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CALL for PAPERS

for the special session on

SENSORS AND SOLUTIONS FOR AUTONOMOUS AEROSPACE SYSTEMS

ABSTRACT

Increasing the levels of autonomy for Aerospace Vehicles is an important task for the future systems to be developed. Autonomy is needed by Unmanned Aircraft Systems and Drones to support functions where the control of remote operator can be limited, such as operations in GPS Challenging Conditions, Beyond the Visual Line-Of-Sight, and Sense and Avoid. New aerial platforms are being developed, such as Urban Mobility Systems that will require autonomy to support piloting with reduced skills in complex environments, such us Very Low-altitude Airspace over urban areas. Traffic management systems such as traditional Air Traffic Management and future Unmanned Traffic Management will require autonomy for several innovative functions, such as Traffic Flow Management, Self-separation, and Autonomous Identification. Autonomy is required for coordinated flight of platforms, e.g. flocking of drones. Coordinated autonomous operations are planned that include also terrestrial and naval platforms. Finally, Space Systems operate most of the mission in fully autonomous control, from Low Earth Orbit satellites to Deep Space interplanetary spacecrafts and rovers.

Autonomy will require development of specific sensors that will be needed to replace human awareness, i.e. sensing accelerations, rotation rates, presence of stationary and moving obstacles. Autonomy requires specific solutions to overcame technical issues but also reliability and ethics concerns. The session encourages the submission of papers that address all the above mentioned subjects to support an updated overview about the state-of-art of research in this field.

ORGANIZED BY

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ABOUT THE CONVENER

Domenico Accardo is Associate Professor in the fields of Air Traffic Management and Avionics at University of Naples "Federico II", Italy. He owns a PhD degree in Aerospace Science and Technologies. He has been Principal Investigator for several research projects in the fields of Sensors and Systems for Aerospace Guidance, Navigation, and Control and Air Traffic Management with funds from the European Union, CIRA, National Aerospace Companies, and local Small and Medium Aerospace Enterprises. He has published 98 articles for International Journals and International Conferences in the Aerospace Systems field that are scored by Scopus and ISI Thomson. He is first inventor of an International Patent related to a Trajectory Prediction System for Air Traffic Management applications. He has been reviewer for several International Journals such as IEEE Transactions on Aerospace and Electronic Systems, Pattern Recognition Letters, Algorithms, Autonomous Robots and Aerospace Systems and Technologies. He is Senior Member of American Institute of Aeronautics and Astronautics (AIAA) and he has been chair of AIAA Sensor Systems and Information Fusion Technical Committee.

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