



NEWSLETTER

JULY 2022



assistance

Adapted Situation Awareness tools and tailored training scenarios for increasing capabilities and enhancing the protection of First Responders

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Dear Reader,

Welcome to the third and final issue of the ASSISTANCE Newsletter. We are pleased to present you an overview of our progress and achievements after the last year of the project execution.

It was again a very challenging year, as the COVID-19 pandemic persisted and remained the main theme throughout our daily life, still affecting many aspects of it. In ASSISTANCE, we've also decided to reorganise our planning, so we have extended the project by three months and postponed some activities with the hope they can be organised in a most relevant format – live on field. Thus, despite the limitations resulting from the pandemic, ASSISTANCE teams managed to keep the work progressing with all the results delivered successfully, including our three live pilot demonstrations, which were organised in Turkey, the Netherlands and Spain within the last six months – you can find the insights to all three events in the *ASSISTANCE Pilot Demonstrations* section.

ASSISTANCE project is at its final stage with the last works being completed until the end of this month. After a well-earned summer vacation, all the ASSISTANCE teams will meet once more virtually at the Final Review Meeting in September, proudly presenting our results and achievements to the Project Officer and appointed Reviewers, hoping to receive their positive feedback and acceptance.

We would like to thank you for following us throughout the project and invite to stay tuned for longer, as we plan to feed our communication channels (website, social media) with relevant updates and publications, as we'll seek opportunities to exploit the project outcomes as wide as possible.

Stay healthy and hopefully see you soon!

ASSISTANCE Consortium



+ Final year summary and accomplishment of project milestones

ASSISTANCE has entered its final year of execution in May 2021, when the SARS-COV-2 pandemic was still the main theme in all the News. Even though the vaccination programmes have started in majority of countries around the world, new waves have been expected to come with the Autumn/Winter period.

Being aware of the possible constraints this will bring to the project activities – especially with respect to organisation of events – the ASSISTANCE consortium have decided to agree with the European Commission on a project timeline extension of three months.

The main motivation for this decision was to allow the rescheduling of the project pilot demonstrations, which were originally planned to be performed in September 2021, November 2021 and January 2022.

The joint decision was taken during a dedicated plenary meeting (in a teleconference format) in June 2021, followed by the Grant Agreement amendment process, which formalised the overall extension of the project (until the end of July 2022) along with rescheduling of several project deliverables, in particular the ones related to the project pilot demonstrations – replanned to January, March and June 2022.

Despite these changes all partners kept their works ongoing and delivering the majority of results according to the original schedule. The consortium meetings were still held in an online format (the first occasion for the partners to meet in person after 2 years was the first project pilot event in Turkey), both as plenary sessions and on the level of work packages and tasks, in order to maintain good communication between the partners and ensure smooth coordination of all the works.

Many other activities were performed fully in an online format, such as live remote technical integration sessions, surveys for end-users or workshops/webinars, but - whenever possible - some were also performed as local events.

