SOCIETAL AUTOMATION

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& Economics of Innovation and New Technology**

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& SUMMIT OF EXPERTS**

SPECIAL SESSION & CALL FOR PAPERS   SAC2021.ORG

Special Session & Call for Papers
Future Intelligent IoT Systems - The Scientific Challenge
Organizers

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Background
With proliferation of sensors and increased connectivity and interoperability capabilities, smart IoT systems are being adopted in many application domains such as the city, health, agriculture, power grid, factory and intelligent transport systems... But the new generations of IoT systems are not only limited to sensor networks that collect high volumes of data in the field and process it through new artificial intelligence algorithms in order to automatically extract higher value information for humans. The new "Smart IoTs" now have the ability to act through actuators, or more complex devices, that impact the environment. Today it can be fleets of autonomous vehicles or intelligent drones, but tomorrow all the above-mentioned and well known application domains of IoT will be concerned.

It is therefore new visions that are now driving the development of IoT systems and field AI. Today robots or drones, cars or autonomous boats, tomorrow we will be soon talking about large-scale automated systems in which we will live, such as future smart cities designed from scratch.

Many scientific challenges are to arise for different communities:

In the field of Information Science and Technology, intelligent IoT systems are complex, large-scale, distributed systems operating in open contexts. They involve interconnected things that sense and act on the physical environment, as well as control loops distributed along the Internet continuum in Cloud, Edge and IoT spaces. These control loops assimilate data from sensors, build their own representation of the surrounding environment, plan responses and implement them through actuators. However, they need to be properly coordinated so that they give rise to intelligent and autonomous behaviours that form the core of an intelligent IoT system.

In the field of interaction with humans, intelligent IoT systems are now likely to act in competition with humans in their immediate environment, with all the problems that this may raise in ergonomic, sociological and even ethical terms about the degree of human control over such systems and, in other words, how to "keep the human in the loop".

Aim
This special session is therefore aimed at scientists from all communities who have found themselves confronted with these new challenges posed by the intelligent IoT systems. While this scientific meeting is intended to cover a wide range of topics, the presenters are asked to base their presentation and contribution on a real example in one of the multiple application domains of intelligent IoT systems.

Further Information
Please contact the organizers of the session Stephane Lavirotte and Jean-Yves Tigli
For information on the submission requirements and the submission link see the links in the *GUIDELINES* Tab on the conference web site.
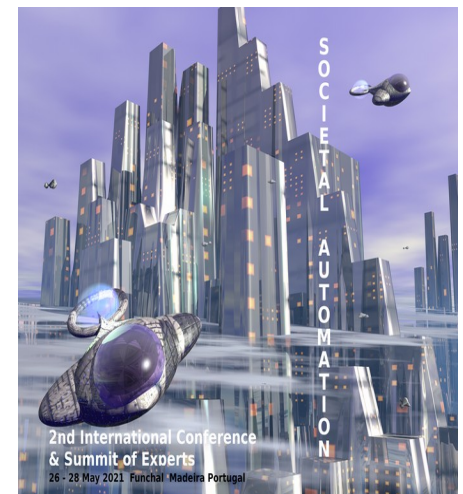
Submission Deadline
28 March 2021