



Newsletter #5

OCTOBER 2017

RANGER

RAdars for lo**NG** distance maritime surveillance**E**
and Search and Rescue ope**R**ations

www.ranger-project.eu

Dear Readers,

Welcome to the fifth issue of the RANGER newsletter.

RANGER is a 42-month European project, co-funded by the European Union's Horizon 2020 research and innovation programme. The consortium comprises 10 partners from 7 countries, in a balanced blend of technology providers, domain experts, and end-users, namely Radar-technology industrial organizations, academic/research institutes, high-tech SMEs, and highly relevant end-user organizations.

RANGER combines innovative Radar technologies with novel technological solutions for early warning, in view of delivering a surveillance platform offering detection, recognition, identification and tracking of vessels, beyond current radar systems' capabilities, thus drastically improving the response and intervention capacity of European Search and Rescue operations.

This issue features an article on the RANGER solutions and societal responsibility, by LAUREA, and project updates.

Enjoy reading and don't forget to visit our [website](#) for more information!

The Project Coordinator



Contents

02 Forward

03 Updates

05 Article 'RANGER solutions and societal responsibility'

06 Related Conferences & Events

07 Contact us

For more Information

Please visit the RANGER website
www.ranger-project.eu

You can also keep up with more of what is happening at RANGER project by following us on:

Twitter:

@H2020Ranger

LinkedIn:

H2020Ranger

Project News & Meetings

Participation of the RANGER project in the European Researchers' Night in Athens, Greece

RANGER participated in the European Researchers' Night, which took place at the National Polytechnic University of Athens, on 29 September 2017. The European Researchers' Night is a Europe-wide public event dedicated to popular science and fun learning. It takes place each year on the last Friday in September, and around 30 countries and over 300 cities are involved. This European science dissemination initiative is supported by the European Commission as a part of the Marie Skłodowska-Curie actions, and is funded under the Horizon 2020 programme. It aims to raise awareness about research, dispel stereotypes about researchers and entice young people to take up a research career in the future. In this frame, ICCS partner attended the event, and had the opportunity to display the RANGER poster and inform the public about the project, through the distribution of appropriate dissemination material.



A RANGER paper was presented at the ICNF 2017

A paper entitled "A Fully Balanced Ultra-Wide Band Mixer MMIC with Multi-Tanh Triplet Input for High Dynamic Range Radar Receiver Systems" was presented by RANGER partner TUD at the 24th International Conference on Noise and Fluctuations in Vilnius, Lithuania. The Conference took place on 20-23 June, 2017.

