Improved Robotic Platform to perform Maintenance and Upgrading Roadworks: The HERON Approach

Grant Agreement Number: 955356

D8.5: Information Packs for referenced and networked communication amplifiers

Work package	WP8: High-Impact Communication and Dissemination Activities
Activity	Task 8.3: Development and use of dissemination materials and tools, Task 8.4: Ongoing and special dissemination efforts
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1.0	31/05/2022	Final version ready for submission	Anastasios Doulamis

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Table of Contents

List of Tables

List of Figures

Abbreviation Lists

Table 1: Abbreviations

Abbreviation	Definition
CTR	Click-Through Rate
EC	European Commission
EN	English
ERTICO	European Road Transport Telematics Implementation Coordination
FB	Facebook
ICT	Information and Communications Technology
LI	LinkedIn
OBJ	Objective
PDF	Portable Document Format
RG	ResearchGate
TRA	Transport Research Arena
TW	Twitter
WP	Work Package
YT	YouTube

Table 2: Abbreviations of the Partners' names

Short name	Participant organization name
ICCS	Institute of Communications and Computer Systems
ACCI	Acciona Construcción S.A.
OLO	Olympia Odos Operation S.A.
UGE	Université Gustave Eiffel
ETHZ	Eidgenössische Technische Hochschule Zürich
ROB	Robotnik Automation
CORTE	Confederation of Organisations in Road Transport Enforcement
STWS	SATWAYS - Proionta Kai Ypiresies Tilematikis Diktyakon Kai Tilepikinoniakon Efarmogon Etairia Periorismenis Efthinis EPE
RISA	RisaSicherheitsanalysen Gmbh
INAC	InnovActs
IKH	Ainoouchaou Pliroforiki SA -IKnowHow-
RG	Resilience Guard Gmbh

Executive Summary

This deliverable is written in the framework of WP8 – High-Impact Communication and Dissemination Activities of the HERON project under Grant Agreement No. 955356. Deliverable 8.5, namely "Information Packs for referenced and networked communication amplifiers", provides a detailed description of relevant communications resources including content for Communications Partners websites and social media channels. Furthermore, the report illustrates the outcomes of Tasks 8.3 and 8.4, titled respectively: "Development and use of dissemination materials and tools" and "Ongoing and special dissemination efforts" corresponding to M1-M12 of the HERON project's period. These tasks will concentrate on special and regular dissemination activities of HERON results, as during the project they become available. Lastly, the report includes a detailed description of the activities under the aforementioned tasks, for the various appropriate and possible channels and means.

1 Introduction

The scope of this document is to measure and present the effect of the dissemination and communication activities and strategies. Moreover, the main marketing methods and material tools, such as communication means, which were used to strengthen the communication between the involved parties are evaluated. The main goals of the task are:

- To identify the main target groups and optimal communication strategies.
- To measure the overall dissemination strategy of the HERON project.
- To develop a high-quality project theme/brand to create content with rich material. Thus, the project will be continuously promoted while enhancing the various dissemination activities.

2 Project Dissemination and Communication Objectives

2.1 HERON dissemination objectives and strategy

The dissemination strategy will engage with our stakeholders, so as to guide consortium partners in planning and implementing their dissemination activities and ultimately, nurture the ground for the successful exploitation of' HERON's results. It will elaborate on what to disseminate (project assets), to whom (target groups), and by what means (strategies, dissemination tools, channels, etc.), along with a time plan and quantitative targets. It will also elaborate mechanisms for monitoring and allow room for ad-hoc and on-demand actions The dissemination strategy applied in the project is aligned with the high-level objectives:

- **OBJ. I:** To create visibility and raise awareness within the scientific community.
- **OBJ. II:** To utilize the results.
- **OBJ. III**: To find ways to further continue and advance the related research.
- **OBJ. IV**: To attract the target audiences in order to collect feedback and validate the project's results.

2.2 HERON Communication Objectives and Strategy

The communication strategy will outline the approach to effectively communicating project objectives and results. The communication strategy was driven by the following communication objectives, defined at the early beginning of the project:

- **OBJ. I:** To create awareness of the project among the target group selected for communication activities.
- **OBJ. II:** To clearly define the project's concept, goals, and results.
- **OBJ. III:** To form a community full of potential users that will provide feedback regarding the project's activities.
- **OBJ. IV:** To prepare the ground for the exploitation of project results.
- **OBJ. V:** To support targeted dissemination of the project results.

In order to ensure that the different communication objectives were effectively addressed, and the expectations of the target audience groups were met, particular attention was paid to adapting the communication means, the measures, and the content to the needs and knowledge levels of the targeted groups, as well as, to the status/progress and needs of the project.

2.3 Target Audiences

The main Target Groups of HERON are the following:

- European transport policy and decision-makers (e.g. transport ministries, planning institutes, etc.)
- Commuters/Drivers (including passengers through public transport means)
- Transport service providers (e.g., traffic centers, etc.)
- Academic community (e.g., civil and structural engineers, automation and robotic experts, informatics, etc.)

- Transport Authorities and Road Operators
- Technology providers (e.g., robotic devices and software developers, construction/ maintenance companies, data engineers, etc.)
- Industry (e.g. maintenance/construction companies, robotic manufacturers, etc.)
- Investors and innovators (e.g. Venture Capitals, environmental entrepreneurs and innovators, etc.)
- Relevant European projects and similar initiatives (e.g. ICT for transport, TRA, ERTICO, etc.).

To reach a wide pool of relevant stakeholders, while disseminating the scientific, technological, and societal achievements of the project, we will leverage our partners' extensive networks and employ well-tailored dissemination channels. Indicatively, the following table lists the dissemination channels to be used by the project.

Table 3: HERON's main dissemination channels

HERON dissemination channels	
Industrial events	International / national industrial events: HERON retains easy access and will seek to attend major industrial events to disseminate the project's outcomes to the relevant industrial stakeholders.
Scientific conferences	International / national scientific conferences: HERON's consortium researchers are frequently invited to present their scientific outcomes in high-ranked international scientific conferences. As such, they retain the necessary access to disseminate HERON's outcomes to the scientific and research community.
Scientific Journals	Publications in scientific journals: HERON's scientific and innovation outputs are expected to generate high-quality publications and as such be disseminated to top journals in relevant fields.
HERON's workshops and events	Workshops and events: A broad agenda of events, including several workshops (training, exploitation, consensus-building) are foreseen by the project, addressing all of its targeted stakeholders, disseminating its outcomes, and promoting their adoption across Europe.
HERON's communication campaign	Communication activities: A variety of communication channels, actions, and tools is foreseen that will work in tandem and synergize with the dissemination activities of the project

2.4 Implemented measures for the dissemination

Dissemination activities (see Table 4) are very important during the project's duration since they create visibility and raise awareness within the scientific community as well as after the project's lifespan since they utilize the project's results and further continue and develop the related research. Heron dissemination activities aim at a wide range of stakeholders and the end-user community.

Table 4: Dissemination activities.

Action	Means
Awareness: Create visibility and raise awareness.	• Dissemination materials: Project logo and graphic identity. • Develop the project website and upload all public deliverables and news from plenary meetings. • Create the social media channels and start building the HERON Community. • Share several articles with mass media and scientific publications. • Participation in conferences, seminars, and workshops.
Results: Share knowledge developed within the project.	• Update website with more concrete results and public deliverables. • Social Media and online promotion, such as news about early results. • Press release with first results. • Distribute marketing material. • Attends events. • Create YouTube videos to display the progress of the project and the first results. • Share several press articles with mass media and scientific publications.
Exploitation: Work towards exploitable results and utilization.	• Upload on the website project results and public deliverables. • Social Media and online promotion. • Share several press articles with mass media and scientific publications. • Create YouTube videos showcasing results.

2.5 Communication Activities

Communication is a crucial activity for the HERON project (see Table 5). Apart from the internal project-oriented communication between HERON partners, it is also critical to have a targeted focus on impact and results, involving the Commission, the project partners as well as various external stakeholders.

Table 5: Communication activities.

Communication material	Frequency	Language	Responsible partner(s)
Logo and graphic identity	Designed on M1	EN	RG
Website	Running from M2	EN	RG
Social media	Running from M2	EN	CORTE, RG
Videos	6 videos on M12	EN	RG
Newsletter	1 newsletter on M9	EN	CORTE
Annual magazine	1 magazine on M12	EN	ICCS
Academic publications	Minimum 2/year	EN	ICCS

3 Dissemination and Communication Means

This section presents how the scientific, business, and technical progress, achieved in the HERON project, was promptly spread and communicated via a series of means and social media channels, for the first 12 months of the project. Numerous tools were implemented to reach the various identified target groups.

3.1 Communication means

3.1.1 Website

In month 2 a website, address: https://www.heron-h2020.eu/, was created and, continuously updated since, with all the HERON latest news, events, and publications. The website consists a vital factor for the HERON dissemination and communication plan. The main concept of the website is to provide immediate access to all public information about the project to all visitors. Therefore, most of the subpages of the website are accessible from the main page via quick links. In addition, the HERON website provides access to social media accounts (LinkedIn, Twitter, Facebook, ResearchGate, and YouTube, which are presented in Section 3.1.4), broadening the branding of the project.

The current structure of the website is illustrated in Figure 1 below while the "Home" page of the website is presented in Figure 2. Moreover, website statistics, from the Google Analytics page, up to M12 of the project are depicted in Figure 3 to Figure 6 below. More specifically, Figure 3 illustrates the progress regarding the number of total clicks and impressions of the HERON website from its launch until M12 of the project. Regarding the specific figure it is noted that (i) an impression is how often someone saw a link to the site on Google, (ii) a click is how often someone clicked a link from Google to the site, (iii) Click-through rate (CTR) is defined as the calculation of (clicks ÷ impressions), and (iv) position is a relative ranking of the position of the link on Google, where 1 is the topmost position, 2 is the next position, and so on. In parallel, Figure 4 demonstrates the users' behavior and which pages the users visited most while visiting the website, during the same period. Lastly, Figure 5 and Figure 6 report respectively the geographic location and the device (i.e., desktop, mobile, tablet) used by the users that visited HERON's website.

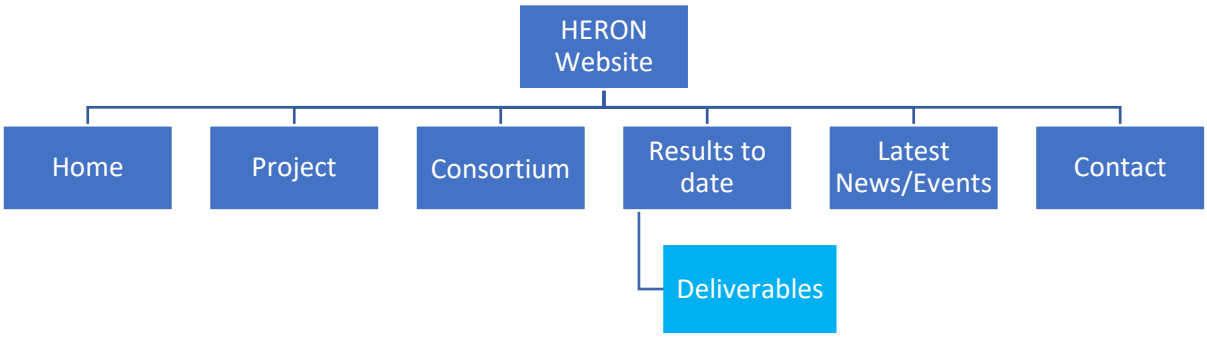

Figure 1: HERON's website sitemap.