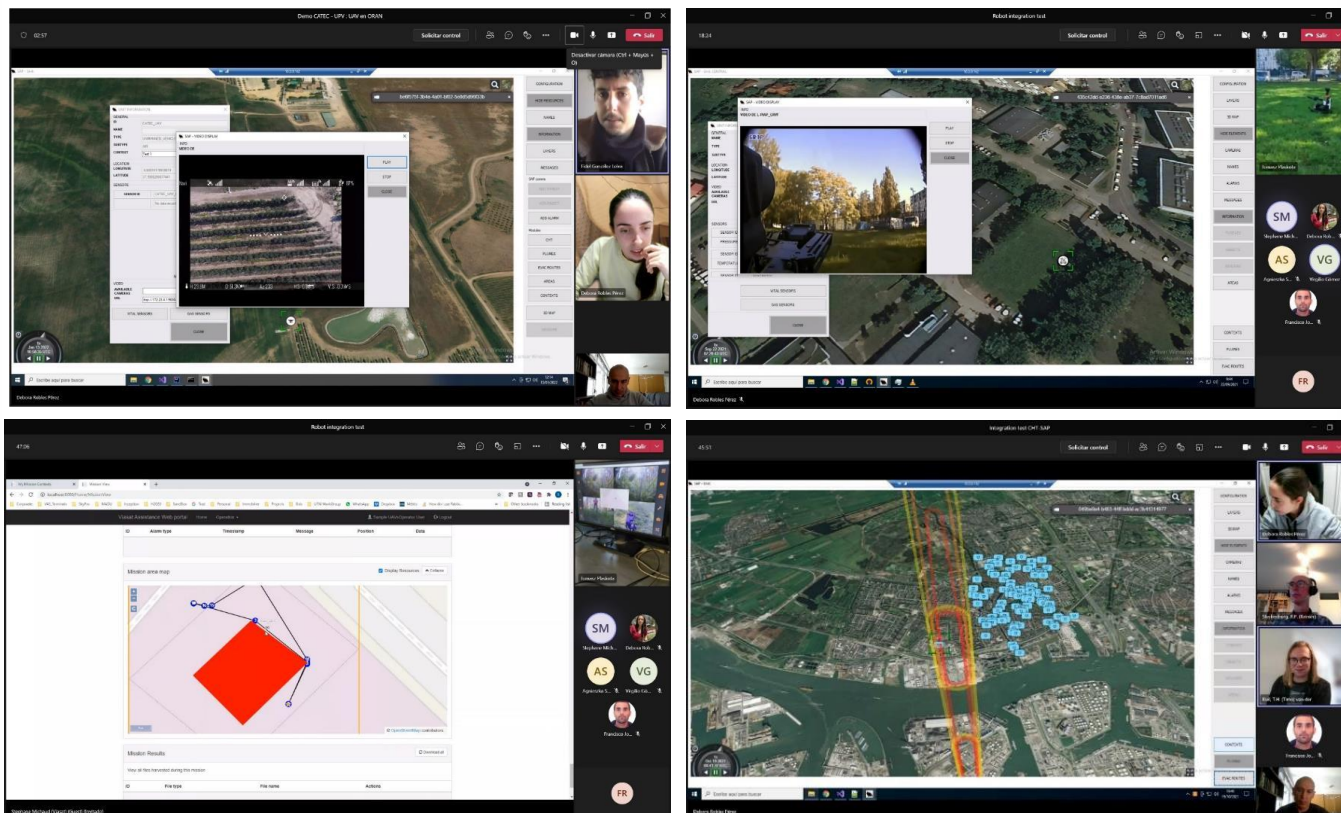


+ Online integration and testing sessions

In preparation for the project pilot demonstrations UPVLVC, as the coordinator and partner responsible for the SAP development, had performed several online integration tests in order to ensure the proper integration of all ASSISTANCE tools into the SAP:

- † FRs Location module integration tests (UPV <-> TNO)
- † Drone integration tests (UPV <-> FADA-CATEC)
- † Robot integration test (UPV <-> Łukasiewicz-PIAP <-> VIASAT <-> THALES)
- † Chemical Hazard Tool integration test (UPV <-> TNO)

In addition, other partners have also conducted bilateral online integration sessions, such as integration tests of the Damage Assets Location and Routing module or the Evacuation Management module between ETRA and UC.



ASSISTANCE online integration and testing sessions – UAV, UGV and CHT module

+ Survey on Past Experiences of First Responders

A survey on past experiences of First Responders has been developed within works in WP8, seeking contribution from different First Responders both in the ASSISTANCE consortium and beyond. The information on the survey has been disseminated via the project communication channels (website, social media) inviting all types of First Responders (Firefighters, Police, EMS and Civil Protection) to fill it in and provide valuable feedback. Over 130 responses have been collected and the results helped the ASSISTANCE WP8 team to learn more about psychological differences/similarities in male and female First Responders. The summary and conclusions from the survey results have been included in deliverable D8.6.

+ ASSISTANCE and aqua3s Standardisation Activities Workshop

On 18th November 2021 ASSISTANCE with H2020 aqua3s project co-hosted an online workshop/webinar on standardisation activities for disaster-resilient society (DRS) and critical infrastructure protection (CIP) projects. Invitation to the workshop has been disseminated via the project communication channels (website, social media).

