



H2020 - 700478

RAAdars for loNG distance maritime surveillancE and Search and Rescue operAtions

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## Communication, Dissemination and Awareness Raising Strategies (final version)

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## **Executive summary**

Deliverable D8.2 ‘Communication, Dissemination and Awareness Raising Strategies (final version)’, is a continuation of Deliverable D8.1 ‘Communication, Dissemination and Raising Awareness Strategies (first version)’, which was submitted on Month 6 within Work Package 8: Dissemination & Exploitation Preparation. It aims to present an overview of the established RANGER communication channels and tools as well as to describe all the communication activities the consortium has undertaken so far and those, which are planned to be done for the promotion and diffusion of RANGER’s results and findings to targeted audiences in the near future.

Specifically the present deliverable gives an overview of the established RANGER communication channels and tools and gives more information about their performance in reaching a wide range of stakeholders. Both the major dissemination activities carried out by M30 and the future dissemination activities are also presented.

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## **1. Introduction**

To properly organize the project dissemination activities – while D8.1 ‘Communication, Dissemination and Awareness Raising Strategies (first version)’ was delivered on Month 6 - it was decided that the dissemination plan will be updated on Month 30. The present Deliverable D8.2 ‘Communication, Dissemination and Awareness Raising Strategies (final version)’ comes as a continuation of D8.1 and aims to present all the undertaken effort by RANGER consortium for the diffusion of the project’s developments and achievements through the different channels.

A concise dissemination strategy was established from an early phase of the project in order to maximise the project’s impact. The dissemination strategy defined the goals for the dissemination activities of the project. These were achieved by reaching the specified target audiences through the RANGER dissemination channels.

Specific dissemination procedures have been followed which are described in this document. Moreover, templates were prepared and used for planning and reporting all dissemination activities, described also in this document. Furthermore, emphasis is given on both the social media and website’s continuous update and enhancement so that they would remain interesting and attractive for all users. Finally, plans for future dissemination of the project’s outcomes are presented in detail.

The deliverable also includes a set of annexes, including: a) a list of acronyms, b) a list of relevant journals, c) a list of relevant conferences and events as well as d) the dissemination procedures of the project.

## 2. Methodology

The communication strategy of the RANGER project was based on a five-step approach, as outline in the chart below:

Five-step communication approach	
1	Identification of communication objectives
2	Identification of target audiences
3	Determination of key messages
4	Identification of communication mediums & channels (per phase)
5	Monitoring & Evaluation

*Table 1: The RANGER communication approach*

This approach addresses most of the basic elements of communication, namely audience, message, communication means (material), and channels to be used, as well as a time frame for delivering the messages. The methodology also provides a monitoring and evaluation process as a means to ensure the efficiency of the communication strategy and allow the smooth coordination of individual communication actions throughout the project life.

The purpose of the RANGER strategy is to develop effective communication proposals ensuring that all communications speak to the core objectives of the agreed dissemination strategy and that key messages are consistently delivered. This is achieved by answering some very simple questions, according to the 5 Ws Lasswell’s model of Communication<sup>1</sup>, such as:

- Who are the key audiences?
- What do these audiences know now?
- What do we need them to know?
- What message or messages do they need to receive?
- What is the most effective mode/media to deliver these messages?

The implementation of this methodology will ensure the project’s impact maximization with regard to targeted audiences.

The RANGER project follows a three-stage approach on communication, dissemination, and awareness raising activities. During the initial phase, the main focus was put on informing the public about the project’s concepts and main objectives, as well as reaching out to the targeted stakeholder groups. In essence, the resulting dissemination strategy aimed to help spreading knowledge about the project’s aims and its initial findings in order to gain maximum support from stakeholder communities and the broader public; doing this motivated possible multipliers to engage. The second phase of the project was built upon the first, evaluating and reviewing initial activities and promoting the initial project results in more tailored ways for each of the key

<sup>1</sup> Lasswell, Harold (1948). Bryson, L., ed. *The Structure and Function of Communication in Society. The Communication of Ideas*. New York: Institute for Religious and Social Studies.



stakeholder groups. The main focus was to effectively communicate available project results and to raise further awareness on project related issues, in an engaging way. In the final phase of the project, a major effort will continue in order to effectively disseminate project results to the targeted audiences in a way of ensuring the long-term impact and the exploitation of project's final results.

### 3. Communication Strategy

#### 3.1 Objectives of the RANGER strategy

As set out in the project grant agreement, the strategic objectives for all communication activities were focused on:

- (a) Establishing within targeted audiences that the RANGER project is the result of a European collaboration, which could not have been possibly done otherwise,
- (b) Demonstrating how the outcomes of the RANGER project are relevant to the everyday lives of a growing cohort of European citizens. In addition, the relevance will be demonstrated through the creation of new jobs within the EU as a result of the exploitation of project results and outputs (special emphasis is given to young audiences attracting them to science),
- (c) Making sure that the results of the RANGER project, influence policy and decision makers in the industry, as well as the scientific community to ensure the long-term impact of the project,
- (d) Ensuring that all communications results are engaging and interesting to the targeted audience.

In specific, the RANGER communication objectives were formed as follows:

- Raise awareness with regard to the project objectives, results and scheduled events
- Widely disseminate the project’s concepts, findings, and results throughout the project’s life, while constantly revising and evaluating effectiveness of selected mediums
- Ensure the long-term impact of the project by establishing appropriate lines of communication in order to maximize influence to policy and decision makers within targeted communities (industry, research, academia)
- Promote synergies with similar R&D EU and national level projects
- Inform the public about the relevance of the project’s outcomes with everyday life of European citizens (with focus on attracting young audience to science)
- Promote the findings and the results of the project to the targeted audiences (across the value chain, from design to end-user) in a regular and consistent manner
- Ensure exploitation of project results

#### 3.2 Target Audiences and Segmentation

The target audiences were identified and were further segmented as presented in the table below:

Target audience	Further segmentation	Objectives
Scientific community	Researchers, academia, students, similar research projects beneficiaries	Raise awareness, promote synergies, exchange knowledge

Industry	Decision-makers in relative industry (design, manufacturing, application, services, etc)	Raise awareness, ensure long-term impact and exploitation of project results
Institutions	National and EU related authorities and policy-making bodies, including the Universities, Research & academic institutions	Raise awareness, promote synergies, ensure long-term impact and exploitation of project results
End users	Coast guard, Navy, Emergency rescue services	Raise awareness, promote synergies, ensure long-term impact and exploitation of project results
Broad public	EU citizens, young audience	Raise awareness and understanding, attract young audience to science

Table 2: RANGER target audiences

### 3.3 Key Messages

The RANGER approach is focused on promoting that advanced maritime surveillance will significantly affect the efficiency of SaR operations and illegal activities interventions by its unprecedented accuracy, range of detection, and successful identification of non-cooperative vessels.

The overall key messages are:

- The substantial advantages provided by the two **groundbreaking Radar technologies** developed in **RANGER** are the **detection range that extends over the horizon and the unprecedented high resolution that allows for the accurate identification and recognition** of small, fast maneuvering vessels.
- RANGER drastically **improves the response and intervention capacity of European Search and Rescue (SaR)** services and personnel, thus significantly reducing the expected number of casualties in the Mediterranean basin.
- RANGER creates a **surveillance platform that will offer detection, recognition, identification, and tracking of suspicious vessels** with capabilities far beyond those of existing legacy radar systems.
- RANGER combines novel and groundbreaking Radar technologies with innovative supporting technological solutions for early warning.
- RANGER research and development contributes to the further development/or enrichment of **EUROSUR roadmap and CISE** main directives.