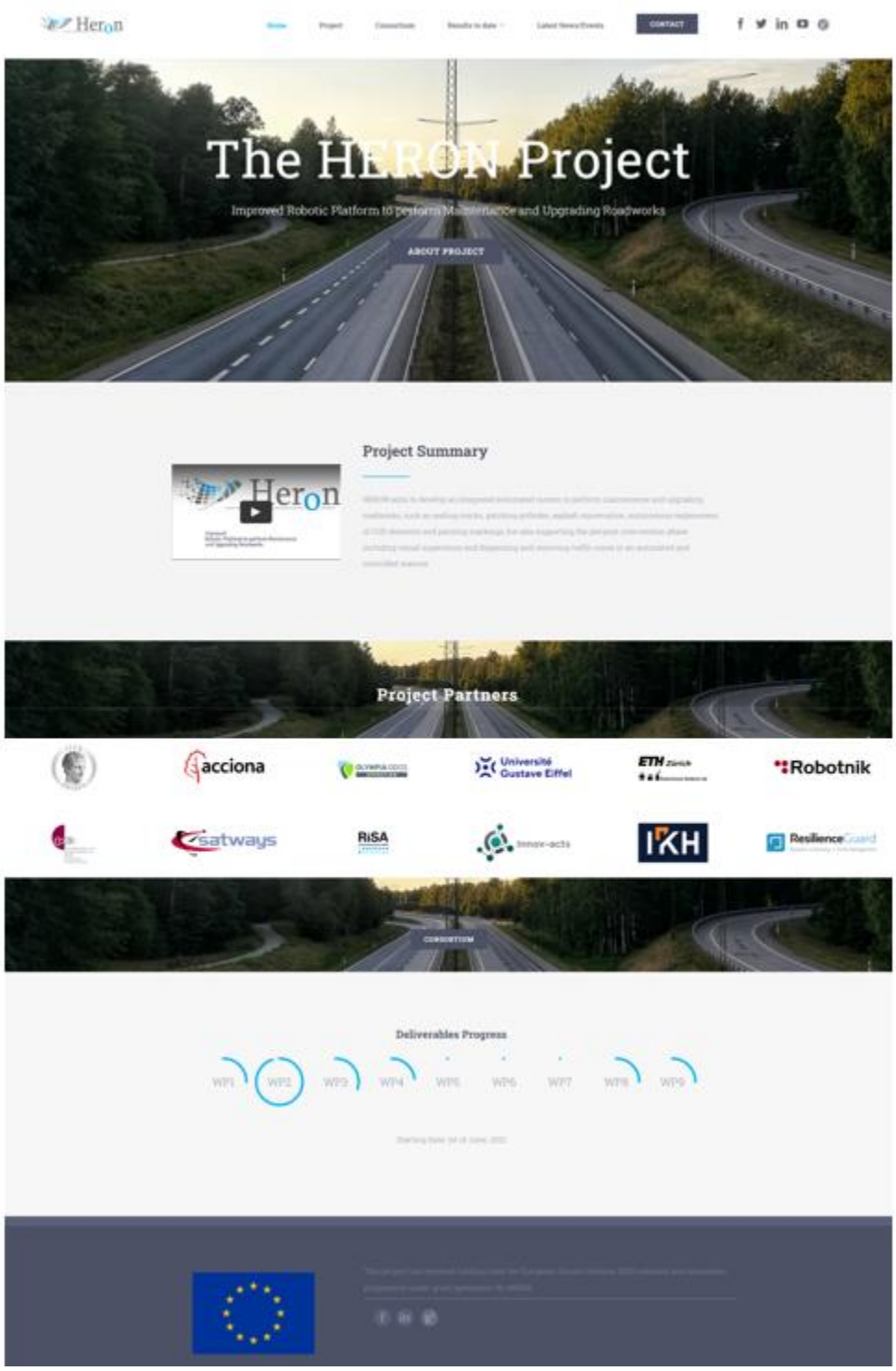

Figure 2: HERON's website (Home page).

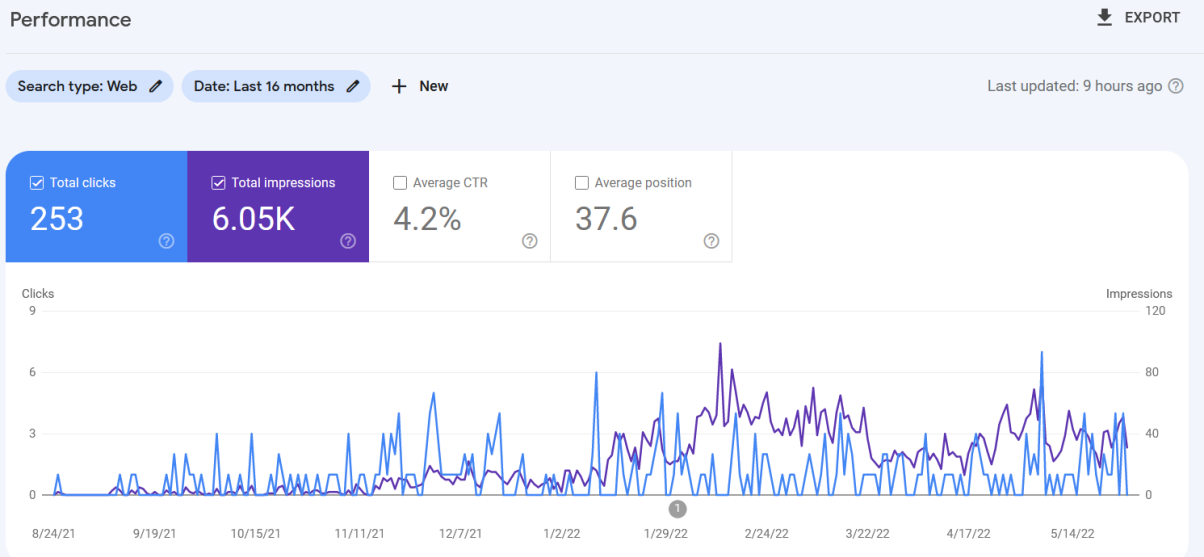

Figure 3: Website performance metrics according to Google Analytics, from its launch until M12.

Top pages	Clicks	Impressions
https://www.heron-h2020.eu/	230	5,297
https://www.heron-h2020.eu/?page_id=9	13	757
https://www.heron-h2020.eu/?page_id=15	4	739
https://www.heron-h2020.eu/?p=1	4	30
https://www.heron-h2020.eu/?page_id=1115	1	490
https://www.heron-h2020.eu/?page_id=13	1	424
https://www.heron-h2020.eu/?page_id=11	1	266
https://www.heron-h2020.eu/?author=3	0	19

Figure 4: Page report of the HERON website.

QUERIES | PAGES | COUNTRIES | DEVICES | SEARCH APPEARANCE | DATES

Country	Clicks	Impressions
Greece	74	719
Belgium	32	132
Spain	27	117
Switzerland	19	45
France	11	91
United Kingdom	10	330
India	8	324

Figure 5: Geographic location of the users that visited HERON's website.

QUERIES | PAGES | COUNTRIES | DEVICES | SEARCH APPEARANCE | DATES

Device	Clicks	Impressions
Desktop	217	4,723
Mobile	32	1,280
Tablet	4	42

Figure 6: Device used by the users that visited HERON's website.

It is underlined that HERON's website will be continuously updated with new content to keep the visitors aware of the latest advances in the project. The future content can be more user-friendly in order to allow the target groups to understand the purpose of the project. Therefore, visitors' feedback is essential.

3.1.2 Microsoft SharePoint site

HERON SharePoint site is a web-based project management system that allows users to monitor multiple documents and share strategies with the other partners. It features videos from meetings, templates for the deliverables, and documents that were submitted (or pending) during the project's lifespan. HERON SharePoint is accessible to all consortium members, using login credentials. The "Home" page of the SharePoint site is presented in Figure 7, whereas the current structure of the SharePoint is depicted in Figure 8 below.

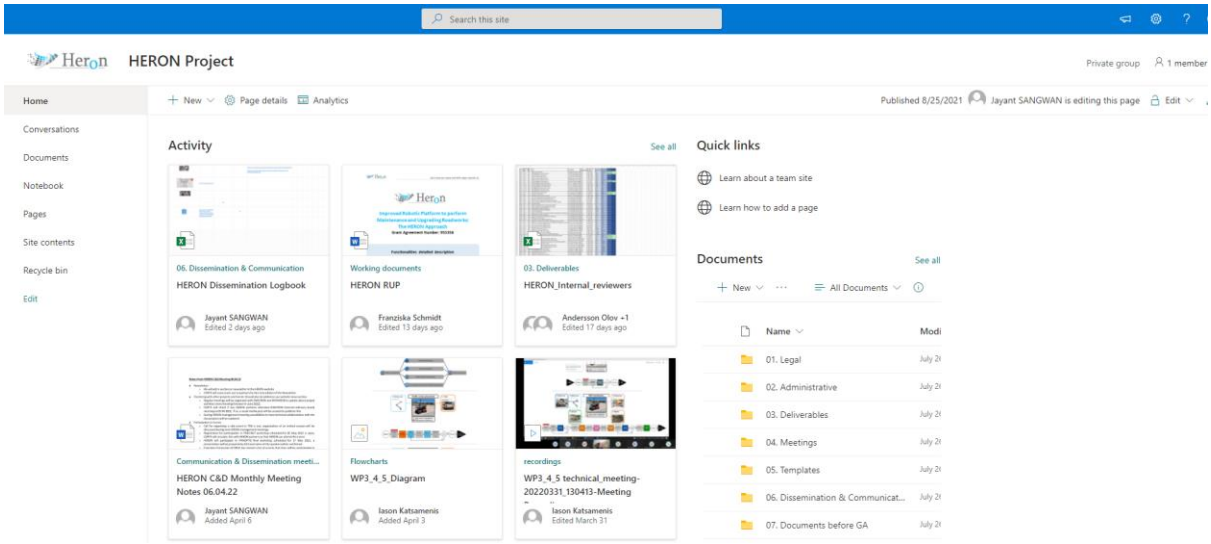

Figure 7: HERON's SharePoint platform.

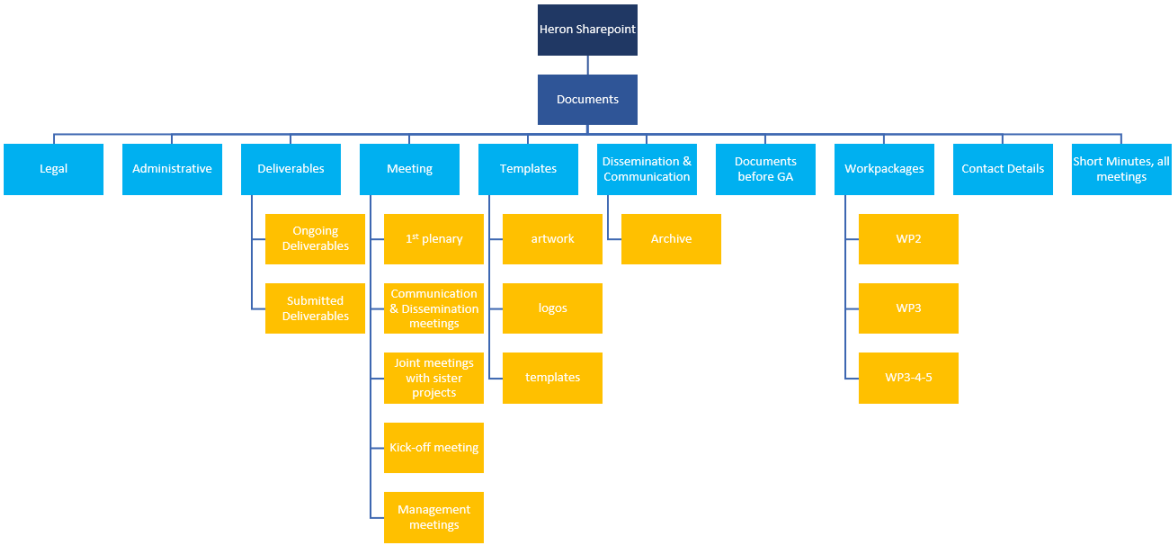

Figure 8: HERON's SharePoint sitemap.

3.1.3 EC and Partners' websites

In order to make the project more popular, the consortium partners are also involved in the dissemination and communication plan. The sections of their respective websites, where the HERON project is mentioned, are shown in the indicative figures below.

