



European active electronically scanned array with Combined Radar, cOmmunications, and electronic Warfare fuNctions for military applications (CROWN)



Under the Preparatory Action on Defence Research (PADR), the grant for the Research Action call on the topic 'Electromagnetic Spectrum Dominance' was signed on 28 June 2021. The awarded project, called CROWN, is led by Indra Sistemas SA (Spain). The consortium encompasses a total of 11 participants from 7 countries. The project, ratios of 20 menths will receive an ELL grant of roughly 610 million.

which has a duration of 30 months, will receive an EU grant of roughly \pounds 10 million.

PADR Call EMS-03-2019 – Information on the awarded project							
Name of the project	European active electronically scanned array with Combined Radar, cOmmunications, and electronic Warfare fuNctions for military applications						
Short name	CROWN						
Summary of the project							

CROWN project includes two main and connected activities as first step towards an EU programme for a multifunction RF (radar, EW, communication) AESA-based system, using technology without end-user restrictions in TRL7, for a single aerial platform by 2027:

- 1. R&D assessment and recommendations on critical technologies key for the development of future European multifunction RF AESA systems, establishing roadmaps and priorities avoiding dependencies from non-EU suppliers.
- 2. R&T activities on system and component level. These activities will be based on the requirements identified from the main stakeholders and on the architecture study fulfilled. Demonstrators for the different levels, system, and component, will be developed taking in consideration the inputs of the R&D assessment to avoid as much as possible non-European technologies for CROWN demonstrators. A broadband antenna, wideband digital beam former (DBF) (electronic scan with multibeam capability in transmission and reception in a HW platform) and an advanced SW resource manager (RSM) (key for the multifunction coordination of the system) will be produced for the system level. At component level research activities will be done for Transmit/Receive modules (TRMs). High power, bandwidth, frequency and tunability are key objectives for the TRMs. Two different open and trustable EU foundries, being one of them part of the consortium, will be used for TRM design, manufacturing and test. SWaP-C, packaging, cooling and ilities (reliability, manufacturability, etc) are also aspects that will be included at both levels. The objective for these activities is intended to target at least TRL 4.

In addition, a small-scale prototype will be also designed, manufactured, and tested in a laboratory environment. Laboratory results will be conveniently scaled to the system level through modelling. System modelling will integrate models from the main building blocks studied (antenna, TRMs, DBF and RSM) to assess the performance of the defined system upon different scenarios.

Project duration	30 months
Starting date	01 July 2021

 $\underline{https://www.eda.europa.eu/what-we-do/activities/activities-search/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-action-for-defence-research/pilot-project-and-preparatory-activities-search/pilot-project-and-project-and-project-and-project-and-project-and-project-and-project-and-project-and-project-and-project-and-project-and-project-$



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Maximum foreseen EU Contribution € 9.999.688,75						
List of participants						
#	Name of the entity		Country	EU Contribution requested by the entity		
1	Indra Sistemas SA	Spain	€ 1.487.979,12			
2	Thales DMS France SAS		France	€ 950.059,62		
3	Office National d'Etudes et Aerospatiales	de Recherches	France	€ 705.354,58		
4	Hensoldt Sensors GmbH		Germany	€ 867.180,94		
5	Fraunhofer Gesellschaft zur Förderung der Angewandten Fors	Germany	€ 686.664,75			
6	SAAB AB		Sweden	€ 494.835,00		
7	Totalforsvarets Forskningsinstitu	Sweden	€ 601.726,78			
8	Nederlandse Organisatie Natuurwetenschappelijk Onderzo	Voor Toegepast bek TNO	Netherlands	€ 722.927,43		
9	Leonardo S.p.A		Italy	€ 949.587,19		
10	Elettronica S.p.A		Italy	€ 911.002,66		
11 Baltijos Pazangiu Technologiju Institutas		Lithuania	€ 373.791,50			