- RANGER provides **new services** that will upgrade the performance of the overall CISE framework.
- RANGER ensures **cost and power consumption reduction**. The RANGER solution complies with the strictest existing **environmental standards** that ensure the appropriate integration of the system in landscape.
- RANGER is a **user-driven project** engaging end-users throughout the whole process (from operational requirements to system validation). Key partners contribute to the development and validation of RANGER platform while holding a key role in the surveillance and SaR operations against drug trafficking across the Mediterranean.
- RANGER facilitates the improvement of the sea-border surveillance operations.
- RANGER provides accurate, fast and efficient detection while being cost-efficient in terms of ownership, operations and maintenance.
- RANGER develops a platform that supports maritime surveillance operators and consequently maritime security operations, by providing early warnings, alerts and recommendations to its users.
- RANGER and its solutions for maritime surveillance are **built for the citizens**, since the whole project is about securing societies. RANGER's technological breakthroughs and the relevant opportunities they create for further developments and applications will benefit European citizens.
- RANGER innovates.
- The RANGER solution provides an improved detection range and higher resolution capability.

**All RANGER key messages are tailored to each target group along the course of the project, according to the communication objectives set for each project phase.**

### 3.4 Communication Channels

The appropriate dissemination channels to engage with each target group, taking into consideration each group's special characteristics and needs were defined in the beginning of the project and they are constantly updated within project's lifetime.

1. Printed material ( logo, poster, leaflet, banner )
2. Print & broadcast media (newsletters, press releases, articles, interviews)
3. Electronic communication channels (website, social media platforms)
4. High-impact scientific journals and technical conferences
5. Physical media (meetings, workshops, conferences, exhibitions)

### 3.5 Communication Tools per Audiences Group

The successful communication and dissemination of the project objectives and outcomes is the key to the overall success of the project. To this end, not only the targeted audiences and their specific characteristics have been already identified, but also the appropriate tools have been carefully selected in order to provide these audiences with information, tailored to their needs.

Depending on the communication objectives, dissemination can facilitate awareness, understanding and action, from the side of the different target audiences. Dissemination for awareness applies mainly to those targeted audiences which do not require detailed knowledge but need to be aware of the project’s activities and outcomes so that the project’s identity to be enhanced within the broader community. On the other hand, there are targeted audiences that need to acquire a deeper understanding of the project in order to benefit from what the project has to offer. Finally, in the case of targeted audiences in the position to influence policies or decision-making, dissemination targets to their specific actions.

Based on the aforementioned, the following table includes the most appropriate tools that have been used per target audience:

Target audience	Tools
<b>Scientific community</b>	Project website Newsletter Social Networks Scientific journal publications Technical conferences Conference booths and special sessions Dissemination events Project presentations at university courses
<b>Industry</b>	Project website Newsletter Social Networks Scientific journal publications Technical conferences, Workshops, Exhibitions Meetings
<b>Institutions</b>	Project website Newsletter Social Networks Scientific journal publications Technical conferences Conference booths and special sessions Dissemination events Meetings and face to face discussions Participation in working fora and standardization committees

Target audience	Tools
<b>End users</b>	Project website Newsletter Social Networks Scientific journal publications Technical conferences Conference booths and special sessions Dissemination events Meetings and face to face discussions Participation in working fora and standardization committees
<b>Broad public</b>	Printed material (visual identity, logo, poster, leaflet, event material etc), Newsletters, press releases, articles, interviews Website Social networks Short videos for the social media

*Table 3: Tools per target audience*

## 4. Communication Road Map

A key parameter for an effective communication strategy is time. More specifically, time, as for project phase, more or less defines the criteria for selecting the appropriate message to be communicated and which channels and tools to be used.

The communication roadmap presented below has been determined from an early phase of the project and provides an outline of activities per project phase, and the respective tools to be used:

Project	Activities	Tools	Partner
<b>First phase</b>	In the initial phase of the project, the dissemination activities focused on raising awareness and generally informing the public and relevant stakeholders about the project's concepts and main objectives and motivating them to participate in the needs and requirements collection.	Brand identity, Newsletter, Website, Social media	ICCS, all partners
<b>Second phase</b>	In this phase, the activities aimed to communicate available project results and raise awareness on project related issues.	Articles, Publications, Conferences/events, Newsletter, Website, Social media, Meetings, Presentations	ICCS, all partners
<b>Third phase</b>	In the final phase of the project, a major effort will be put in place in order to disseminate efficiently project results to the target audiences, and to ensure long-term impact and exploitation of the results.	Articles, Press releases, Publications, Conferences/events, Newsletter, Website, Social media, Meetings, Presentations,	ICCS, all partners

		Liaison activities with relevant projects, Final video, Project's final event	
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*Table 4: communication road map*



## 5. Key Communication Tools of RANGER

### 5.1 Project Visual Identity

A consistent and coherent visual identity has been developed for RANGER since the beginning of the project.

#### 5.1.1 Logo

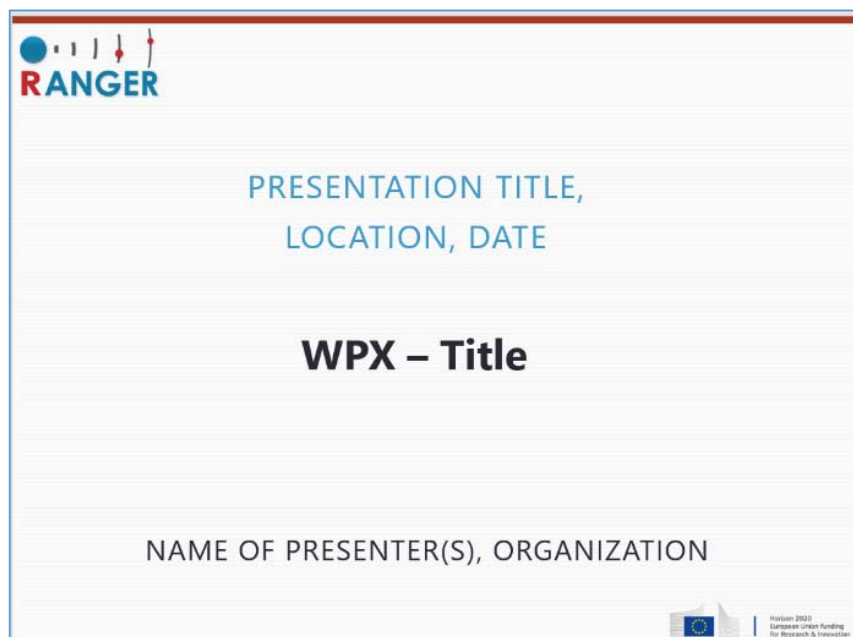
A logo, which is used on the project's website, its social media and in all the dissemination material, was created from the beginning of the project.



*Figure 1: RANGER logo*

#### 5.1.2 Templates

A RANGER power point presentation template for the project was created and is used by the consortium in internal meetings and for the external audience (where other presentation rules do not apply). In addition, there are RANGER templates concerning the deliverables and the meetings' agenda that are also available to all partners. All project templates have been uploaded on Redmine<sup>2</sup>. Examples of power point presentation template and deliverable template are depicted in Figure 2 and Figure 3 respectively.



*Figure 2: Power point presentation*

<sup>2</sup> <http://www.redmine.org/projects/redmine>

DX.Y – DELIVERABLE TITLE

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RArars for loNG distance maritime surveillance and Search and Rescue operations

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Figure 3: Deliverable template

## 5.2 Printable dissemination material

A leaflet, a poster as well as a roll-up banner (see figures below) presenting the project’s main features have been created since the first project phase. An updated version of both a leaflet and a banner, focusing on the RANGER integration platform, its pilot activities and its validation plan, is being under preparation at the moment and it is expected to be ready by November 2018. In figures 4 and 5 the leaflet, the poster and the roll-up banner are presented.

**CONSORTIUM**

- EXUS Software LTD (EXUS)
- Diginet Sarl (DXT)
- Institute Of Communication and Computer Systems ICCS
- Technische Universität Dresden (TUD)
- LAUREA- Ammatikorkeakoulu OY (LAU)
- LEDNARDO S.p.A. (LDO)
- Telesto Technologies Pireforikis kai Epikoinonion EPE (TEL)
- NATO Science and Technology Organisation (NATO)
- Ministry of National Defence (HMOD)
- Ministère de la Transition écologique et solidaire (DMA)

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**RArars for loNG distance maritime surveillance and SaR operations**

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 700478

Figure 4: RANGER leaflet page 1

### Project Aim

RANGER is an EU funded project, within the H2020 Horizon programme. RANGER innovates by combining novel and ground-breaking Radar technologies with innovative supporting technological solutions for early warning, in view of delivering a surveillance platform that will offer tracking as well as detection, recognition, and identification of vessels far beyond existing legacy radar systems.