Figure 9: Screenshot from ICCS's website. The participation in the HERON project is mentioned and a short description and the role in the project are provided.

Figure 10: Screenshot from OLO's website. The participation in the HERON project is mentioned and a short description and the role in the project are provided.

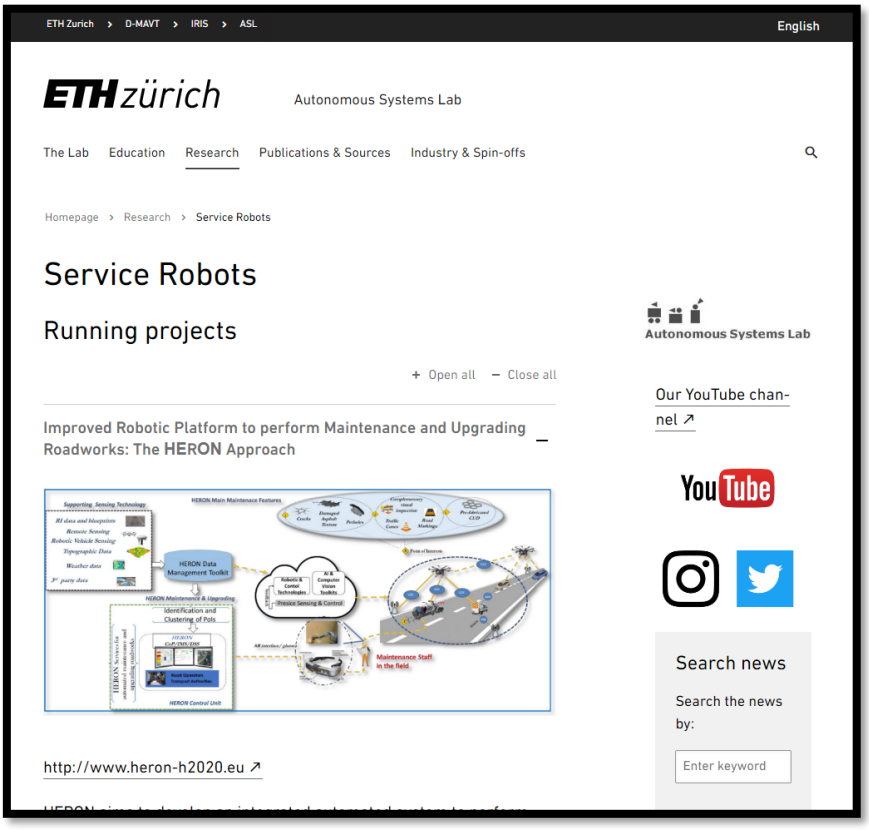

Figure 11: Screenshot from ETHZ's website. The participation in the HERON project is mentioned and a short description and the role in the project are provided

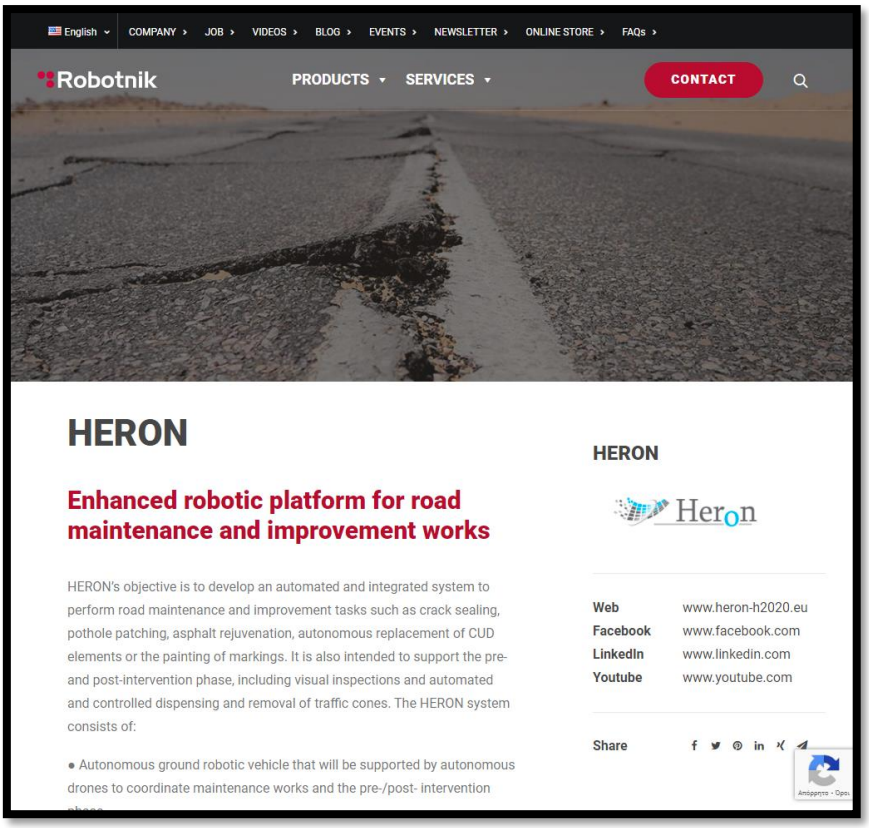

Figure 12: Screenshot from ROB's website. The participation in the HERON project is mentioned and a short description and the role in the project are provided.

Figure 13: Screenshot from CORTE's website. The participation in the HERON project is mentioned and a short description and the role in the project are provided.

Figure 14: Screenshot from INAC's website. The participation in the HERON project is mentioned and a short description and the role in the project are provided.

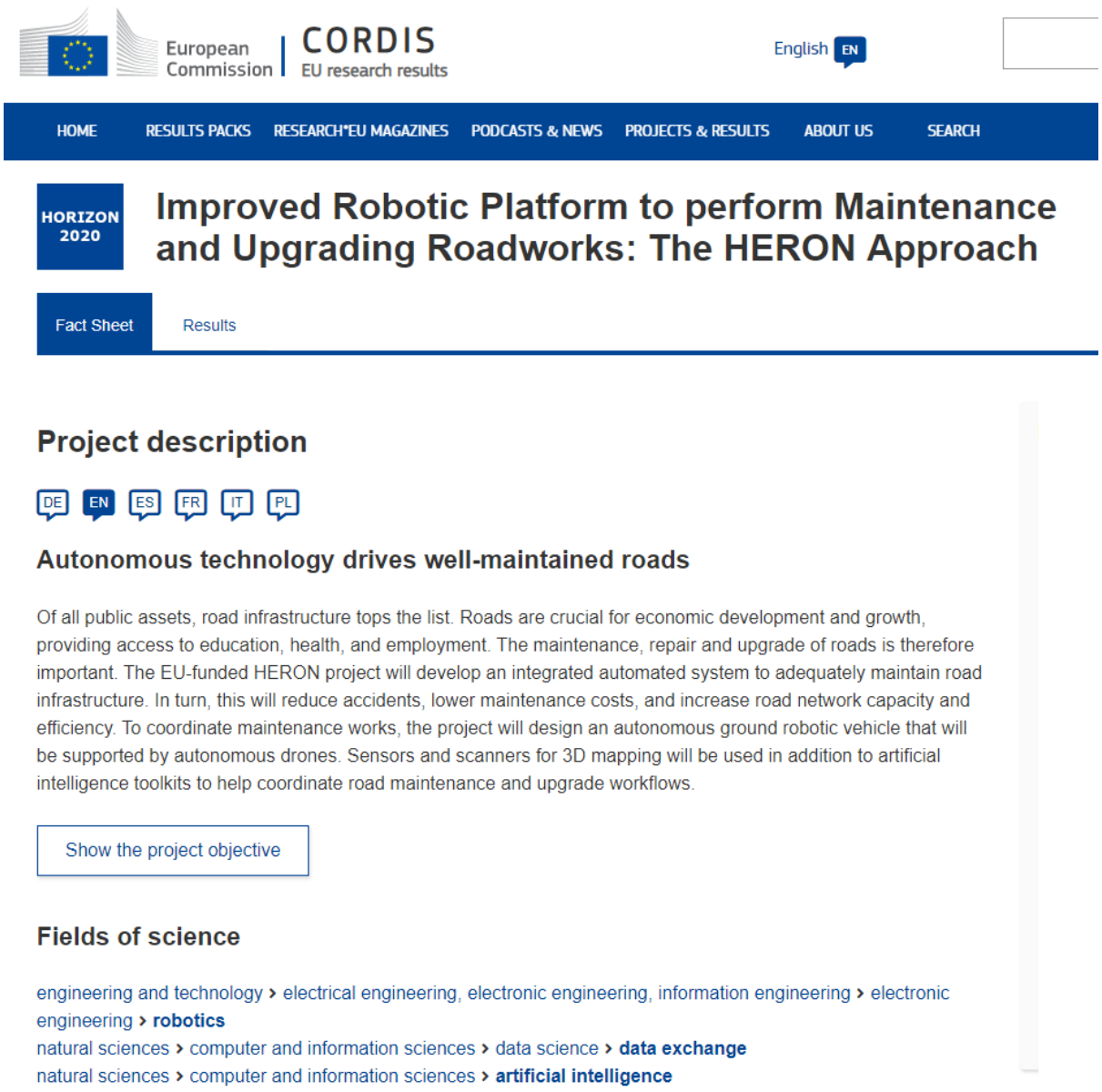

Figure 15: HERON at CORDIS.

3.1.4 Social Media

Social media constitutes the key element for communication, networking, and content sharing purposes. Therefore, ideal actions regarding social media can lead increase in the project's visibility and maximize its potential outreach. Thus, the HERON project will actively engage in social media in order to communicate the project's ideas and outcomes as well as to interact with target audiences. As presented in the next subsections, from the initial stages of the HERON projects various social networks and platforms (see Table 6), such as LinkedIn, Facebook, Twitter, ResearchGate, and YouTube were set up and activated.

Table 6: HERON's social networks and platforms.

Social network	Link
LinkedIn page	https://www.linkedin.com/company/heroneuproject/
Facebook page	https://www.facebook.com/HeronEUProject
Twitter account	https://www.linkedin.com/company/heroneuproject/
ResearchGate Project	https://www.researchgate.net/project/HeronEUProject
YouTube channel	https://www.youtube.com/channel/UCc3hqqt-DVuVQ2Ib7fH-SOw/featured

LinkedIn

LinkedIn is a professional social network platform created for professional development and networking. For the HERON project, LinkedIn (see Figure 16) is used as an effective tool for communicating and sharing best practices in targeted markets. After the first 12 months, the HERON LinkedIn page had 178 followers and 262 Unique visitors in the last 2 months with most of them being Engineers (see Figure 17).