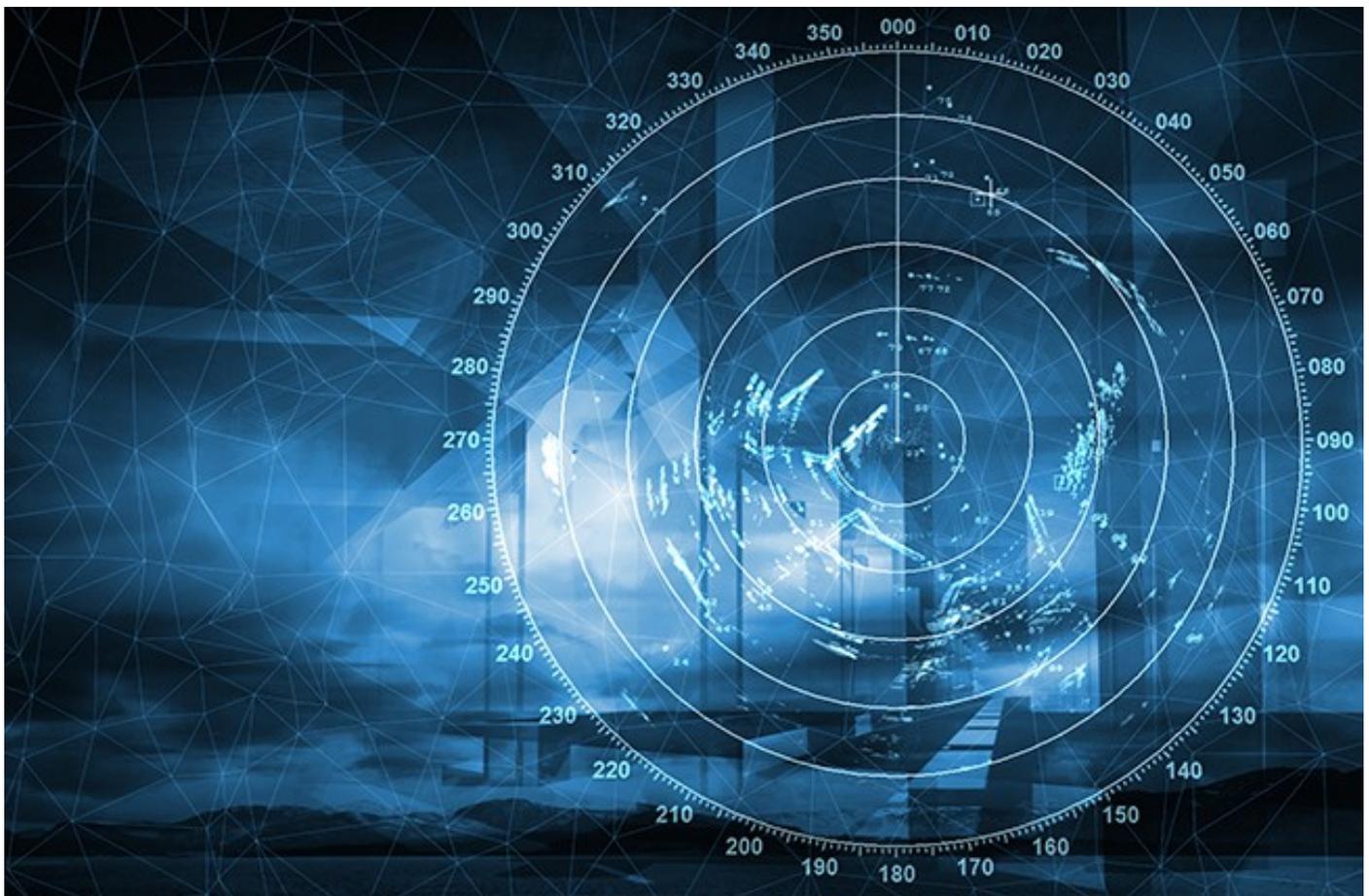


Project News & Meetings

Participation of the RANGER project in the Naval Domain Intelligence meeting in Livorno, Italy



On 17 and 18 October, 2017, consortium partners NATO – CMRE and HMOD participated in the Naval Domain Intelligence meeting. The main focus of the meeting was to explore the increased connectivity of systems and their sensors is transforming Naval Domain Intelligence, exploiting the opportunities of Naval UxV, surface & air sensors to enable a complete Recognised Maritime Picture that can be distributed quickly and securely between stakeholders. Among other topics, discussions focused on the technological innovations to enhance naval domain intelligence and increase beyond line of site capabilities. During the event, both NATO-CMRE and HMOD had the opportunity to network and discuss about the RANGER project with the meeting attendees, and key experts in research and development, innovative technology and capability requirements.



Article:

'RANGER solutions and societal responsibility'

by Tuomas Tammilehto, LAUREA University of Applied Sciences

A fundamental value shared by practically the whole humankind is be that all actions would diminish harm. Taking this noble principle into the context of RANGER, it means that the solutions would (beside the general enhancement of situational awareness) ideally do two things (not in any particular order): first, reduce human suffering caused by illegal narcotics; and secondly helping saving lives lost at sea, especially during the current refugee crisis.

Drug trafficking is largely in the hands of criminal organisations, and they are making huge profits from the misery caused by illegal substances. In many parts of Europe, drug related crime is taking the life out of, not only individuals, but also out of whole communities. **Making the lucrative drug trade less profitable by building the European law enforcement agencies capacity of detecting drug trafficking could be one tangible outcome of the RANGER solutions.**

Also, causing harm to the humankind – and right now on an unprecedented scale – is the suffering during the current migration crisis at the Mediterranean Sea. Tens of thousands have already lost their lives at sea, and preventing more from doing so is an ethical obligation. Thus, for example, enhancing Search and Rescue (SAR) capabilities is pivotal, and in this RANGER solutions could help too, since the detection of vessels in need of help is very much in the core of every SAR-operation.

Even to simply detect a drug trafficker's vessel or identify an unseaworthy boat of irregular immigrants from a long distance is a great achievement in itself from a technical point of view. However, the accomplishment as such can only take to a certain level in reducing harm: unfortunately, it would be like putting a bandage on an open wound. Thus, **the true societal impact lies maybe in the preventive measures that RANGER could achieve.** For this to happen, one needs to understand the decision making logics that the smugglers and irregular immigrants are following, and see the possibilities on how RANGER solutions could fit in with it.