The main goal of RANGER is to provide innovative solutions for early warning and distant border surveillance to support search-and-rescue operations and tackle illegal conduct in the marine environment. For RANGER to deliver its value to the targeted audience (end-users and society), the envisaged solution will drastically improve the performance of existing Radar systems, by employing a blend of Over the Horizon Radar system and Photonics Enhanced MIMO radar system with other novel supporting technologies for data fusion and early warning and existing infrastructures, validated in the context of real pilot exercises.

### Project Objectives

- To provide a complete solution for maritime surveillance and Search and Rescue operations.
- To lower the total cost of ownership compared to existing marine surveillance platforms and radar solutions.
- To ensure compatibility of the RANGER platform with the Common Information Sharing Environment – CISE.
- To validate and demonstrate the effectiveness of the integrated RANGER platform.

### RANGER Platform

**Validation Pilots**

- Pilot 1**  
The first pilot will be implemented in France with the collaboration of technical partners and French end-user partners (DMA)
- Pilot 2**  
The second pilot will be implemented in a completely different maritime environment.

### Expected impact

- Research & Innovation**
  - OTH (Over-The-Horizon) Radar
  - Photonics Enhanced MIMO (PE-MIMO) Radar
  - Data fusion and Machine Learning
  - Early Warning Engine (EWE)
- Maritime Surveillance & Operations**
  - Improvement of Search and Rescue Operations
  - Early detection of small vessels
  - Optimization of end-user resources
  - Efficient coordination of SaR operations
  - Automated and self-learning platforms
  - Early warnings and detection alerts
  - Timely response & appropriate measures
  - Reinforcement of European and National Coordination Centres position
  - Generation of a common situational picture
  - Improved detection and on-time identification of non-collaborative small vessels
- Socio-economic benefits**
  - Citizens
    - Improved maritime security
    - Enhanced SaR capability
    - Protection of human rights
    - Opportunities stemming from technological breakthroughs
  - Maritime surveillance market
    - Delivery of an economic and operationally viable solution
  - Environment

Figure 5: RANGER leaflet page 2

# RANGER

**RA**dars for **lo**NG distance maritime surveillance and **S**earch and **R**escue operations

**Project Coordinator**  
EXUS Software LTD  
innovation@exus.co.uk

## Main features

- ✓ Novel and ground-breaking Radar technologies (Over-The-Horizon & Photonics Enhanced MIMO radar systems)
- ✓ Innovative data fusion and machine learning algorithms for enhanced Early Warning
- ✓ Long - range detection with high level of accuracy

- ✓ Interoperability with legacy systems
- ✓ Advanced capacity for small vessel detection, recognition, and identification
- ✓ Higher efficiency of Search and Rescue operations
- ✓ Validation and demonstration of RANGER in two different pilot environments, in France (open sea environment) and in Greece (archipelago)

## Ranger Partners

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 770478.

[www.ranger-project.eu](http://www.ranger-project.eu)

Figure 6: RANGER poster

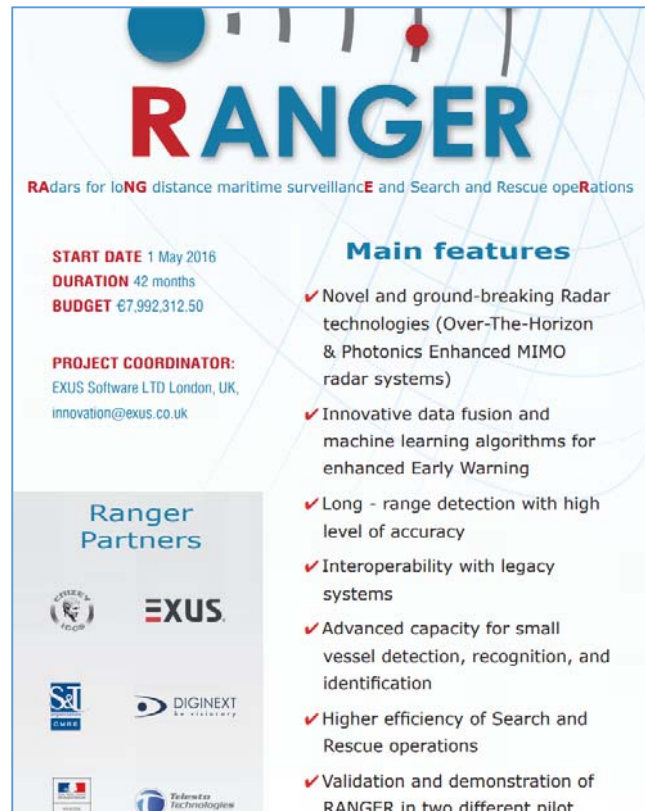


Figure 7: RANGER roll-up banner

### 5.3 RANGER Newsletter

A newsletter summarizing the recent findings and developments within the project is prepared and submitted **every three months** starting on Month 6. All newsletters include information about upcoming conferences and events as well as a contact us section with all available information and social media links. This tool primarily targets the European research community and others already interested in the research topics that RANGER addresses. However, specifically during the first phase of the project, it targeted general audience for awareness raising purposes, as well. The newsletters are accessible through the [website](#), social media and direct mailing to a dedicated list of recipients. So far, seven newsletters have been published.

- The **first issue** was published in October 2016. The contents included an overview of the RANGER project, an introduction to the consortium, an article about the two performed end-user requirements workshops in Athens and in France, and an article about the kick-off meeting of the project.
- The **second issue** was published in December 2016 and included updates about the 1<sup>st</sup> plenary and technical meeting of the consortium in Athens, dissemination activities, and an article on the ethical and societal dimensions of the RANGER project by LAU.

- The **third issue** contained dissemination activities updates and information about the site surveys and technical project meetings that took place in Chania and it was published in March 2017.
- In June 2017, the **fourth newsletter** was out, with an interview with the RANGER Technical manager, and a study on Radar Cross Section by DXT.
- The **fifth issue** was published in October 2017 and included an article on RANGER solutions and societal responsibilities by LAU and other project-related updates, related conferences and events
- The **sixth issue** was out in April 2018 with an article entitled ‘New radar technology aims to save lives in the Mediterranean Sea’ by LAUREA, an interview with HMOD and DMA, project’s news, related conferences and events.
- The **seventh issue** has been the last issue so far and was published in September 2018. It contained articles about the RANGER project’s integration tests as well as project’s news, related conferences and events.

## 5.4 RANGER Website

The project **website** is the most important communication channel of RANGER as it provides continuous updates about the project’s progress. All the public deliverables, publications and presentations are uploaded frequently on the website providing the necessary information regarding the project’s progress and its results. The consortium has ensured high ranking of the website in web search engines through SEO (search engine optimization) practices and tools. During the last six months, the website has more than 330 unique visitors and more than 440 visits. The site will be maintained and updated regularly, and will be active for at least two years after the end of the project. In figure 5 screenshots of the RANGER website are presented, whereas in figure 6 there is an overview of the website’s visits.