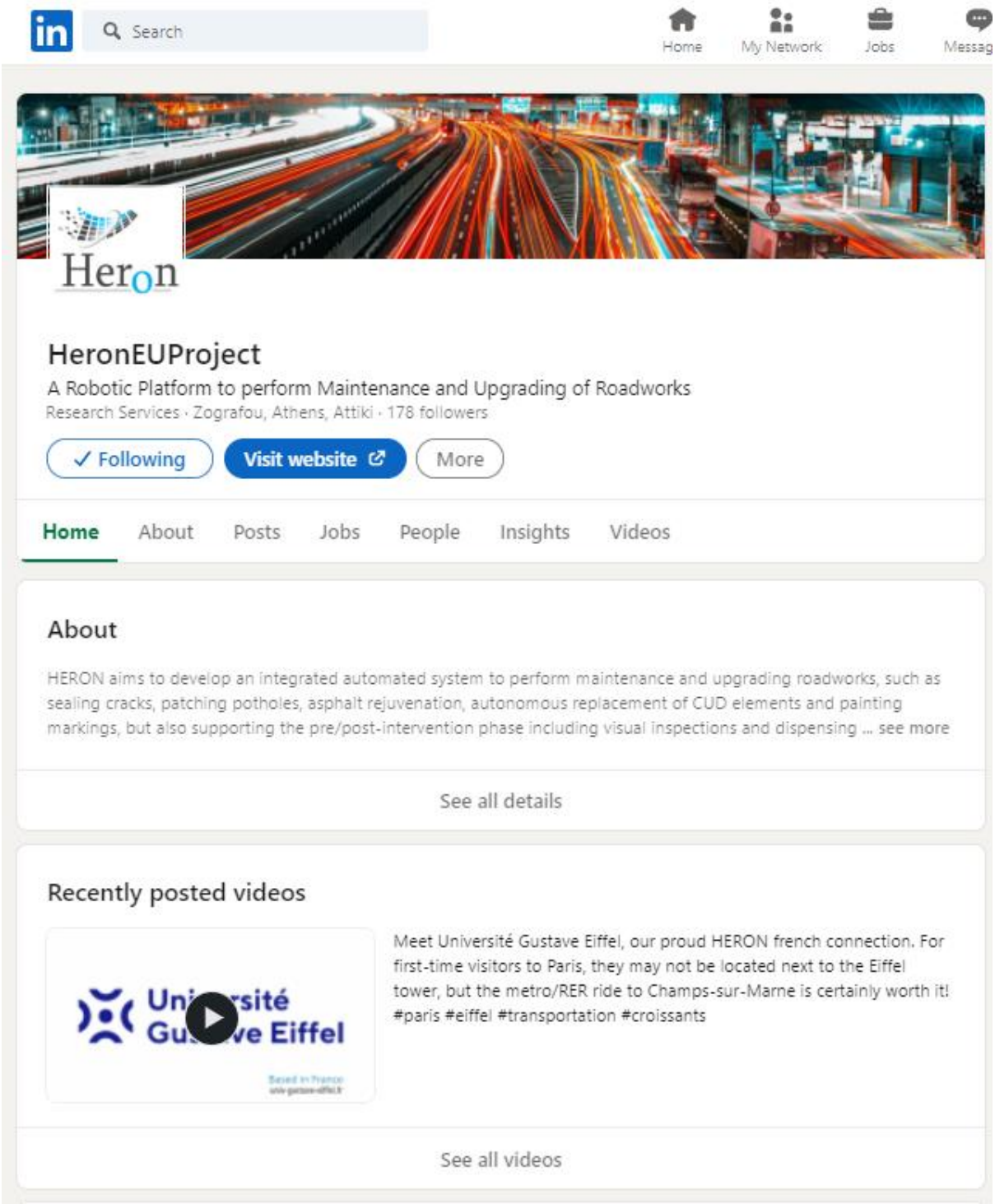

Figure 16 HERON account page on LinkedIn.

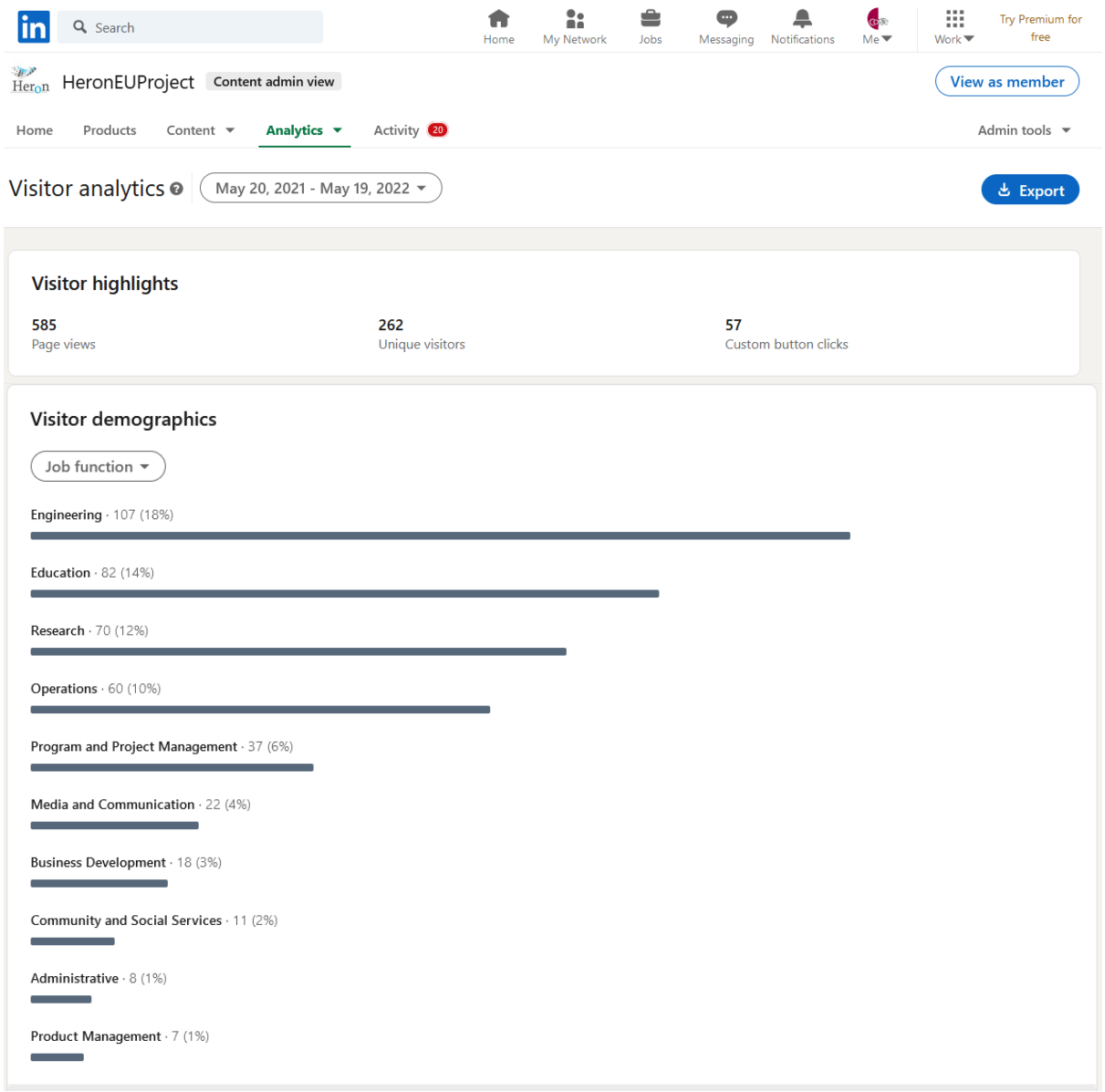

Figure 17: Last 12 months summary and analytics of the LinkedIn account.

Facebook

Facebook (or Meta) is the world's largest social network (see Figure 18). The communication strategy that was set up for this network involves posts that will educate (while entertaining), informational videos, and actions that aim to generate hype, and therefore comments and shares. Moreover, Facebook statistics, from the Facebook insights page, for the last 6 months of the project are depicted in Figure 19 to Figure 21 below. In particular, Figure 19 depicts a timeline of the page reach, Figure 20 of the page visits, and Figure 21 of the new page likes. Page reach is the number of people who saw any content from HERON's page, including posts, stories, etc. It is noted that reach is different from impressions, which may include multiple views of the posts by the same people.

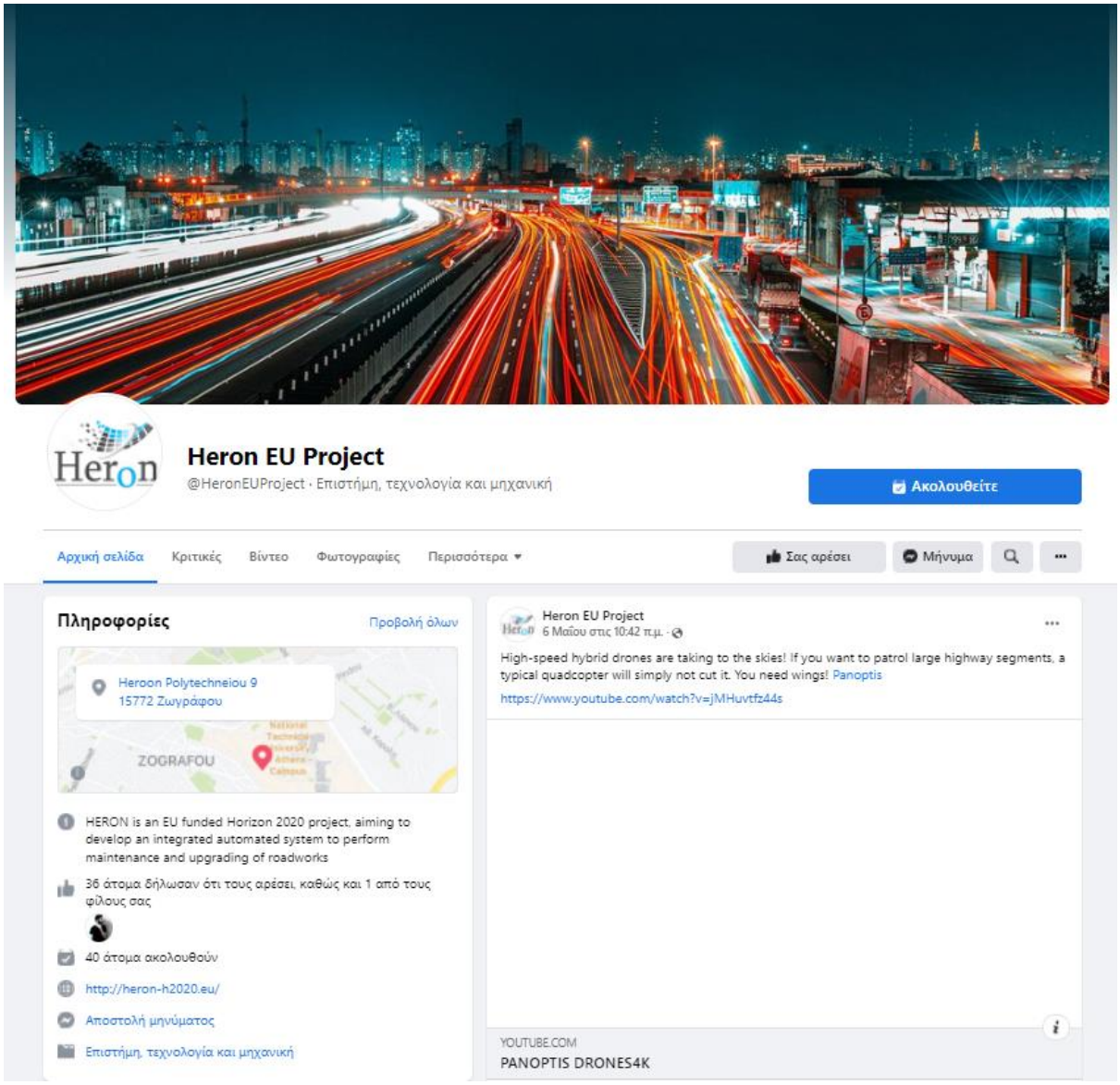

Figure 18: HERON's page on Facebook.

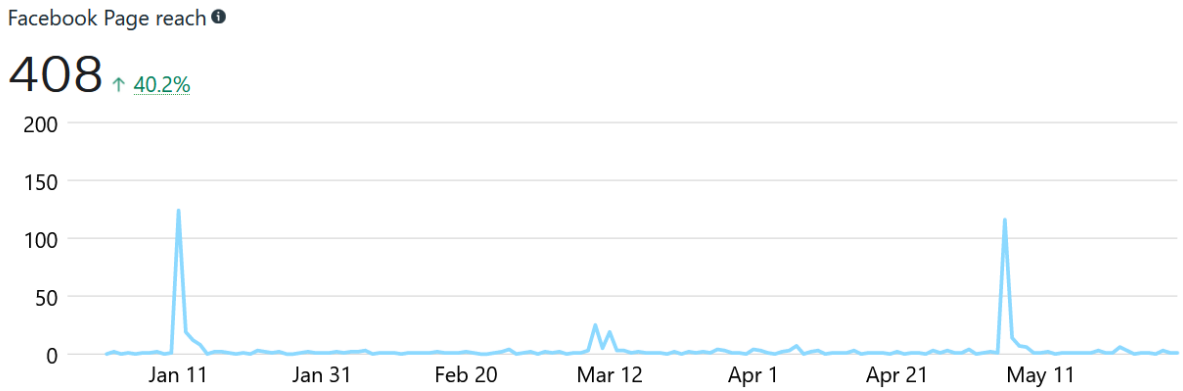

Figure 19: Timeline of HERON Facebook page reach during the last 6 months.