The goal of the workshop to give the attendees a basic understanding of standards, the standardisation process, and how standards can benefit their projects and to briefly present resources available and lessons learned to help projects fulfil their standardisation needs. Available supporting resources and lessons from the standards activities of other projects were also presented.

The workshop/webinar was supported by presentations from representatives of:

- † CEN/CENELEC,
- † Directorate General for Migration & Home Affairs (DG-HOME),
- † Finnish Standards Association (SFS),
- † European Reference Network for Critical Infrastructure Protection (ERNICIP),
- † CEN TC 164
- † Deutsches Institut für Normung (DIN),
- † DRIVER+ project,
- † CURSOR project
- † STRATEGY project

The workshop was divided into two sessions: a public introductory educational session and, afterward, a private session for the ASSISTANCE partners to discuss the standardisation needs for their Key Exploitable Results (KERs) and begin to formulate a plan on how to fulfil them.

Altogether, 44 people participated in the workshop and six Cluster 3 projects (ASSISTANCE, aqua3S, CURSOR, FASTER, PRAETORIAN, and STRATEGY) were represented. The standardisation activities workshop focus group was attended by all the ASSISTANCE KERs owners and half of the First Responders partners.

The summary and conclusions from the workshop will be included in deliverable D9.6.



+ Local integration workshops

Despite the constraints for non-virtual meetings related to the SARS-COV-2 pandemic, active interaction between the ASSISTANCE partners has been kept as intensive as possible, even if it had to be limited to a local level. One of the examples were the integration workshops in Poland held between **Łukasiewicz-PIAP, OSPOM and CNBOP-PIB**.

The first one served to acquaint **the end-users** with the capabilities of the UGV delivered by Łukasiewicz-PIAP and integrated into the ASSISTANCE system as well as to let them assess the **user-friendliness of the UGV HMI**. Though the UGV HMI has not been in a main focus of developments for the ASSISTANCE system (as the UGV missions and sensor data are controlled and distributed via ASSISTANCE SAP HMI), this requirement has been appointed a very high priority ranking by the end-users at the beginning of the project. Therefore, **a specific validation session** has been prepared and performed in form of a training combined with the workshop. Its scope had to be limited by the COVID-19 pandemic-related constraints and only two Polish end-user organisations have taken part – OSPOM and CNBOP-PIB. The workshop has been **organised in the OSPOM premises in Ożarów Mazowiecki in Poland in November 2021**. The validation session has been prepared to comprise a 3 part questionnaire: before the training, after 2 hours of training and after training is finished, however, due to the time and organizational constraints 2 parts of the questionnaire were finally executed – before and after the training.

Analysis of the questionnaire results has confirmed that the overall assessment of the UGV HMI has been **mid to high positive on user friendliness and usability**. As the questionnaires included also some open questions, the end-users participating in the workshop/training have given suggestions on what can be improved or enhanced.

The second workshop was focused on the **integration of additional innovative payload** that could be used on the **UGV** in ASSISTANCE scenarios and beyond – the **CutLanca cutting extinguisher**. The workshop has been held between Łukasiewicz-PIAP and OSPOM in May 2022 in Łukasiewicz-PIAP premises in Warsaw.

The cutting extinguisher provided by OSPOM was mechanically integrated with the Łukasiewicz-PIAP UGV (mounted on the manipulator) and tested in outdoor environment. The mounts were designed in two different sizes to allow both variants of the cutting extinguisher to be used on the UGV. Such configuration of the UGV with the CutLanca device can be considered for many firefighting scenarios, e.g. extinguishing burning car-batteries.



Special validation session/workshop in OSPOM premises



Integration workshop in Łukasiewicz-PIAP premises

Overall, the extended ASSISTANCE Year 3 (up until month 38) has brought **accomplishment of four project milestones:**

- ✚ the privacy, legal and ethical compliance has been performed (MS8)
- ✚ three project pilots have been performed: first (MS8), second (MS10) and third (MS11)

as well as delivery of 10 deliverables:

†	D7.1	Validation Plan Report
†	D8.5	Report on data protection, privacy & ethical impact
†	D1.5	Risk & Opportunities Register 3
†	D8.6	Best practices Handbook
†	D1.11	Third Cumulative Expenditure Report
†	D7.3	First Pilot Summary Report and System Development
†	D7.2	Integrated System Test bed
†	D7.4	Second Pilot Summary Report and System Development
†	D6.4	Training network establishment and pilots' evaluation
†	D7.5	Third Pilot Summary Report and System Development

Four deliverables (D7.1, D8.5, D1.5, D8.6) have a public dissemination level and will be made available via ASSISTANCE project website after being approved by the EC in the final review.