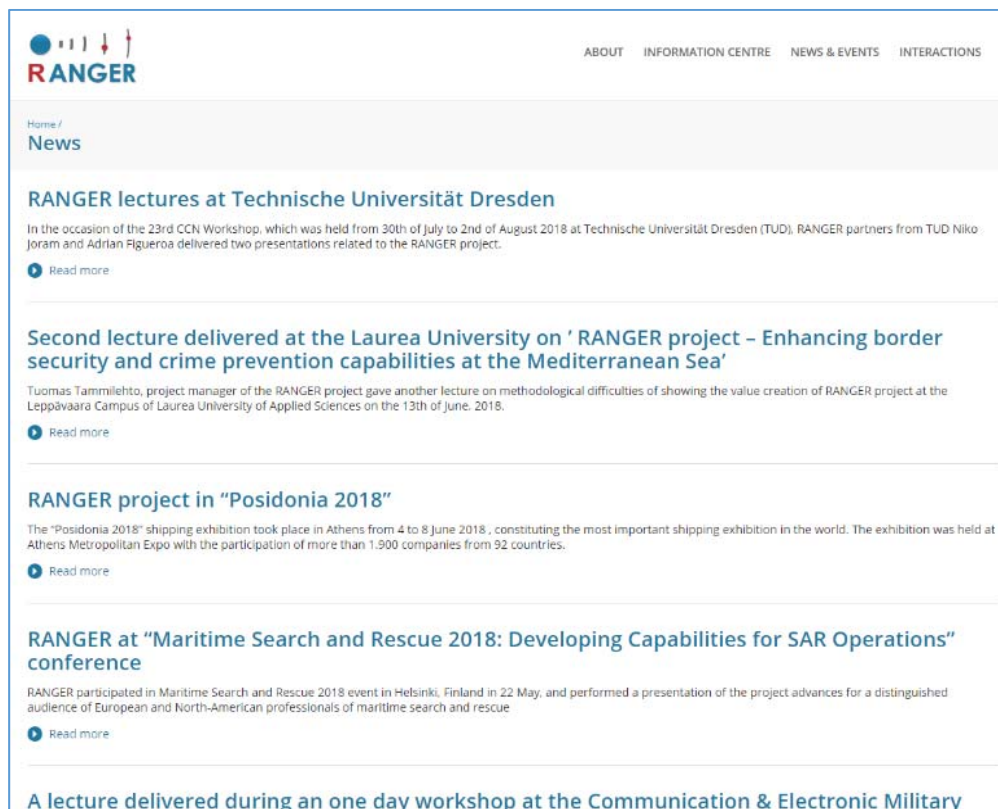
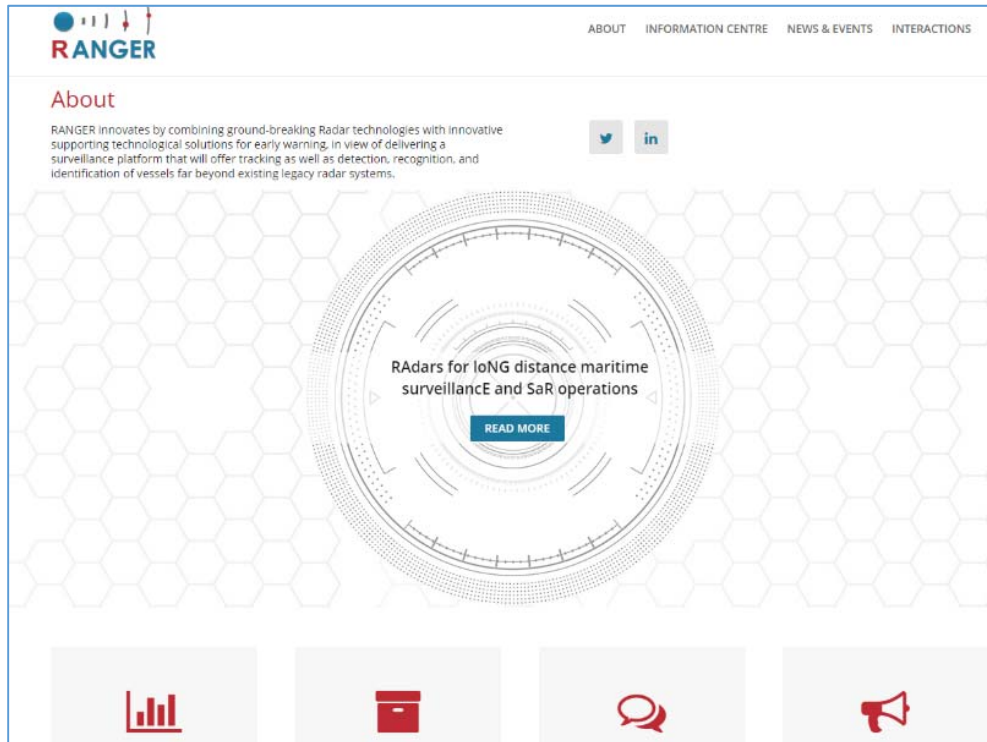


Figure 6: Screenshots of RANGER website

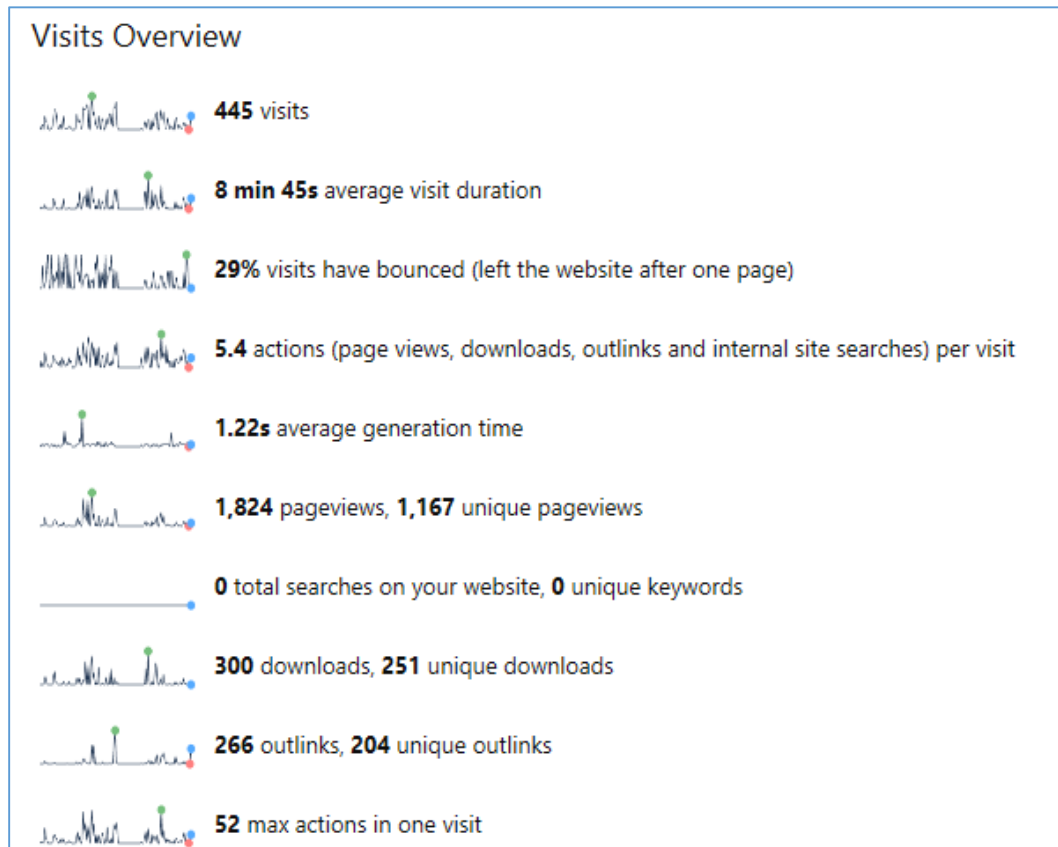


Figure 7: Overview of the website visits

## 5.5 RANGER Social Media

The project makes extent use of the social media sites LinkedIn and Twitter in order to create awareness and engagement with RANGER project as well as to communicate the project’s progress and its results. These RANGER dedicated accounts interact with relevant partners’ accounts and sites, share project news with the respective expert and business communities and collect valuable feedback. The RANGER LinkedIn group has currently 94 members and was created during the first project phase. RANGER project joined Twitter in October 2016 and has had 97 followers, so far.

It should be noted that all restricted information within RANGER web based platforms are managed according to the EU-Classified Information document guidelines. In figure 7 the Twitter and LinkedIn pages are presented.