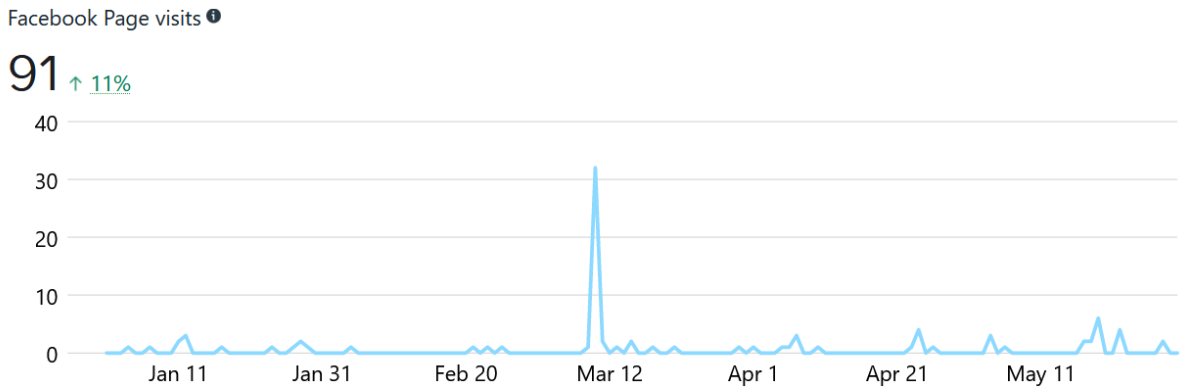

Figure 20: Timeline of HERON Facebook page visits during the last 6 months.

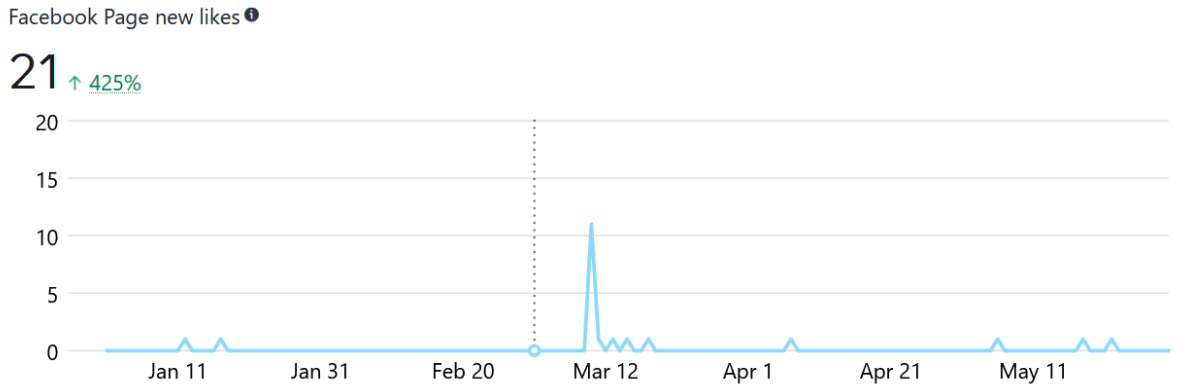

Figure 21: Timeline of HERON Facebook page new likes reach during the last 6 months.

Twitter

Twitter is a social network service (see Figure 22) where users communicate with short messages also known as tweets. The dissemination strategy for Twitter includes tweets with links to HERON's content such as PDF documents, photos, videos, etc. During the first 12 months, the HERON's Twitter account had 123 tweet impressions and 310 profile visits (see Figure 23).

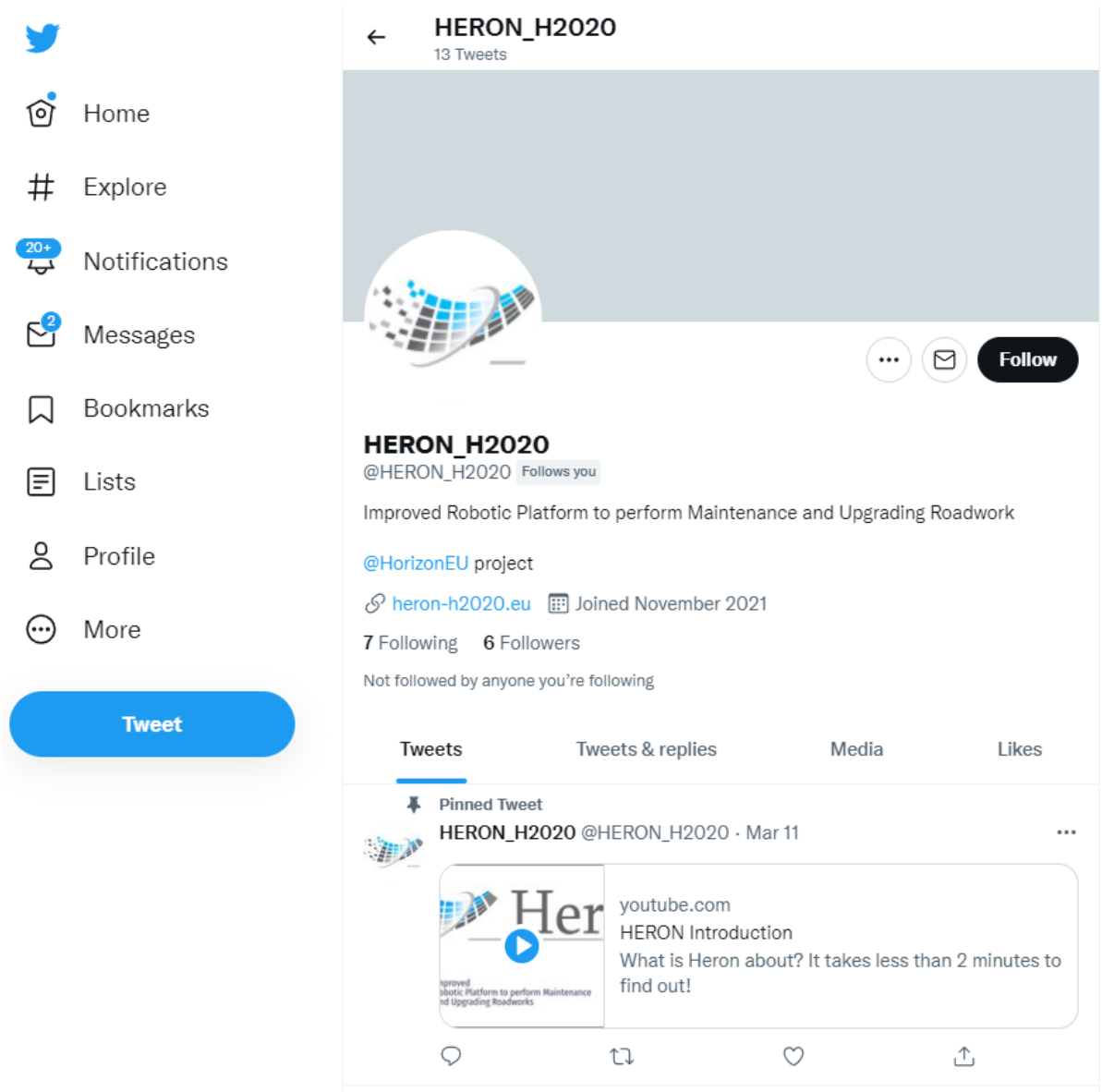

Figure 22: HERON's account page on Twitter.

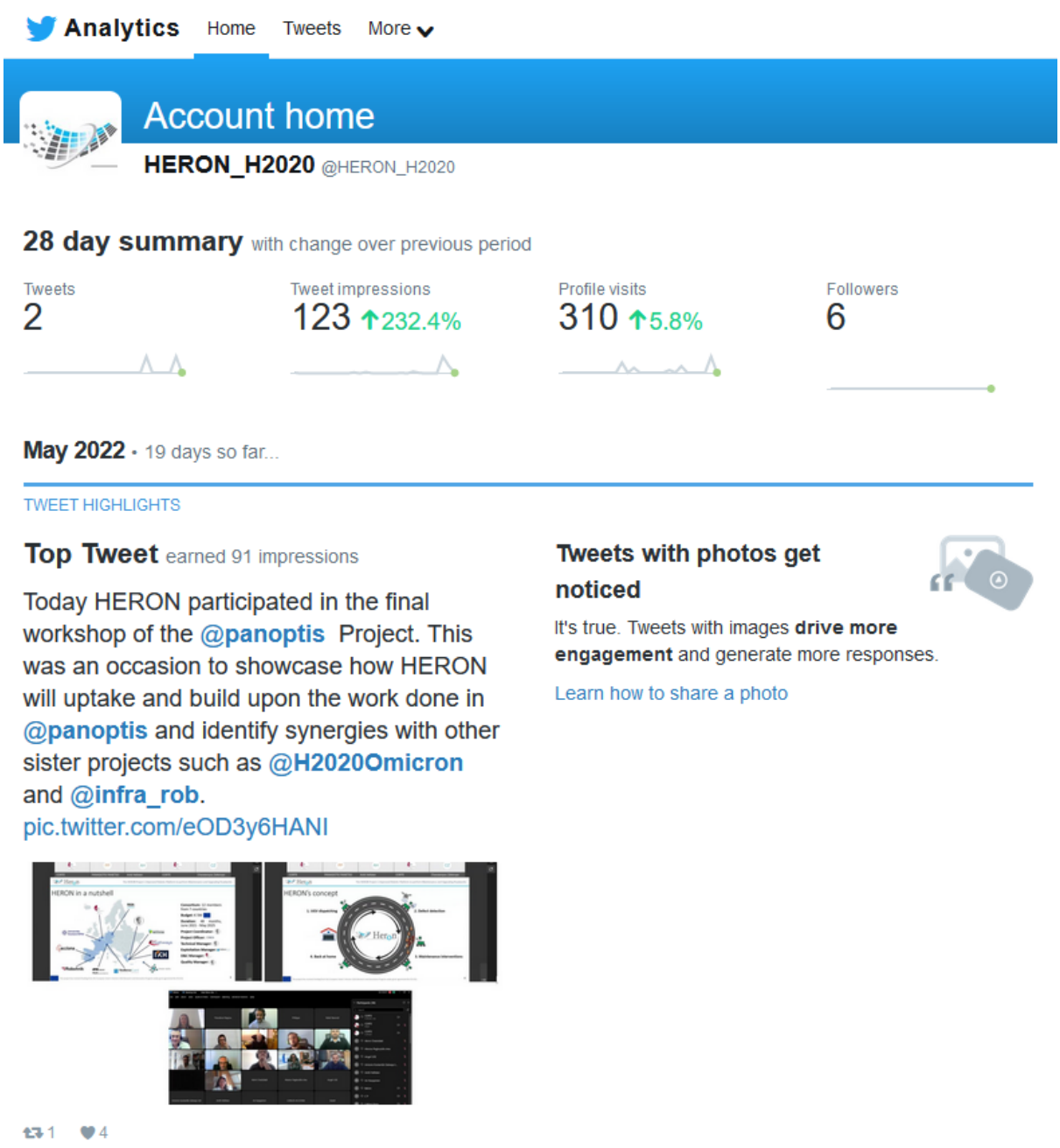

Figure 23: Last 28 days summary and analytics of the Twitter account.

ResearchGate

ResearchGate (see Figure 24) is a commercial social network mainly used by scientists and researchers in order to share their papers or find research partners. The dissemination plan of HERON regarding the research gate includes the communication of the scientific methods and outcomes to educate upcoming scientists-researchers.