✚ *ASSISTANCE Pilot Demonstrations*

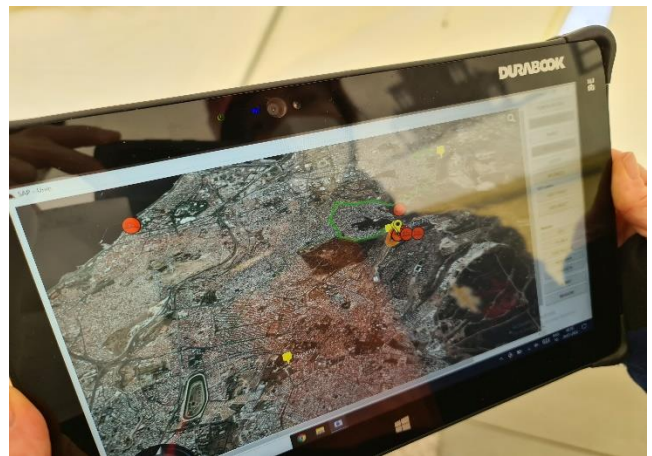
✚ **PILOT DEMONSTRATION 1 – Scenario: Earthquake in an urban environment**

Despite all the constraints related to the ongoing SARS-COV-2 pandemic, in the last week of January 2022, ASSISTANCE first pilot demonstration has been performed in Izmir, Turkey. The event has been organised and hosted by **Acil Ambulans Hekimleri Dernegi (AAHD)** in the Izmir Fire and Natural Disaster Training Centre (IYDEM) and attended by many partners (not all, due to the pandemic situation at the time).

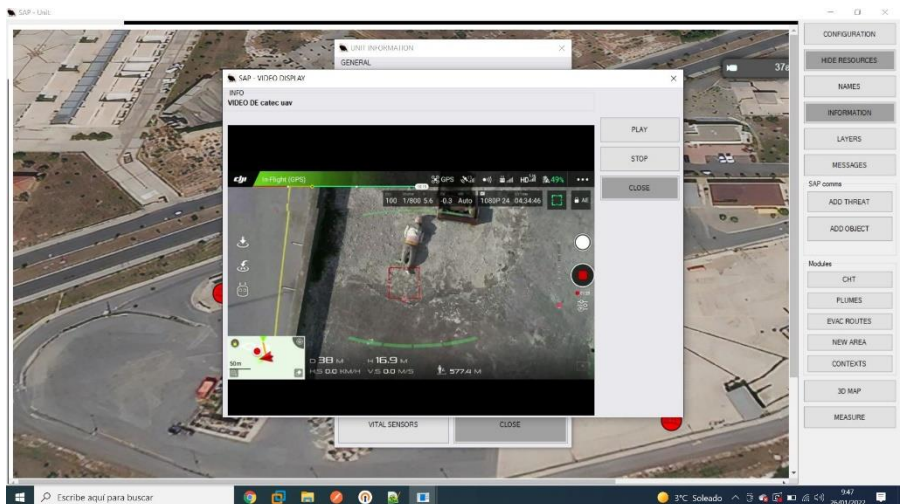
The demonstration session has encompassed five days, starting with technical and organisational preparations and a dry run. The pilot exercise has been performed on 28th January and it has been preceded with the VR training sessions for end-users using the different VR training platforms on the 27th January.