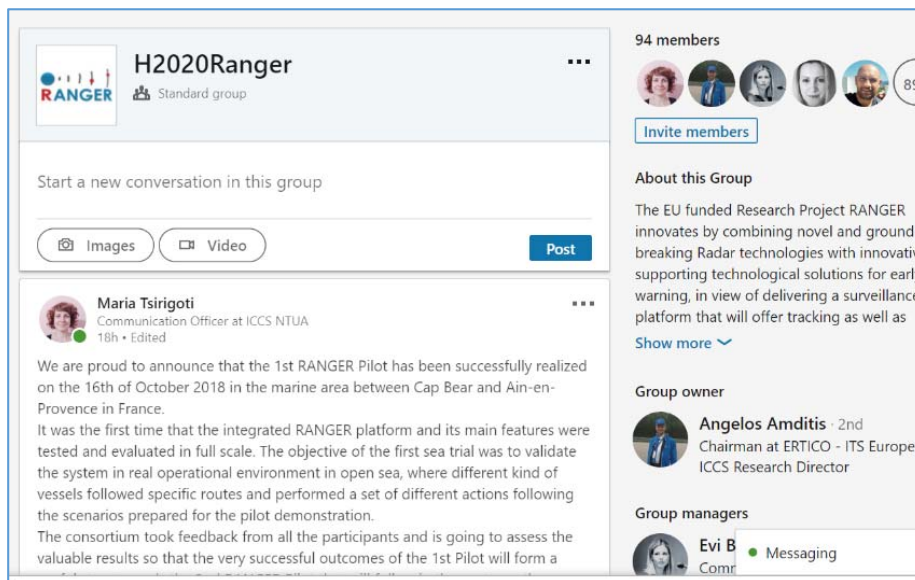


Figure 9: Screenshots of RANGER social media accounts

## 5.6 Press Release and Media Coverage

The project targets at least two press releases, published within the project duration. The first RANGER press release will be out in the occasion of the 1<sup>st</sup> pilot of the project. The press releases will be uploaded to the main page of the project website so that they are available to the general public, and will also be distributed via various media channels.

As far as media coverage is concerned, RANGER was presented in *Laurea's* magazine – *Forerunner* – that highlights current topics in *Laurea* research, development and innovation activities for University's interest groups in English. The article entitled "New radar technology aims to save lives at the Mediterranean Sea" gave an overview of the project and specifically talked



about the radar technology developed in the RANGER project and how this enhances maritime surveillance and Search and Rescue operations. The article is available on the RANGER [website](#).

## 5.7 Peer-viewed Publications

A major effort towards publishing scientific papers to highly rated journals and conference proceedings has been deployed. This was considered very important right from the beginning of the project in order to reach the scientific target group. Reflecting the scope of RANGER, there were several scientific fields that would benefit from the project experiences and results.

Overall, two scientific articles have been already published until Month 30 in renown journals:

- A paper entitled '***Stacked Auto encoders for Outlier Detection in Over-The-Horizon Radar Signals***' has been published in the Computational Intelligence and Neuroscience journal during the first year of the project and it is available on the project's [website](#).
- The second paper under the title '***FMCW MIMO Radar with Iterative Adaptive Beamforming***' was published in the IET Radar, Sonar & Navigation journal during the second year of the project and it is also available on the [website](#).

Five RANGER papers were published in respective conference proceedings. During the first year of the project two scientific papers were accepted and presented:

- The paper entitled '***A Fully Balanced Ultra-Wide Band Mixer MMIC with Multi-Tanh Triplet Input for High Dynamic Range Radar Receiver Systems***' was presented at the 24<sup>th</sup> International Conference on Noise and Fluctuations (ICNF) in Vilnius, Lithuania
- A paper under the title '***Deep Convolutional Neural Networks for Modeling Patterns of Spaceborne Interferometric SAR Systems Signals***' was presented at the AIAA SPACE and Astronautics Forum and Exposition, in Orlando, Florida.

The effort for the publication of project findings was strengthened during the second year, where three papers were published in respective proceedings:

- A paper entitled '***Fully Differential High Input Power Handling Ultra-Wideband Low Noise Amplifier for MIMO Radar Application***' was accepted and presented at the 2017 IEEE Compound Semiconductor IC Symposium (CSICS) in Miami, USA
- Two papers entitled '***Belief Propagation Based AIS/Radar Data Fusion for Multi-Target Tracking***' and '***Online Estimation of Unknown Parameters in Multisensor-Multitarget Tracking: a Belief Propagation Approach***' were presented at the 21<sup>st</sup> International Conference on Information Fusion (FUSION) in Cambridge, UK.

All the papers presented above are available on the [RANGER website](#)

A list of all RANGER papers is included in Annex B with specific references to publication detail and in Annex C a list of the relevant conferences, which is constantly updated, is presented.

## **5.8 Dissemination Events**

By Month 30, RANGER partners have participated in a series of important dissemination activities with the aim to disseminate the project's progress and its results, as well as to receive feedback from stakeholders. The events span from technical conferences and workshops to conference booths and exhibitions and are of great opportunity for RANGER to gain visibility and foster engagement. An initial list of relevant future events was conducted at the very early stage of the project and is constantly being updated as additional events are identified. The list is included in Annex D.

During the first year of the project conferences and events participation focused in promoting project basic ideas and concepts to a wide range of stakeholders. In total RANGER consortium participated in four important events such as, the two End-user Requirements Workshops held both in Greece and later in France and the 15<sup>th</sup> Public Safety Communication Europe Conference (PSCE) in Athens, Greece.

In the second year of the project RANGER, partners participated and presented the project in six major events such as the Naval Domain Intelligence meeting in Livorno, Italy, the Fourth Forum Horizon 2020 in Paris, France, the Maritime Search and Rescue 2018 Conference in Helsinki, Finland and the Posidonia 2018 in Athens, Greece.

RANGER has also aimed the creation of a common ground for communication, ideas exchange and collaboration in Europe that will ultimately foster innovation in technologies and processes for improving maritime border surveillance since the beginning of the project. In order to populate the RANGER ecosystem with the right blend of stakeholders and decision makers, ensuring that it gains the right momentum leading to long-term sustainability, two specific workshops were organized during the project's first and second phase to officially present the outcomes of this effort and the next steps towards its growth, led by the European Coast Guard Functions Forum. The ECGFF Workshops were both held in Warsaw, Poland in 2016 and 2017.

All the dissemination events, in which RANGER partners have participated so far, are presented, briefly, in chronological order below:

- **European Coast Guard Function Forum (ECGFF) Workshop in Warsaw (15-17 June 2016)**
- **End-user Requirements Workshops in Greece (26 & 27 July 2016) and in France (27 & 28 September 2016)**
- **PSCE Conference in Athens, Greece (23 & 24 November 2016)**
- **.ECGFF Workshop in Warsaw (16 February 2017)**
- **European Researcher's Night in Athens, Greece (29 September 2017)**

- **Naval Domain Intelligence meeting in Livorno, Italy (17-18 October 2017)**
- **Fourth Forum Horizon 2020 in Paris, France (2 December 2017)**
- **EU Programmes workshop at the Communication & Electronic Military Signal Officers School in Haidari, Greece (15 May 2018)**
- **Maritime Search and Rescue 2018 Conference in Helsinki, Finland (22 May 2018)**
- **Posidonia 2018 in Athens, Greece (4-8 July 2018)**
- **FRONTEX Workshop on EU funded security projects (14 June 2018)**

These events are discussed in detail in both deliverables D8.5 “Inventory of communication, dissemination and raising awareness activities (first year)” and D8.6 “Inventory of communication, dissemination and raising awareness activities (second year)” and are also shared on the project’s [website](#).