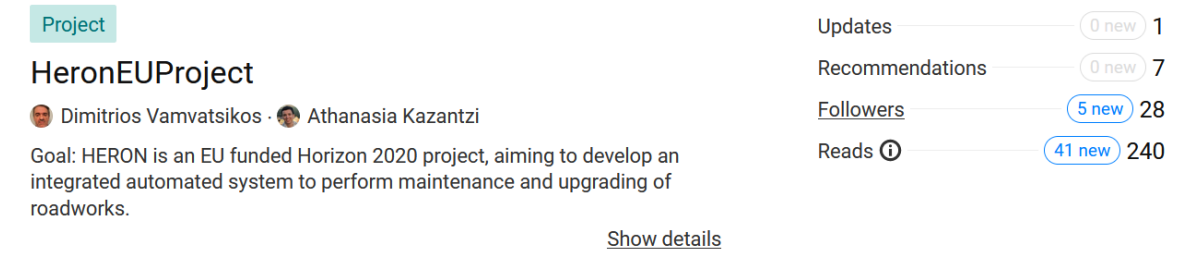

Figure 24: HERON's ResearchGate project profile.

YouTube

YouTube is an online video sharing and social media platform with more than one billion users. HERON can use YouTube to disseminate videos of the project and attract more people to the targeted groups. Six introductory videos regarding HERON partners have already been uploaded to the HERON's YouTube channel (see Figure 25). Furthermore, channel statistics, from the HERON's YouTube Studio page, up to M12 of the project are depicted in Figure 26.

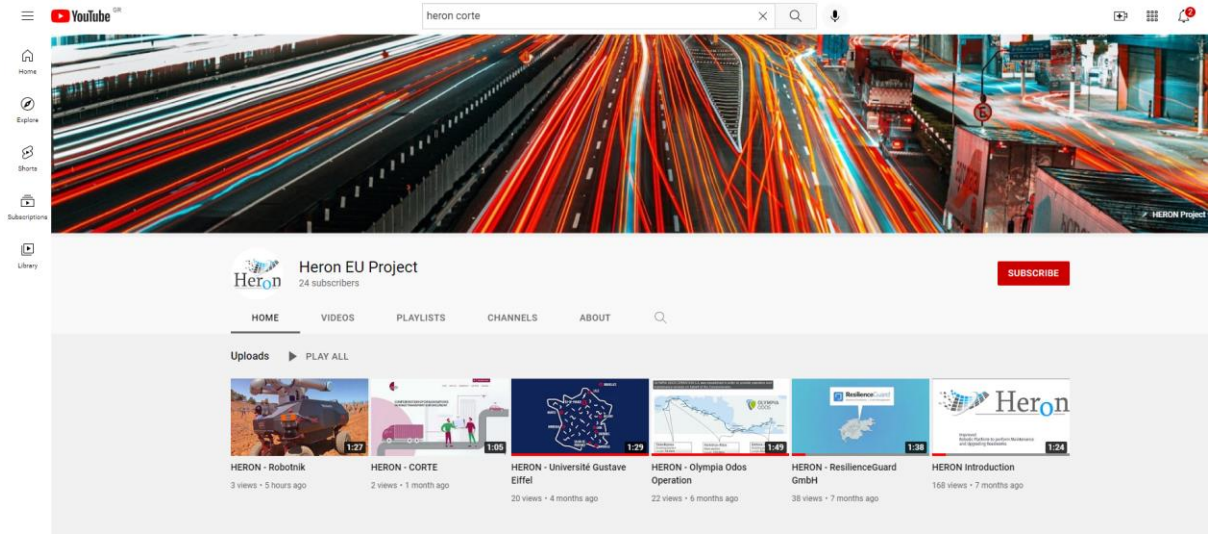

Figure 25: HERON's YouTube channel.

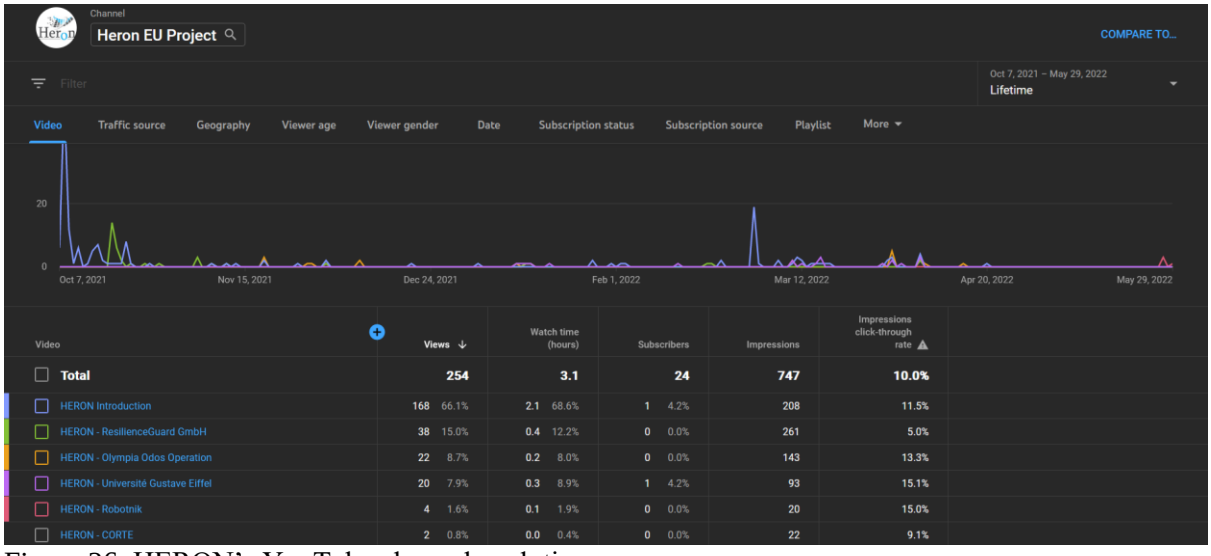

Figure 26: HERON's YouTube channel analytics.

3.1.5 Communication material

Logo and graphic identity

A logo for HERON has been designed (see Figure 27). The logo uses blue and black colors that refer to technology and robotics respectively. In parallel, its iconography combines the concepts of technological improvements in robotic science.

Figure 27: HERON logo.

Newsletter

A regular CORTE newsletter has been established as one of the key communication materials for the HERON target audience. The newsletter provides regular updates to audience groups within the networks of HERON partners.

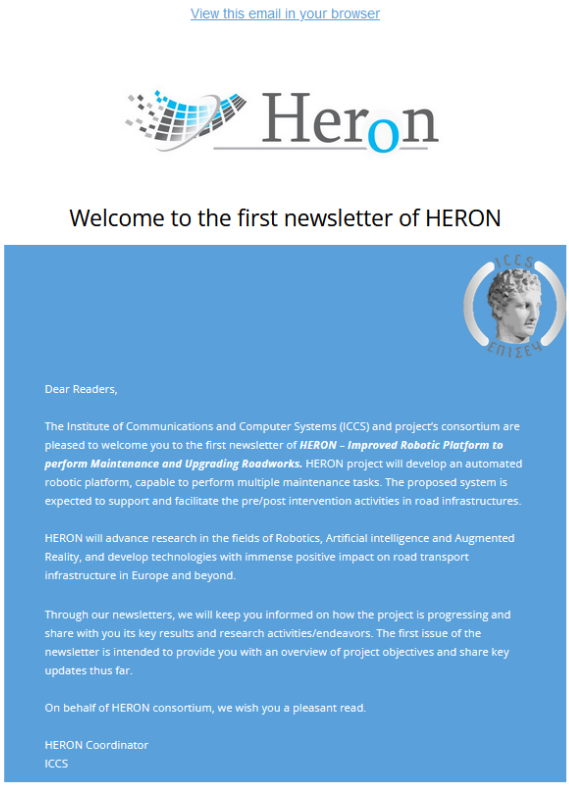

Figure 28 The first newsletter of the HERON project.

Annual magazine

The first project's annual magazine including a four pages brochure in A4 format is released at M12. It will be distributed electronically and be publicly available for download at the HERON's website. Magazines will be released on annual basis.

Figure 29: First annual magazine of the HERON project.

Videos

As already mentioned in Section 3.1.4o populate the HERON youtube channel, several videos have also been developed. For the moment, these videos provide an introduction to the project and its partners. As the project progresses, more descriptive videos to explain the results of the project would also be developed.

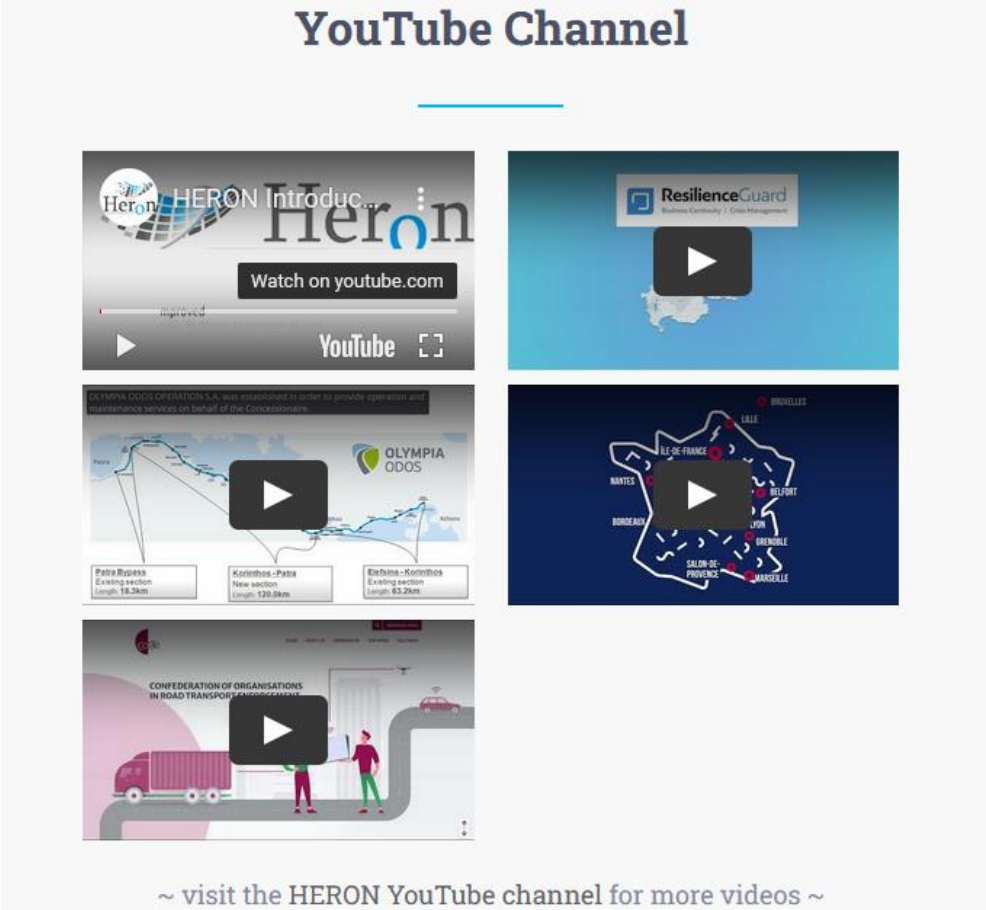

Figure 30: HERON YouTube channel videos.

Presentation template

In order to make the project more noticeable, a presentation template was created. Thus, the project's presentations will further contribute to forming an identity and make the project more recognizable. All documents are stored and available on the SharePoint platform.