The action of the demonstration was based on an earthquake scenario, that begins after an earthquake with magnitude of 6,2 on the Richter scale with a duration of 45 seconds: *The earthquake, which was felt more intensely by the people living on the sea coastline, caused some buildings to collapse, cracks in some other buildings and many windows broken. The 112 emergency call centre received information that a fire broke out in a warehouse at the harbour and that some buildings near the port collapsed completely.*

The event was performed successfully owing to an excellent organisation by the host and engagement of the participating partners. The ASSISTANCE use cases/capabilities envisaged for the scenario have been deployed and tested during the Pilot 1 demonstration with a positive outcome.



A full gallery of pictures from the event is available at the [ASSISTANCE website](#) and the video documenting the event has been published on the project YouTube channel.



Pilot 1 demonstration in Izmir

✚ PILOT DEMONSTRATION 2 – Scenario: Industrial accident

In the last week of March 2022, ASSISTANCE second pilot demonstration has been performed in Rotterdam, the Netherlands. The event has been organised and hosted by **Gezamenlijke Brandweer (GB)** at the GB RDM training centre and attended by all partners.

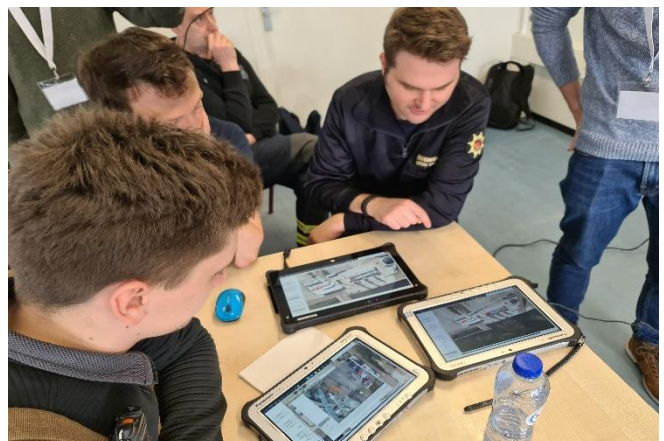
The demonstration session has been originally planned to encompass five days, starting with non-technical exercises of various First Responders and VR training sessions. In parallel the technical team was preparing the ASSISTANCE system for a dry run and final demonstration that was to be incorporated into the practitioners' field exercise. As the weather forecast has predicted snow over Rotterdam for the last day, all the activities were re-planned to be performed in four days and the dry-run day was the day of the actual demonstration.

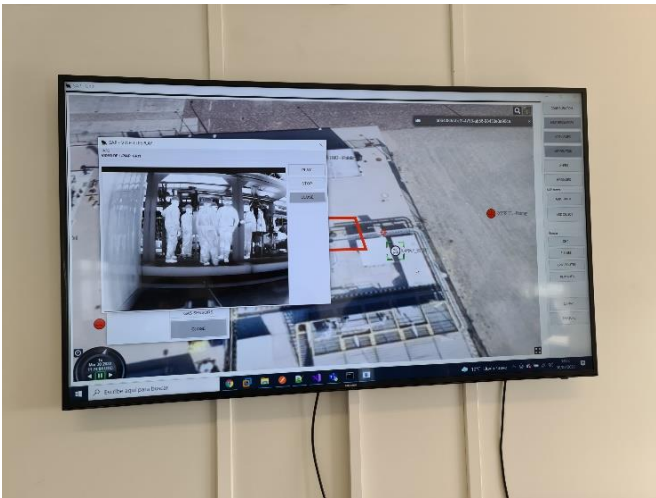
Owing to a great organisation by the host and dedication of the participating partners, the event was performed successfully, even though the weather conditions have forced the ASSISTANCE team to finish the event one day earlier.

Overall, the Pilot 2 exercise has been performed from 28th March until 30th March 2022.

The action of the demonstration was based on an industrial accident scenario, that begins with an incident on a petrochemical area of 5,3 km² and a little fire in a transformer: *A big flash is coming outside the transformer. Everything is suddenly dark, Emergency Shutdown (ESD) is operational. The Flair is working and big flames about 50 till 60 meters are on top of the Flair. There is a lot of black smoke. In addition, a leakage of the gas SF₆ (Sulphur hexafluoride) is suspected, which decomposes in the highly dangerous gases SO₂ (Sulphur dioxide) and HF (Hydrogen fluoride).*

The ASSISTANCE use cases/capabilities envisaged for the scenario have been deployed and validated during the Pilot 2 demonstration with a positive outcome.