## **5.9 Project Presentations at University Courses**

RANGER specifically targets young people and young scientists, aiming to increase their knowledge and competitive edge. In this context, the academic beneficiaries of RANGER project disseminate the project’s technology developed and its applications in university courses. One lecture per academic partner is foreseen. TUD and LAUREA have already delivered several lectures and ICCS is expected to organize its lectures during the third phase of the project. The lectures that have been completed until now are presented, briefly, below:

- **RANGER lectures delivered by TUD (15 March 2017)**
- **RANGER lectures delivered by TUD (29 September 2017)**
- **RANGER lectures delivered by LAU (30 July – 2 August 2018)**
- **RANGER lectures delivered by TUD (13 June 2018)**

All the delivered lectures are described in details in both the deliverables D8.5 “Inventory of communication, dissemination and raising awareness activities (first year)” and D8.6 “Inventory of communication, dissemination and raising awareness activities (second year)”

## 6. Evaluation and Monitoring of Activities

The communication plan and the activities conducted is assessed on a regular basis during the project life. The project partners have agreed on minimum success thresholds for each tool to be used. Monitoring is ongoing and evaluation takes place annually.

Dissemination Tool	Key Performance Indicator	Expected Outcome	Results so far
Scientific Journal Publication	Number of publications	1 per year	2 papers published
Technical Conferences	Number of papers	At least 4 per year	5 papers
Conference Booths and Dissemination Events (including workshops)	Number of events	At least 2	11 events (including workshops)
Project Presentations at University Courses	Number of lectures	1 lecture per academic partner	2 lectures by LAU 2 lectures by TUD
Dissemination of Articles to local print media	Number of articles published	1 per partner	2 articles published
Website	Number of users/visitors (per project year)	400	More than 330 unique visitors (May 2018-October 2018)
Newsletter	Number of newsletters published	13	7
Press Releases	Number of press releases	At least 2	1
Social Media	Number of network members	≥100 per platform during the whole project lifetime	LinkedIn: 95 Twitter: 100
Leaflets and Posters	Number of different leaflets and posters	At least 2	1 (an updated version is under preparation and is expected to be ready by December 2018)

*Table 4: Key performance indicator*

## 7. Future Planning

RANGER will follow specific steps in order to reach its goals. Future planning includes, beside others:

- **RANGER participation in 2018-2019 conferences and other events.** A list with the most important conferences and events is available for the consortium on Redmine<sup>3</sup>, is regularly updated and is also presented in Annex D. The consortium is making a more active effort in order to submit technical papers in even more conferences and to participate in major events presenting the project's progress especially after the realisation of the 1<sup>st</sup> RANGER Pilot.
- **Submissions of scientific/technical papers to journals.** A list with the major scientific journals is available for the consortium on Redmine, is constantly updated and is also presented in Annex C.
- **Organization of RANGER lectures.** The next lecture is going to be organized by ICCS and held in Athens, Greece during the third phase of the project.
- **Organization of common activities with relevant projects.** RANGER consortium has already identified relevant projects (such as **MARISA**, **CAMELOT**) in order to follow their progress. Moreover, RANGER consortium has contacted MARISA project and keeps in touch so that both projects could find the chance for further collaboration and knowledge exchange which can be used in the projects development, hopefully during a common workshop.
- **Update of project's dissemination material.** The second version of both the leaflet and poster are under preparation at the moment and will be ready by the end of December 2018. The new updated versions include information about the integration platform and the pilot activities. The updated material will be used for presenting RANGER in a variety of events (Workshops, Conferences, and Exhibitions etc.) for promoting the project to potential users.
- **Newsletters.** The eighth issue of the RANGER newsletter is going to be released in December 2018 and will include all the details and results of the 1<sup>st</sup> RANGER Pilot and all the project's news.
- **Press releases and media coverage.** A press release has already been published on the occasion of the 1<sup>st</sup> RANGER Pilot and another one is expected to be released after the 2<sup>nd</sup> RANGER Pilot that will be held in Greece. The third and last press release will be published in the end of the project. The press releases will result in the publication of several articles in local press and in further communication of the project's outcomes.
- **Video.** During the 1<sup>st</sup> RANGER Pilot demonstration several video shots have been taken and the same will be done during the next demonstration as well as during the project's Final Event, so that a final video with all the details of the project's progress will be made and released on the project's website. In the meanwhile, a short video concerning the 1<sup>st</sup> RANGER Pilot is under preparation and it is going to communicate the 1<sup>st</sup> RANGER pilot through the dedicated social media and the RANGER website.
- **Final Event.** Just before the end of the project's lifetime, a Final Event will take place so that RANGER project can present its outcomes through a dedicated conference and inform the public about the capabilities of the RANGER platform.

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<sup>3</sup> <http://www.redmine.org/projects/redmine>

## **8. Dissemination Procedures**

The RANGER dissemination procedures were created as a monitoring tool for the performance of dissemination activities of all partners. The basic objectives of the aforementioned procedures are to:

- Produce high quality RANGER publications and presentations;
- Avoid overlaps and possible disclosure of restricted or confidential information;
- Monitor and record the dissemination activities of the project in a sufficient way.
- A partner's participation in an event or performance of any dissemination activity requires prior approval the RANGER Project Coordinator and the project Plenary Board (PB). The procedure, in general, provides that a partner stores the relevant material on the redmine platform, and submits, in a timely manner, a dissemination request to the WP8 Leader who then distributes it for approval, modification, or rejection. In case of the dissemination of already approved material, the partner needs to inform the WP Leader and include the appropriate acknowledgement to the RANGER project and the EC.
- The RANGER dissemination procedures document is available to all partners at the project internal collaboration space and can be found in Redmine<sup>4</sup>

The dissemination procedures are also presented in the current document in **Annex E**.

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<sup>4</sup> <http://www.redmine.org/projects/redmine>

## **9. Conclusion**

RANGER consortium has conducted a major effort to communicate efficiently the project's features and outcomes. A concise strategy has been followed targeting specific audiences and proposing tools, means and time plan per audience. Most tools have already been used and some are under preparation.

This document is a working document, meaning that the strategy is evaluated on a yearly basis according to specific success criteria. If needed, the strategy is adapted, to better suit the project's needs and the latest opportunities offered in the future.

## Annex A - List of Acronyms

Acronym	Meaning
<b>CSICS</b>	Compound Semiconductor Integrated Circuit Symposium
<b>D</b>	Deliverable
<b>DMA</b>	MINISTERE DE L'ECOLOGIE, DU DEVELOPPEMENT DURABLE ET DE L'ENERGIE
<b>GA</b>	Grant Agreement
<b>HMOD</b>	Hellenic Ministry of Defence
<b>ICCS</b>	Institute of Communications and Computer Systems
<b>IPSN</b>	International Conference on Information Processing in Sensor Networks
<b>ICNF</b>	International Conference on Noise and Fluctuations
<b>LAU</b>	LAUREA-AMMATTIKORKEAKOULU OY
<b>NATO-CMRE</b>	NATO Science & Technology Organizations – Centre for Maritime Research & Experimentation
<b>SaR/SAR</b>	Search and Rescue
<b>TUD</b>	TECHNISCHE UNIVERSITAET DRESDEN
<b>WP</b>	Work Package
<b>AIAA</b>	American Institute of Aeronautics and Astronautics
<b>NKUA</b>	National and Kapodistrian University of Athens
<b>MoD</b>	Ministry of Defence