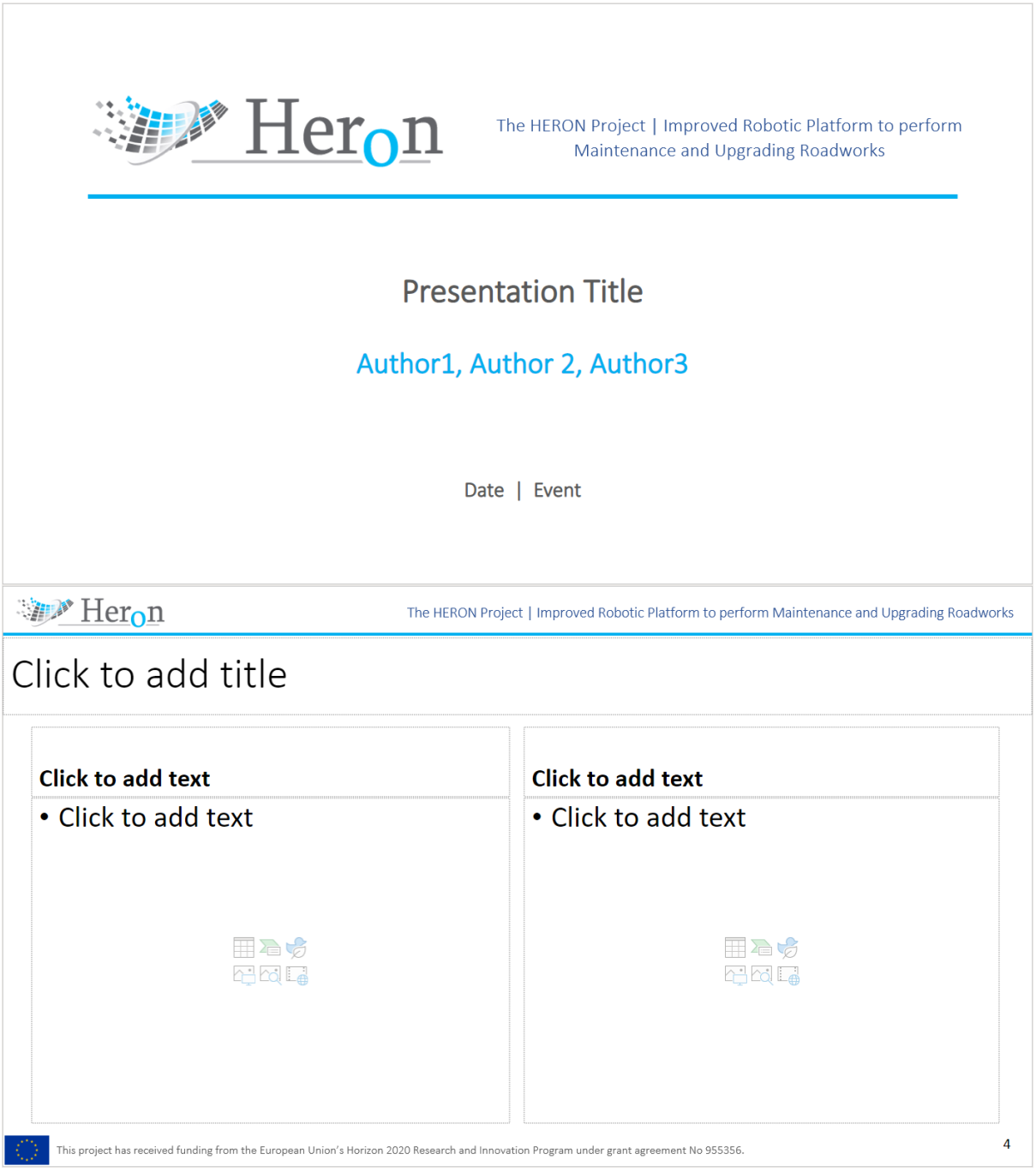

Figure 31: HERON's presentation template.

3.2 Dissemination Means and Communication Amplifiers

This section will demonstrate the various impacts created to date, by recognizing the major target groups as well as the means and ways of communication in the HERON project.

3.2.1 Scientific publications

Publications in scientific journals on technical topics related to research and innovation work will be addressed directly and/or indirectly to the scientific communities in the scope of the HERON project. The specific activities enhance HERON awareness, enable project solutions and concepts to leverage other research projects, enhance cross-project collaboration, and lastly provide fundamental tools for peer review of HERON scientific approaches.

Below are listed indicative future article publications:

- Katsamenis, I., Bimpas, M., Protopapadakis, E., Zafeiropoulos, C., Kalogeras, D., Doulamis, A., Doulamis, N., Montoliu, C.M.P., Handanos, Y., Schmidt, F. Ott, L., Cantero M., Lopez, R. 2022. Robotic Maintenance of Road Infrastructures: The HERON Project. In The 15th PErvasive Technologies Related to Assistive Environments Conference.
- Zafeiropoulos, C., Protopapadakis, E., Chatzidaki, A., Doulamis, A., Vamvatsikos, D., Zotos, N., Bogdos, G., Kostaridis, A., Schmidt, F., Ientile, S., Sevilla, I., Tilon, S. and Rallis, I. 2022. A holistic monitoring scheme for road infrastructures. In The 15th PErvasive Technologies Related to Assistive Environments Conference.
- Katsamenis, I., Karolou, E.E., Davradou, A., Protopapadakis, E., Doulamis, A., Doulamis, N., Kalogeras D. TraCon: A novel dataset for real-time traffic cones detection using deep learning. In Novelties in Intelligent Digital Systems: Proceedings of the 2nd International Conference.
- Katsamenis, I., Davradou, A., Karolou, E.E., Protopapadakis, E., Doulamis, A., Doulamis, N., Kalogeras D. Evaluating YOLO transferability limitation for road infrastructures monitoring. In Novelties in Intelligent Digital Systems: Proceedings of the 2nd International Conference.

3.2.2 Participation in conferences, seminars, workshops, and project meetings

Until M12 the project was disseminated via the participation of the consortium HERON partners to the events that are presented in the following subsections below.

Event #1: Kick-off meeting

Date: 10 June 2021

Short description: In a one-day meeting, administrative processes were presented and discussed as well as an overview of all the Work Packages (WPs) and scientific approaches to be followed in the project was made. It is noted that particular attention was paid to the detailed technical discussion of the active tasks in the first semester of the HERON project. To this end, each partner presented their internal milestones and strategy for each task as well as a roadmap for the initial months of the project was drafted.

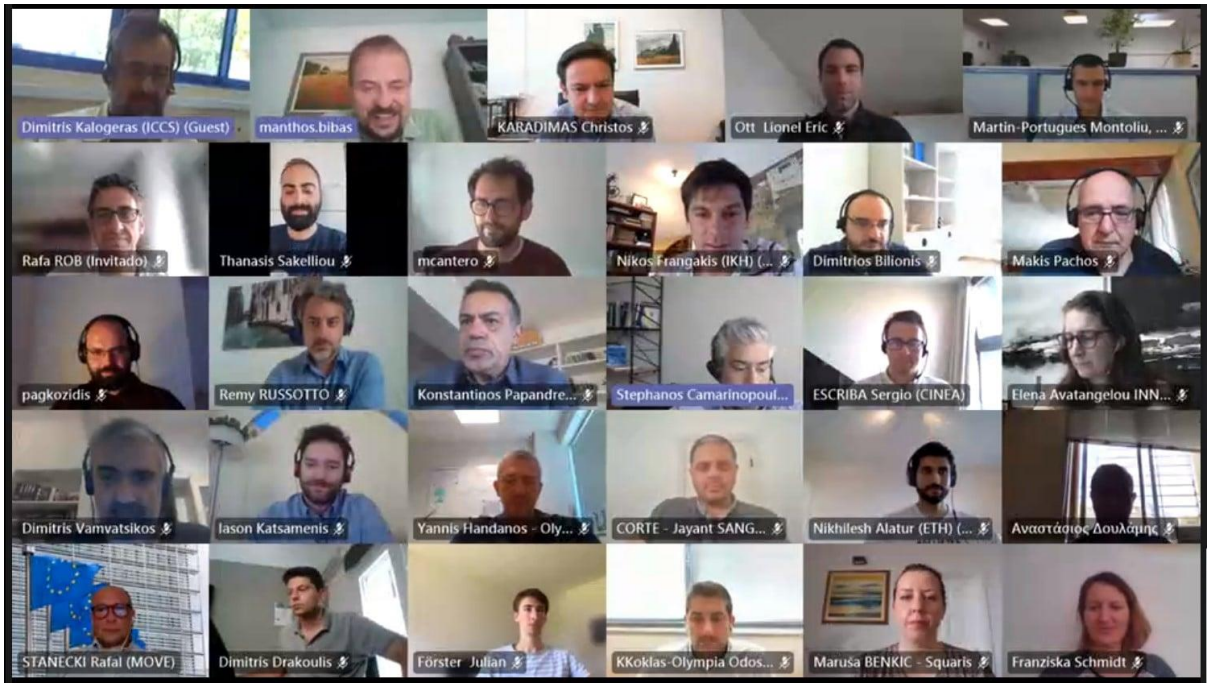

Figure 32: HERON Kick-off meeting.

Event #2: Spanish workshop

Date: 22 November 2021

Short description: The Spanish workshop was organized by ACCIONA to gather to present the HERON project and Spanish Pilot to the relevant authorities in the Spanish HERON Pilot: The Spanish Ministry of Transport and Urban Mobility and the Spanish Traffic Authority (Spanish Ministry of Home Affairs):

Figure 33: The Spanish Ministry of Transport and Urban Mobility and the Spanish Traffic Authority (Spanish Ministry of Home Affairs).

The responsible for Operations and the chief of Maintenance of the A2 Motorway were also present in the workshop together with the technical staff to be involved in the HERON project.

The goals of the workshops were to define the reports and permissions required to undertake the planned pilot activities and to gather feedback, comments, and questions from attendees.

The overall feedback from the authorities and A2 responsible was quite positive and all their questions were answered properly by the HERON technical staff. Requirements, reports and permissions required were defined (including the timeframe expected) and it was agreed to organize an additional workshop once the HERON system and architecture are more defined and the pilot activities and dates are fixed.

Event #3: 1st plenary meeting

Date: 26 November 2021

Short description: During the 1st plenary meeting, an overview of all work packages (WP) was made. More attention was given to the end-user requirements and the active technical tasks

in the first 6 months of the project. Each partner also presented the strategy and internal milestones of their respective tasks.

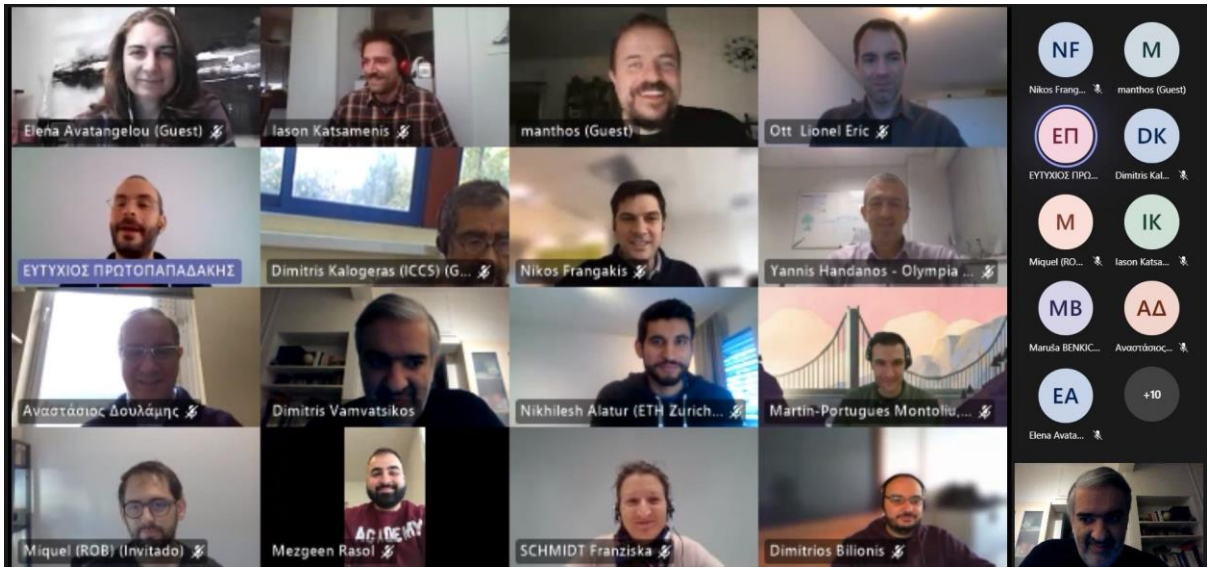

Figure 34: HERON 1st plenary meeting.