Pilot 2 demonstration in Rotterdam

A full gallery of pictures is available at the [ASSISTANCE website](#) and the video documenting the event has been published on the project YouTube channel.



+ PILOT DEMONSTRATION 3 – Scenario: Terrorist attack

ASSISTANCE Final Pilot Demonstration was held on Friday, 17 June 2022 and it was **hosted by Ministerio del Interior – Policia Nacional** at the ‘La Enira’ Police training site near Linares in Spain. The event has been organised by **FADA-CATEC** in cooperation with **UPVLC** and attended by all partners.

The whole demonstration session has encompassed five days, starting with technical and organisational preparations, VR training sessions for end-users and a dry run on the day before the final event.

Despite the extreme weather conditions in Linares (outdoor temperature over 41°C), the event was performed successfully and the ASSISTANCE technologies have been validated in a terrorist attack scenario. All the tools and components with the capabilities they offer to the First Responders have been demonstrated and the ASSISTANCE system has been tested and evaluated by the practitioners.

Additionally, **ETRA** led an exploitation event during the Final Pilot Demonstration, attended by several FR organisations interested in ASSISTANCE solutions, including Valencian Local Police (also representing the RESPOND-A project) and SSG group – the largest ambulance service in Spain.



Pilot 3 - Final demonstration in Linares

A full gallery of pictures is available at the [ASSISTANCE website](#) and the video documenting the event will soon be published on the project YouTube channel.

+ *Work in progress*

As the ASSISTANCE project consortium prepares for the project to end this month, some final works are still ongoing. Five deliverables are currently in development, to be submitted by 31 July 2022:

- † D1.8 Final Annual Management Report
- † D7.6 Evaluation Report
- † D8.7 Human Factor impact assessment
- † D9.5 Final Dissemination Report
- † D9.6 PCP and PPI preparation Plan for Commercialisation and Market Entry

Once approved by the EC during the Final Review Meeting (in planning for September 2022) all deliverables will be published via the project website and [ASSISTANCE Community](#) on Zenodo platform.



+ *Dissemination and clustering activities*

As the SARS-COV-19 pandemic persisted, majority of the dissemination activities planned by the ASSISTANCE team were affected and a lot of events have been postponed or cancelled, such as the **Security Research Event 2022**, where the project was to be presented in a dedicated booth and via live demonstrations of the UGV and SAP.

Despite these limitations, all the ASSISTANCE partners have kept devoting efforts to continue the dissemination activities, seeking opportunities in the other types of communication and e.g. online events, research publications or press/media releases.



+ ASSISTANCE community on Zenodo Platform

As part of the activities to ensure **Open Access** of publications and data resulting from the project, ASSISTANCE partner ETRA has created the [ASSISTANCE community](#) on Zenodo platform, where all the project dissemination materials can be found (public deliverables, conference papers, posters, journal articles, magazine articles, brochures, etc.).

Zenodo is a general-purpose open-access repository developed under the European OpenAIRE program and operated by CERN. It allows researchers to deposit research papers, data sets, research software, reports, and any other research related digital artifacts. The OpenAIRE project, in the vanguard of the open access and open data movements in Europe was commissioned by the EC to support their nascent Open Data policy by providing a catch-all repository for EC funded research.



+ Publication of videos

The second ASSISTANCE Review Meeting was held in a virtual format on 25th March 2021. To better illustrate the results, all the partners responsible for core activities and developments have prepared videos, which have been published via the [ASSISTANCE YouTube channel](#).

