the communication related to the aforementioned actions and representing VALU3S at external events of your Project. The Liaison Manager appointed for your Project is the same person that has sent to you this Letter. You can contact the Liaison Manager for any doubt or request for further clarifications and information.

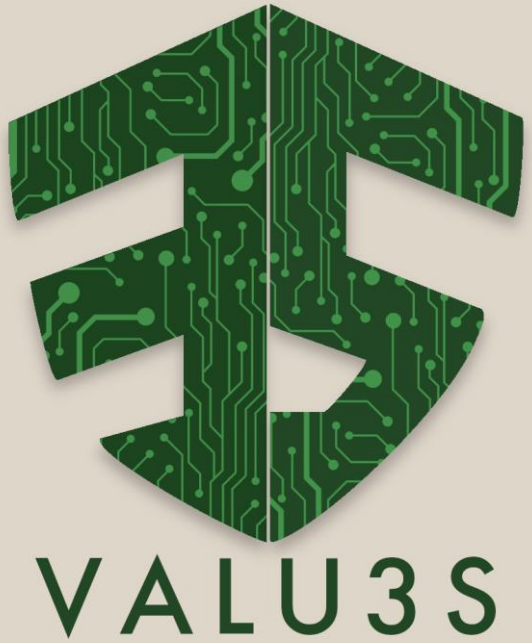
Therefore, I kindly ask you to communicate to the appointed Liaison Manager for your Project if you are interested in cooperating with VALU3S and in engaging to undertake the actions described above no later than 10 days after the receipt of this Letter.

N.B. this Letter does not entail any legal or official obligation.

Sincerely Yours,

Davide Ottonello

Figure A.4.5 Informal letter liaison establishment template.



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