In short, both the drug traffickers and the irregular immigrants are making choices based on somewhat rational calculus of pros and cons. It must be noted that the rationality needs to be understood from the immigrant's point of view. For example, risks and/or expectations can be real or imagined; nevertheless, they are true for the individual.

For an immigrant, alongside with the evaluations of so-called push and pull factors that are weight when deciding to immigrate altogether, there are other critical steps in the decisions making process. One is the self-evaluation of one's capabilities. For example, if one is physically fit, does he or she have the resources for the crossing, does the person have needed skills for travelling etc.? Also important is the individual's situation at the country of origin.

...continue from previous page

For example, if someone is responsible of others wellbeing, he or she is obviously more reluctant to leave than another, even if the risk of staying are similar. Further, the immigrant evaluates the risks of the journey itself. And again, the evaluation is done from subjective point-of-view. For example, the same boat and the same trip can be seen very differently depending the passenger.

Similarly, **a drug trafficker ponders the risks of getting caught, i.e. how well the authorities will detect him or her, and the possible consequences.** He or she base the evaluation also on his or her capabilities of carrying out the illegal act, and of course, the possible reward in mind. Again, the risk-reward ratio differs for one trafficker to another, since the height of a pile of money is in the eye of the beholder.

Thus, introducing any new solutions to these equations have impacts on the behaviour of the drug trafficker or the immigrant. For example, if a drug trafficker realises that due to RANGER solutions his colleagues are getting caught on a precise sea are using certain vessel type, he or she is likely to alter his or her routes, time, vessel type etc. in order to avoid detection. **All above changes most likely raise the cost of doing crime, and together with the risk of being caught, lowers the urge of trafficking; perhaps, even restrain from committing the illegal act altogether.** If the theory of lower costs and bigger supply creating more demand is true, then diminishing the amount of trafficked narcotics, and later on European consumer market, would ultimately reduce harm in societal and individual levels. It is precisely here where lies the benefits of better detection capability, and thus virtue of RANGER solutions. In short, the key is to make trafficking more risky and less lucrative.

Similarly to the drug traffickers, the result of the decision making model changes the routes of the immigrants. Maybe, one hopes to be stopped on an early stage of the voyage, and thus he or she choose routes where the immigrants are most likely saved and rescued by European authorities. In these cases, **RANGER solutions can have a direct impact on the amount of saved lives: a value itself worth pursuing.** Also, a likely outcome is that, since the risk of dying during the crossing diminish, those currently "unfit" to travel, will take their chances. This might result in more heterogeneous group of immigrants, e.g. those in the most vulnerable situations, i.e. women and children too. Again, a cherished value by many.

All in all, **RANGER can have several positive impacts on the European society as whole.** In this short article were presented the most obvious ones. It must be noted, however, that as the famous physicist Nils Bohr so well put it: forecasting is difficult, especially forecasting the future. Thus, RANGER can have outcomes that are not at all foreseen, or that the effects were fuller on certain aspects than others. Nevertheless, our open and honest desire is that RANGER would have a positive effect on society and reduce harm.

Related Conferences & Events

The logo for SiCUREZZA, featuring the word in a bold, blue, sans-serif font. The letter 'i' has a small orange square above it, and the letter 'A' has a small orange square to its right.

SICUREZZA International Security & Fire Exhibition ,
15-17 Nov 2017, Rho, Italy

<http://www.sicurezza.it/>



Maritime Search & Rescue Conference 2018
22-24 May 2018, Helsinki, Finland

<http://maritime-sar.com/>



19th IEEE International Workshop on Signal Process-
ing Advances in Wireless Communications (SPAWC)
25-28 JUNE, Kalamata, Greece

<http://spawc2018.org/index.html>

Submission: 19 February 2018



10TH IEEE Sensor Array and Multichannel Signal
Processing Workshop (SAM)
8-11 July 2018, Sheffield UK

<http://www.sam2018.group.shef.ac.uk>

Submission: 24 February 2018



CONTACT US

Coordinator

EXUS Software
Tower 42, 25 Old Broad Street
EC2N 1PB London, UK
innovation@exus.co.uk
info@ranger-project.com

For more Information

Please visit the RANGER website
www.ranger-project.eu



You can also keep up with more of what is happening at RANGER project by following us on:



@H2020Ranger



H2020Ranger

THE CONSORTIUM



This project has received funding from the European Union's H2020 research and innovation programme, under grant agreement no 700478

08/ #5 OCTOBER 2017