The videos show different components of the ASSISTANCE system:

- † [ASSISTANCE Situational Awareness Platform \(SAP\) and its mobile version](#) by UPV
- † [Mission Management Module](#) by VIASAT
- † [UAV with a gas sensor integrated into the system](#) by FADA-CATEC
- † [UGV executing autonomous mission](#) by Łukasiewicz-PIAP
- † [Augmented Video Fusion](#) by UPV
- † [Chemical Hazard Tool](#) by TNO
- † [Evacuation Management Suite](#) by UC

and the VR training platforms being part of the ASSISTANCE training network:

- † [UPV VR training platform](#)
- † [ADMS Virtual Reality](#) by IFV

Additionally, videos documenting the project pilot demonstrations have been prepared and published on the YouTube channel:

- † [ASSISTANCE Project Pilot 1 – Earthquake in urban environment scenario – Izmir, Jan 2022](#)
- † [ASSISTANCE Project Pilot 2 – Industrial accident scenario – Rotterdam, March-April 2022](#)



† Open Access publications

As the project research activities progressed and the COVID-19 pandemic affected many of stationary dissemination activities, ASSISTANCE partners have increased efforts to produce publishable materials that could be disseminated via tools available in an online format, including research papers that have been submitted to various conferences or journals (including Open Access):

- † Latosinski F., Cuesta A., Alvear D., **Assessing self-preservation capabilities in toddlers during evacuations**, in: Safety Science (Volume 132, December 2020, 104983)
- † Mioch T., Sterkenburg R., Beuker T., Neerincx M.A., **Actionable Situation Awareness: Supporting Team Decisions in Hazardous Situations**, in: Proceedings of the 18th ISCRAM Conference–Blacksburg, VA, USA, May 2021, 62-70
- † Janik P., Zawistowski M., Fellner R., Zawistowski G. **Unmanned Aircraft Systems Risk Assessment Based on SORA for First Responders and Disaster Management**, in Applied Sciences (Appl. Sci. 2021, 11(12), 5364)
- † Zawistowski M., Fellner R., Sadowski P., **Airspace and Possible Usage of New Technologies during Mitigation of Large Disaster on the Example of the Assistance Project. Overview.**, in: Revista Europea de Derecho de la Navegación Marítima y Aeronáutica: XXXVII pp. 114-128 (NUEVA SERIE, VI)
- † F. González, R. Caballero, F. J. Pérez-Grau and A. Viguria, **Vision-based UAV Detection for Air-to-Air Neutralization**, 2021 IEEE International Symposium on Safety, Security, and Rescue Robotics (SSRR), 2021, pp. 236-241
- † Mioch T., Beuker T., Neerincx M.A., **Team Design Patterns for Participatory Development of First Response Human-Agent Teaming**, in: Proceedings of the 4th International Conference on Human Systems Engineering and Design (IHSED2021): Future Trends and Applications, September 23–25, 2021

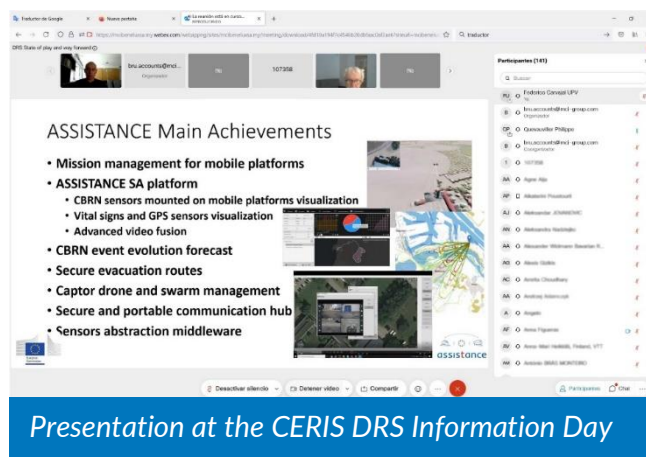
Another joint paper from UC,CEL and RISE, is currently in publication (**Gender and public perception of disasters: A multiple hazards exploratory study of EU citizens**, journal: Safety). All these publications are available via the [ASSISTANCE project website](#) and in the ASSISTANCE community on Zenodo.



+ Events

As the standard methods for targeted dissemination like participation in and/or organisation of various events – congresses, workshops, symposia, conferences and exhibition fairs have been still heavily biased by the COVID-19 pandemic, the ASSISTANCE team has increased efforts to use other channels for dissemination available in an online or hybrid format.

One of the examples were the Community of European Research and Innovation for Security (CERIS, former Community of Users) meetings/workshops, that were performed online and ASSISTANCE results were presented by UPVLC at the forum several times, e.g. during the 2nd CERIS-DRS workshop focusing on technologies for first responders (DRS02 projects) in February 2021 or at the DRS Information Day – State of Play and Way Forward, in June 2021.