## Annex B – List of Scientific Papers

Title	Authors/Partners	Event/Journal	Date & Place
<b>A Fully Balanced Ultra-Wide Band Mixer MMIC with Multi-Tanh Triplet Input for High Dynamic Range Radar Receiver Systems</b>	Mantas Sakalas, Niko Joram, Frank Ellinger (TUD)	24th International Conference on Noise and Fluctuations	Vilnius, Lithuania June 20-23, 2017
<b>Deep Convolutional Neural Networks for Modeling Patterns of Spaceborne Interferometric SAR Systems Signals</b>	Basil A. Massinas, Anastasios Doulamis, Nikolaos Doulamis Eftychios Protopapadakis, Dimitris Paradissis (TELESTO)	AIAA SPACE and Astronautics Forum and Exposition	Orlando, Florida 12–14 September 2017
<b>Fully Differential High Input Power Handling Ultra-Wideband Low Noise Amplifier for MIMO Radar Application</b>	M. Sakalas , P. Sakalas, N. Joram , F. Ellinger ( TUD)	2017 IEEE Compound Semiconductor IC Symposium	Miami, USA. 22-25 October 2017
<b>Stacked Auto encoders for Outlier Detection in Over-The-Horizon Radar Signals”</b>	Eftychios Protopapadakis, Athanasios Voulodimos , Anastasios Doulamis, Nikolaos Doulamis, Dimitrios Dres, Matthaios Bimpas	<b><u>Computational Intelligence and Neuroscience journal</u></b>	2017
<b>Belief Propagation Based AIS/Radar Data Fusion for Multi-Target Tracking</b>	Domenico Gaglione, Paolo Braca, Giovanni Soldi (NATO)	21st International Conference on Information Fusion (FUSION)	Cambridge, UK, 10-13 July 2018
<b>Online Estimation of Unknown Parameters in Multisensor-Multitarget Tracking: a Belief Propagation Approach</b>	Giovanni Soldi, Paolo Braca	21st International Conference on Information Fusion (FUSION)	Cambridge, UK, 10-13 July 2018
<b>FMCW multiple-input multiple-output radar with iterative adaptive beamforming</b>	Johannes M. Eckhardt Niko Joram Adrian Figueroa Bastian Lindner Frank Ellinger	<b><u>IET Radar, Sonar &amp; Navigation journal</u></b>	2018

## Annex C – List of relevant journals

No	Journals
1.	Journal of Radars
2.	IEEE Transactions on Geoscience and Remote Sensing
3.	IET Radar Sonar & Navigation
4.	IEEE Transactions on Signal Processing
5.	Aerospace Science and Technology
6.	IEEE Trans. Antennas and Propagation
7.	Photonics Spectra
8.	IEEE Spectrum
9.	IEEE Photonics Technology Letters
10.	IEEE Journal of Lightwave Technology
11.	Global Journal of Technology and Optimization
12.	International Journal of Innovative Research in Computer and Communication Engineering
13.	International Journal of Innovative Research in Science, Engineering and Technology
14.	International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering
15.	International Journal of Sensor Networks and Data Communications
16.	The Scientific World Journal
17.	Journal of Remote Sensing & GIS
18.	Journal of Optical Communications and Networking
19.	IEEE Journal of Solid State Circuits
20.	IEEE Transactions on Microwave Theory and Techniques
21.	International Journal of Microwave and Wireless Technologies
22.	IEEE Geoscience and Remote Sensing Letters
23.	IEEE Signal Processing Magazine
24.	IEEE Transactions on Aerospace and Electronic Systems
25.	IEEE Journal of Selected Topics in Applied Earth Observations in Remote Sensing

26.	IEEE Journal of Oceanic Engineering
27.	IEEE Intelligent Systems
28.	Signal Processing
29.	Pattern Recognition
30.	Digital Signal Processing
31.	World Maritime News
32.	European Defence Matters, the official magazine of the European Defence Agency
33.	Global Defence Technology
34.	Defence Systems Journal
35.	Maritime Security Review

## Annex D – List of relevant Conferences/Events

No	Conference/Event	Date	Place
1.	2019 USNC-URSI Radio Science Meeting	9-12 January, 2019	Boulder, Colorado, USA
2.	ICCE 2019	11-13 January, 2019	Las Vegas, USA
3.	EuCAP 2019	31 March- 5 April 2019	Krakow, Poland
4.	IPSN '19	16 April 2019	Canada
5.	IEEE International Radar Conference	22-26 April 2019	Boston Massachusetts, USA
6.	Sea-Air-Space 2019	6-8 May, 2019	Washington DC, USA
7.	International Microwave Symposium (IMS)	2-7 June, 2019	Philadelphia, Pennsylvania, USA
8.	International Radar Symposium	26-28 June, 2019	ULM, Germany
9.	International Radar Conference	23-27 September, 2019	Toulon, France
10.	EuMW 2019	29 September, 2019	Paris, France
11.	Pacific International Maritime Exposition	8-10 October, 2019	Sidney, Australia
12.	Milipol 2019	19-22 November, 2019	Paris, France
13.	ISSCC 2019 IEEE International Solid-State Circuits Conference	17-21 February 2019	San Francisco, USA
14.	International Microwave Symposium (IMS)	14-19 June 2020	Los Angeles, CA, USA

15.	<b>ICCE 2020</b>	13-18 September, 2020	Sydney, Australia
16.	<b>EuMA 2020</b>	13 September, 2020	Utrecht, the Netherlands
17.	<b>EuCAP 2020</b>	15-20 March, 2020	Copenhagen, Denmark
18.	<b>ISSCC 2020 IEEE International Solid-State Circuits Conference</b>	2-6 February, 2020	San Francisco, CA, USA

## Annex E –Dissemination Procedures

### *Description and purpose*

The participation of any Partner in an event as well as the performance of every dissemination activity related to the RANGER project has to be **approved beforehand by the RANGER Project Coordinator and the project Plenary Board (PB)**

- **Basic objective:**
  - Produce high quality RANGER publications and presentations;
  - Avoid overlaps and possible disclosure of restricted or confidential information;
  - Monitoring and record the dissemination activities of the project in a sufficient way.
- **Step by step procedure:**

1. Fill in the spaces of the table below;
2. Store your material (abstract, draft paper, poster etc.) at the following DMSF folder: [https://redmine.iccs.gr/projects/ranger/dmsf?folder\\_id=1453](https://redmine.iccs.gr/projects/ranger/dmsf?folder_id=1453)
3. Submit your dissemination request allowing **for minimum 3 weeks before submission** deadline by email to the WP8 Leader ([maria.tsirigoti@iccs.gr](mailto:maria.tsirigoti@iccs.gr)) as an internal approval procedure is followed by some project partners (i.e. NATO).
4. WP8 Leader distributes your dissemination request to the **SAB** for approval, modification or rejection;
5. WP8 Leader distributes your dissemination request to the Coordinator/ PB for approval, modification or rejection;
6. Coordinator/ PB decision send to the WP8 Leader **within five working days**; If no answer is received due to the set deadline it is taken as an approval;
7. WP8 Leader informs the involved partner(s) about the decision; In case of:
  - **Approval:** When approval given through the WP8 Leader, then the partner(s) proceed to the realisation of the proposed dissemination activity;

- **Conflict/objection\*\*:** Any PB member can reject the proposed dissemination activity if they have objections, as overlaps or possible disclosure of restricted or confidential information regarding the work performed in the different WPs. In case of conflict the issue is being discussed among the coordinator, the WP8 leader and the involved partners;

**Generally, the steps beyond the stage described can be found in “Conflict Resolution” in D1.1 chapter 3.2**

*\*\*If a conflict is created or further material is needed then WP8 Leader informs the partner and requires modifications or additions. Then the material is proposed again to WP8 Leader and if significant changes that might provoke conflicts among partners’ interests must be made, the previous procedure is followed.*

- If a partner wishes to organise a workshop or special event related to RANGER, then the approval of WP8 leader and the information of the Coordinator and the PB is also needed **2 months** before the realisation of this type of dissemination activity. The lead partner fills in the space of the table below with specific details about the activity and the aforementioned steps are followed.
- **Dissemination activities report:** Within *ten working days* after the realisation of the approved dissemination activity, the partner should provide the WP8 Leader ([maria.tsirigoti@iccs.gr](mailto:maria.tsirigoti@iccs.gr)) with the filled in dissemination report (Available here: [https://redmine.iccs.gr/projects/ranger/dmsf?folder\\_id=1454](https://redmine.iccs.gr/projects/ranger/dmsf?folder_id=1454)) and the presented dissemination material (final paper, presentation, poster etc.). The dissemination report form should be stored in the following folder: [https://redmine.iccs.gr/projects/ranger/dmsf?folder\\_id=1454](https://redmine.iccs.gr/projects/ranger/dmsf?folder_id=1454) All material will be archived by ICCS; it will be also highly appreciated if the lead partner of every dissemination activity provides the WP8 leader with some photos of their participation at the different events. The photos should be placed in the DMSF too: [https://redmine.iccs.gr/projects/ranger/dmsf?folder\\_id=1454](https://redmine.iccs.gr/projects/ranger/dmsf?folder_id=1454)

NOTE:

If partners wish to present or release material already approved as public presentation and material then no formal approval is required. The WP8 Leader ([maria.tsirigoti@iccs.gr](mailto:maria.tsirigoti@iccs.gr)) has to be informed. If there are no objections, then the WP8 Leader notifies the authors to proceed with the dissemination activity.