Event #4: 1st joint meeting with sister projects OMICRON & InfraROB

Date: 17 March 2022

Short description:

The joint meeting organized by HERON, provided an occasion for the 3 projects to establish contact and update each other on the progress of their work. All project representatives agreed on the importance of having a continued contact and making these meetings a regular feature. The meeting also allowed the projects to consider synergies both for communication and dissemination activities but also for research. As a first step, the project representatives agreed to organize a joint session at the upcoming Transport Research Arena (TRA) Conference in Portugal in November 2022.

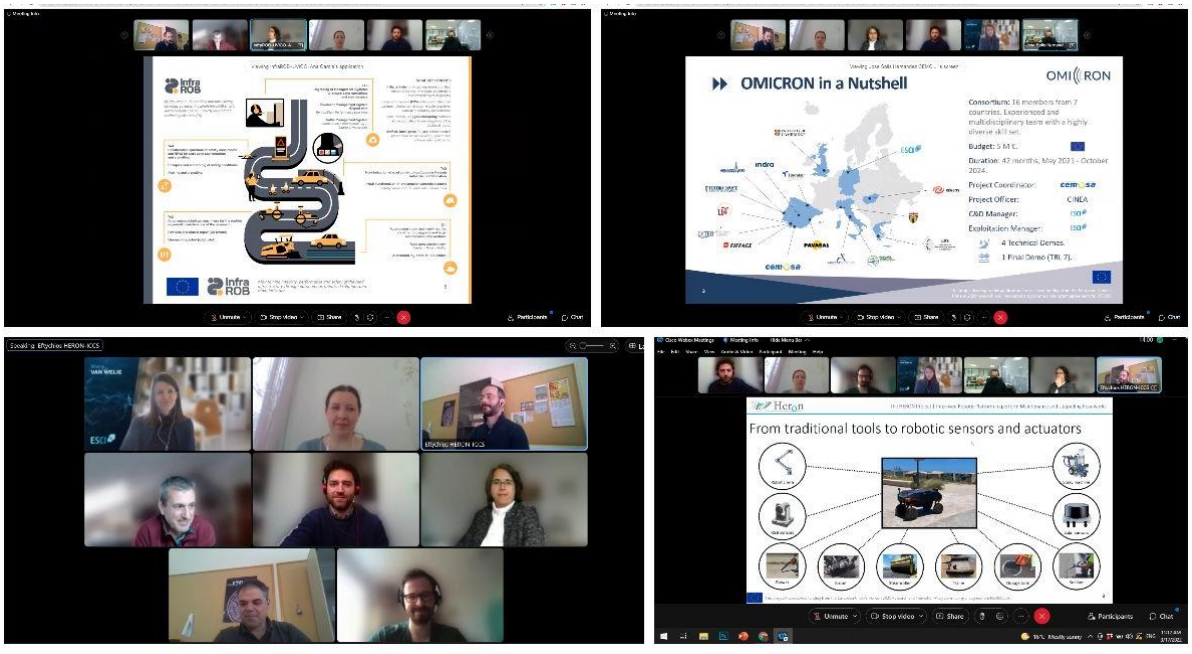

Figure 35: 1st joint meeting with sister projects OMICRON & InfraROB.

Event #5: PANOPTIS Consensus-Building Workshop

Date: 17 May 2022

Short description:

HERON participated in the final workshop of project PANOPTIS in a dedicated session. HERON presented its scope and objectives to the workshop participants and also considered how PANOPTIS results could prove useful to the work and research under HERON.

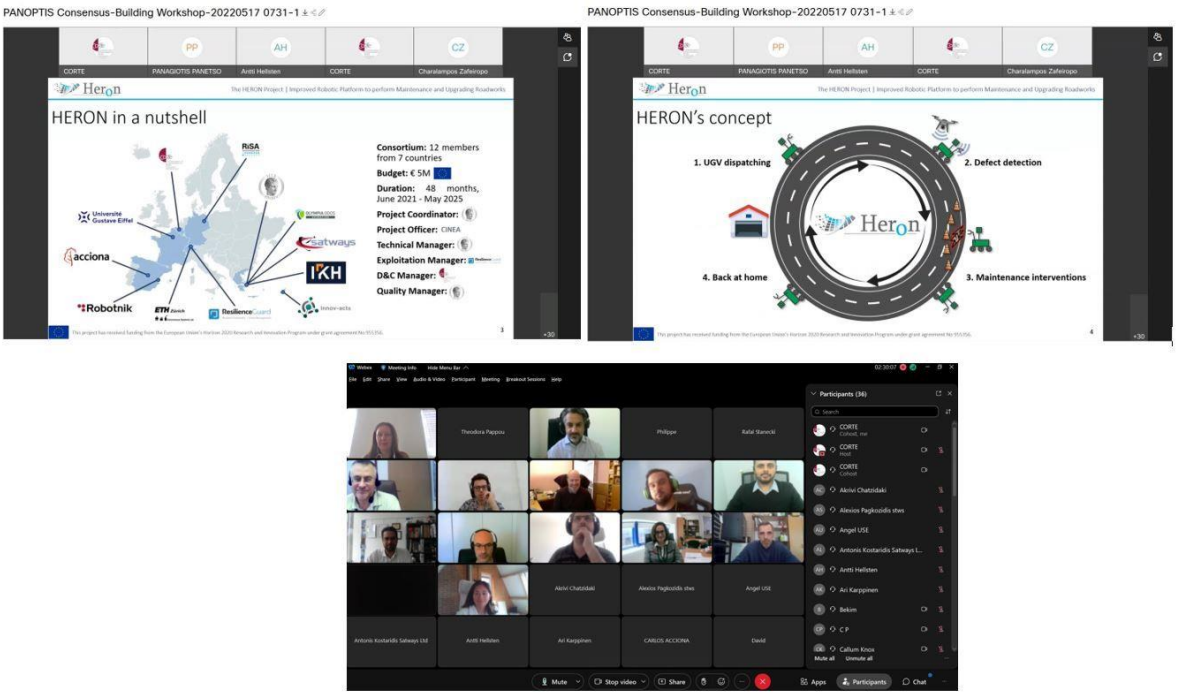

Figure 36: PANOPTIS Consensus-Building Workshop.

3.2.3 National or International Research and Innovation Activities

There are numerous ongoing and completed projects, both at an international and national level, which show notable resemblance to HERON. To this end, the findings and outcomes of various projects will be utilized by HERON in order to effectively address its objectives. Indicatively:

Table 7: Projects related to HERON.

Project	Description	Website
ROBO-SPECT [1]	ROBO-SPECT, driven by the tunnel inspection industry, adapts and integrates recent research results in intelligent control in robotics, computer vision tailored with semi-supervised and active continuous learning and sensing, in an innovative, integrated, robotic system that automatically scans the intrados for potential defects on the surface and detects and measures radial deformation in the cross-section, distance between parallel cracks, cracks and open joints that impact tunnel stability, with mm accuracies.	http://www.robo-spect.eu/

	This permits, in one pass, both the inspection and structural assessment of tunnels. Intelligent control and robotics tools are interwoven to set an automatic robotic arm manipulation and an autonomous vehicle navigation so as to minimize humans' interaction. This way, the structural condition and safety of a tunnel are assessed automatically, reliably and speedily.	
AEROBI [2]	AEROBI aims at the development and validation of the prototype of an innovative, intelligent, aerial robotic system with a specialized multi-joint arm for the in-depth structural inspection of reinforced concrete bridges, speedily and reliably, without interfering with the traffic and endangering the inspectors, that has the potential to be commercialized in the short term.	https://www.aerobi.eu/
PANOPTIS [3]	The purpose of the PANOPTIS project is to improve the resiliency (ability to adapt) of the road infrastructures and ensuring reliable network availability under unfavorable conditions, such as extreme weather, landslides, and earthquakes. The project's main goal is to combine down-scale climate change scenarios (applied to road infrastructure) with structural and geotechnical simulation tools, and with actual data from sensors (terrestrial and airborne) so as to provide the operators with an integrated tool able to support more effective management of their infrastructures at planning, maintenance and operation level.	http://www.panoptis.eu/
InfraROB [4]	InfraROB will focus on automating, robotizing, and modularising road construction and maintenance work. More specifically, it will develop, among others, autonomous robotized systems and machinery to carry out line marking, repaving, and the repair of cracks and potholes. It will also develop collaborative robotized safety systems for construction workers and road users. The project further aims to integrate pavement management	https://infrarobproject.com/

	system and traffic management system solutions for a holistic, unified management of road infrastructure and live traffic.	
OMICRON [5]	OMICRON project will develop an intelligent asset management platform (IAMP) with a vast portfolio of area-specific innovative technologies to increase the construction, maintenance, renewal, and upgrade of the EU road network. The project will address the entire road network system, focusing on digital inspection technologies implementation, road digital twin development, construction of a decision support tool, intelligent construction development, and intervention solution for infrastructures. The IAMP will be interconnected by a building information modeling (BIM) oriented digital twin to the decision support tool to enable industrialization and automation of several road management functions, demonstrated in Italy and Spain.	https://omicronproject.eu/

4 Impact Evaluation

Key Performance Indicators for the impact evaluation are documented in D8.3: Dissemination and Communication Plan (first version). In the present section and in particular, in Table 8, we demonstrate the current status for each of the proposed KPIs.

Table 8 Impact evaluation through KPIs.

Dissemination tools	Parameter	KPIs	M12	Comments
Website	Number of visits/year	10,000	>1,000	As per the project plan the website was established in M3 and the target audience was made aware of the website in subsequent months. To increase the number of visits the following measures are being implemented: • Publicizing the website in newsletter and annual magazine. • Including hyperlinks to stories/news published on the website in the newsletters and annual magazines. • Creation of a bar code that can be easily scanned by the audience groups using their phones to reach the website.
Social media channels	Number of members/account	200	LI: 178 FB: 41 TW: 6 RG: 28 YT: 24	
	Number of posts/year in total	150	>50	
Leaflets, videos, and eNewsletters	Number of newsletters	3	1	Task 8.2 relating to newsletters started in M3 and as a first step, the structure and design of the newsletter were finalized. Considering that the structure and design of the newsletter have now been established, henceforth newsletters will be published more regularly.
	Number of leaflets	2	0	Considering that leaflets are a useful dissemination material for physical events, they will be prepared in the coming months as more physical events are organized within the framework of

				HERON. To compensate for this, digital resources such as introductory videos were created to populate YouTube and other social media channels of HERON.
	Number of videos	2	6	
Publications in open access scientific journals	Number of publications	2	0	As technical work packages and research activities of the project have now been activated, more research publications are foreseen in the coming months.
	Conference publications	-	4	

5 Conclusions

During the first 12 months, the HERON project has conducted various dissemination and communication activities. The accomplishments during this period are:

- The website was created and is continuously updated.
- The project's social media are capable to communicate the HERON results.
- The first newsletter and annual magazine have been created.
- The project members will participate in several scientific conferences.

The project will not stop implementing these activities during the following months. In the following months, more results will be available. Therefore, the number of usable channels and people reached, such as stakeholders, researchers, public, will be increased.

References

[1] ROBO-SPECT. ROBOtic System with Intelligent Vision and Control for Tunnel Structural inSPECTion and Evaluation. http://www.robo-spect.eu/, 2013.
[2] AEROBI. AErial RObotic System for In-Depth Bridge Inspection by Contact. https://www.aerobi.eu/, 2015.
[3] PANOPTIS. Development of a Decision Support System for increasing the Resilience of Transportation Infrastructure based on combined use of terrestrial and airborne sensors and advanced modelling tools. http://www.panoptis.eu/, 2018.
[4] InfraROB. Maintaining integrity, performance and safety of the road infrastructure through autonomous robotized solutions and modularization. https://infrarobproject.com/, 2021.
[5] OMICRON. Towards a more automated and optimised maintenance, renewal and upgrade of roads by means of robotised technologies and intelligent decision support tools. https://omicronproject.eu/, 2021.