Some events were also organised in the standard format, like the World ATM Congress 2021 – the world's largest international air traffic management (ATM) exhibition and conference, bringing together the world's leading product developers, experts, stakeholders and air navigation service providers (ANSPs) and providing three days of conference sessions, product demonstrations and launches, contract closures and educational and networking opportunities.

At the end of October 2021 ETRA had a stand in the Expodrónica Pavilion during this event in Madrid and presented ASSISTANCE to the large audience.



ETRA stand and presentation of ASSISTANCE during World ATM Congress 2021

+ Clustering activities

Following the suggestion of the ASSISTANCE Project Officer given at the Review Meeting in March 2021, ASSISTANCE has applied for services of the [Horizon Results Booster \(HRB\)](#).

Horizon Results Booster (HRB) is the initiative by the European Commission which aims to maximise the impact of research projects funded by FP7, H2020 and HE. HRB services are delivered free of charge to eligible projects (closed and ongoing) and provide beneficiaries with tools and methodologies for improved communication, dissemination, exploitation and business strategies.

As a follow-up of activities performed in 2021 (participation in **HRB Module A - Identifying and creating the portfolio of R&I project results**), in February 2022 ASSISTANCE with the group of other security projects (MED1stMR, RESCUER, FASTER, INTREPID, INGENIOUS, RESPOND-A, PathoCERT, SIXTHSENSE) has been invited to participate in **Module B of the HRB service**.

After some initial discussions, the group has been divided into two smaller groups focused around specific themes, in order to facilitate a more targeted and adequate service provision:

- **Group 1: END USER/TARGET GROUP - First Responders (those who go into the field):** MED1stMR, RESCUER, SIXTHSENSE
- **Group 2: END USER/TARGET GROUP - Crisis Management Personnel & General Situational Awareness:** FASTER, INTREPID, INGENIOUS, ASSISTANCE, RESPOND-A, PATHOCERT

Group 2 is led by the INGENIOUS project and the Module B related activities (discussions, projects information collection etc.) are currently in progress. Though service will go beyond the completion of the ASSISTANCE project, Łukasiewicz-PIAP will stay involved and support the activities within the available resources, to disseminate the project results as widely as possible.



+ ASSISTANCE Users Community

One of the goals for the ASSISTANCE consortium was to establish a **broad dialogue with the end-users on the solutions proposed in the project** and collect input on expectations as well as feedback on the results. We have built a large community around the ASSISTANCE project that encompass various end-users and stakeholders interested in being informed on the progress of the project, its conclusions and results as well as in active engagement and support for different project activities.

For that reason the **End User Group** has been established and was **coordinated by our end-user partner AAHD** under a dedicated project task.

The committed members of the Group supported and influenced the project by providing inputs on end-user needs, gaps and existing practices, participating in workshops, field exercises and demonstrations as well as providing feedback and contribution to dissemination of the project and its results.

We would like to thank all the engaged organisations and individuals for supporting us throughout the project and encourage everyone to follow us via our communication channels (website, social media) that will be kept alive with relevant updates and publications, as we'll seek opportunities for new collaborations and exploitation of the project outcomes.



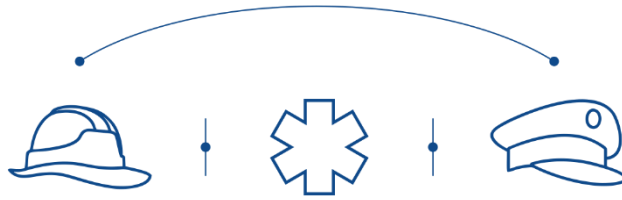
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assistance

+ H2020 call	H2020-SU-DRS02-2018-2019-2020 (Technologies for first responders)
+ Timeline	01/05/2019 – 31/07/2022 (39 months)
+ Budget	6 393 691.25 Euro
+ Coordinator	Universidad Politécnica de Valencia
+ Countries	8
+ Partners	19



PARTNERS



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CyberEthicsLab.



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