Activity Title:	***Micro and Millimeter-Wave Detectors***		
Contract type		**Budget** *(k€)*	**400**
Company (-ies) *(including country)*	Airbus DS SAS (France)		
Team *(name of the participants in the project)*	Marc Trier, Thibaut Decoopman (Airbus DS SAS) Peter Frijlink (OMMIC SA) Matthias Hoeffle, Oleg Cojocari (ACST GmbH)		
(*) **Speaker (s)**	Thibaut Decoopman	**Email**	thibaut.decoopman@airbus.com
Short Speaker Information *(experience and involvement in this project – maximum 60 words)*	T. Decoopman has been with Airbus DS SAS for the last ten years, now head of the Microwave Technologies and Advanced Studies Team, Microwave Instruments Division at Airbus DS Toulouse. He was the project manager for the study, and involved in diodes characterization, modelling and detector design and test		
Summary of the activity *(maximum 400 words and 2 pictures)*	TThis presentation reports on the activities carried out by Airbus DS SAS, OMMIC SAS and ACST GmbH during the ESA study "Micro and Millimetre-Wave Detectors" A081ET03. Two European technologies for direct detection have been developed and detectors have been designed, manufactured and characterized up to 166GHz, with performances comparable to non-European devices. In order to benchmark and optimize the detecting components, a set of criteria have first been agreed. Then, Airbus DS has relied on its expertise in direct detection to define the specifications requirements for the diodes, which have driven the component optimization process carried out by OMMIC and ACST. An extensive characterization campaign for both technologies including noise measurement and thermal tests provided input data for the components modelling. Two relevant frequencies were selected, 89GHz and 166GHz, for detectors design. They are of particular interest for meteorological observation and last development in Microwave Monolithic Integrated Circuits (MMIC) LNA made realistic at that time their utilization for MetOp-SG. Airbus DS derived detectors specifications from system level requirements and designed the 166GHz detectors, and ACST designed the 89GHz detectors. ACST GmbH, OMMIC SAS and Airbus DS have demonstrated the feasibility of European detectors for millimeter-wave applications, achieving performances comparable to non-European devices. To continue with the development of these detectors, ESA is currently funding reliability assessment of these detectors. ACST with Airbus DS have been selected to undertake this activity, and detectors at 89GHz are now the state-of-the art, and foreseen to be embarked onboard MWS and MWI instruments for MetOp-SG Click here to add a picture Click here to add a picture		

(*) The speaker needs to do the registration through this website