### Acknowledgement

The following acknowledgement text should be included in all publications related to the RANGER work:

*"This work is a part of the RANGER project. RANGER has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 700478. The authors would like to thank all partners within RANGER for their cooperation and valuable contribution".*

For any other dissemination activities, the EC emblem with the phrase:

*"This work is a part of the RANGER project. This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement no 700478."*

*"Content reflects only the authors' view and European Commission is not responsible for any use that may be made of the information it contains."*

For correct use of the EC emblem please use the following links:

European flag: [http://europa.eu/about-eu/basic-information/symbols/flag/index\\_en.htm](http://europa.eu/about-eu/basic-information/symbols/flag/index_en.htm)

For further information, please contact the WP8 Leader ([maria.tsirigoti@iccs.gr](mailto:maria.tsirigoti@iccs.gr))

## Annex F- Ethical Issues (related to the D8.2)

Deliverable		D8.6 RANGER Inventory of Communication, Dissemination and Raising Awareness Activities (second year)	
Activity		Main Responsibility	How are the guidelines applied?
1	<p><b>Development of RANGER Code of Conduct and follow-up of the current discussion on maritime surveillance</b></p> <p>The initial RANGER Code of Conduct provided in the Deliverable 3.1 is to be developed and specified more in detail during the RANGER project. Separate versions of the Code of Conduct are needed for RANGER as stand-alone version and for RANGER as part of EUROSUR/CISE.</p>	Project management and ethics committee working.	N/A for D8.2
2	<p><b>Legal framework follow-up regarding maritime surveillance and its technology</b></p> <ul style="list-style-type: none"> <li>Especially since RANGER may change the moral division of labor in maritime surveillance (e.g. in SAR where much more information will be available), it may even be a mean to change to the legislation (or how it will be interpreted)</li> <li>Follow both EU and local legislation and standards (radiation, environment, NATURA2000 etc.) from the design phase of the radars. Be especially aware of the changing legislation.</li> </ul>	Each WP	N/A for D8.2
3	<p><b>Proper understanding of maritime surveillance operations &amp; involvement of end-users</b></p> <ul style="list-style-type: none"> <li>End-users are to be involved in the project during its <u>whole life span</u>.</li> <li>End-users should come from various levels of maritime surveillance and from various operations in EU and member states (search and rescue, border control, fisheries control, customs, environment).</li> <li>Representatives from the third countries from Mediterranean coast site also to be involved in project, as well as various non-government organizations.</li> </ul> <p>In addition make it sure that in the research work with the end-users consent forms are always collected and the collection &amp; processing of personal data is avoided.</p>	All the work-packages working with end-users.	N/A for D8.2
4	<p><b>EUROSUR/CISE collaboration in ethics work</b></p> <p>Since EUROSUR and CISE probably has already taken into account the critics of forgetting humanities in favour of security and new businesses, it is crucial that RANGER's interoperability and compliance with EUROSUR and CISE covers also these ethical issues (not only technology). This includes especially the following issues:</p> <ul style="list-style-type: none"> <li>Non-refoulement and the use of RANGER radar to detect vessels on high sea and on the water territories of third counties.</li> <li>Seeking for the solution how we will deliver the long-distance information RANGER provides also to</li> </ul>	Project management team (with the help of ethics committee)	N/A for D8.2



	<p>neighbouring third counties so that they can also enhance their SAR activities.</p> <ul style="list-style-type: none"> <li>• Seeking for the fair moral division of labour in providing assistance in a situation in which we constantly get distress information outside country's own SAR –regions.</li> </ul>		
5	<p><b>RANGER business/governance modelling</b></p> <ul style="list-style-type: none"> <li>- RANGER as stand-alone solution, and especially its user processes and business/business model need to be designed carefully, including the user training and selling/procurement strategy which avoids the biased use of RANGER in border control and SAR.</li> <li>- Productizing a feasibility study and societal impact assessment about RANGER and its use in the proposed area before the implementation as part of the “RANGER package”, including needed activities to eliminate undesirable consequences beforehand.</li> <li>- When selling RANGER as stand-alone solution, follow up of the consequences of the use of RANGER technology is needed to provide as part of the “RANGER service package”.</li> <li>- Selling RANGER only for the use of municipalities or other authorized bodies (&gt;the avoidance of the misuse and dual-use)</li> <li>- Licensing</li> </ul>	WP 8	N/A for D8.2
6	<p><b>Design of the RANGER technology/Data management and security</b></p> <ul style="list-style-type: none"> <li>- “Privacy by design” and other requirements (anonymizing etc.) defined in the coming new Data Protection legislation (Act + Directive).</li> <li>- Specific Data security standards are to be followed</li> <li>- User logs as part of the system.</li> <li>- Check and balance approach</li> <li>- Limit the access to the RANGER data only to relevant authorities (access rights, ranger business modelling)</li> <li>- Rules &amp; regulation on the use of data</li> </ul>	Technical partners	N/A for D8.2
7	<p><b>Design of the RANGER technology/ The modifications of the user interface according the users background/maritime surveillance aspect</b></p> <ul style="list-style-type: none"> <li>- SAR criterion, human rights and other ethical guidelines should be taken into account when developing the RADAR technology, its processes and business model.</li> <li>- The language and terminology of the user interface should serve each aspect of maritime surveillance (by taking into account the status of the user logged in)</li> </ul>	Ethics committee and technical partners	N/A for D8.2
8	<p><b>Design of the RANGER technology/Physical design of the radar antennas</b></p> <p>Hire industrial designer etc. to create beautiful antennas and radars.</p>	WP4	N/A for D8.2
9	<p><b>Continuous societal impact assessment of RANGER during the project</b></p>	Ethics committee and	N/A for D8.2

	<ul style="list-style-type: none"> <li>Joint societal impact assessment with all the work packages will be done in the mid and end of the project under the work of ethics committee and documented in D3.2. This concern especially the Mediterranean area where the system is to be piloted. Also expertise from other areas than maritime surveillance are needed in order to figure out the impacts on society (e.g. irregular immigration)</li> <li>In addition each wp is expected to conduct SIA among their own stakeholders</li> </ul>	each work-package	
10	<p><b>Communication and dissemination</b></p> <ul style="list-style-type: none"> <li>Good PR and information with local communities.</li> </ul> <p>Make communities understand both the benefits and disadvantages</p> <ul style="list-style-type: none"> <li>It is necessary in the RANGER dissemination and communication use the terms “irregular” “asylum” and “illegal” in a logical and informative way.</li> </ul>	WP8	All the communication and dissemination activities that have taken place so far are according to the ethical guidelines related to Communication and Dissemination as described here.
11	<p><b>Guidelines for the installation and use of the system</b></p> <ul style="list-style-type: none"> <li>Rules &amp; regulation on the use of data. Training as part of the RADAR implementation on necessary also from this point of view.</li> <li>Consider environmental studies when installing the antenna, and be in contact with archaeological experts before installing the system. Have agreements from local/national authorities to install and use HF waves</li> <li>The installation of the radars in a places which are already occupied for same kind of activities (e.g. military bases)</li> <li>Choose the right location for the radar that doesn't cause problems to the nature, archaeological sites, tourism. To mitigate human exposure in radiation, the OTH radars can be located in unpopulated areas. Further minimize the power levels by improving the directivity of the radar.</li> <li>Safety instructions are also needed for installing radars and doing maintenance work.</li> </ul>	WP7 + trials	N/A for D8.2
12	<p><b>Follow-up of the implementation of these guidelines</b></p> <p>Work Packages (WPs) and their deliverables (in which an ethical and societal compliance check is to be added as an annex of each deliverable).</p>	Each WP	N/A D8.2