Functional & Architectural Frameworks & Economics of Innovation and New Technology

Electronic Systems in Societal Automation
Communication in Societal Automation
Computing in Societal Automation
AI, Machine & Deep Learning in Societal Automation
Sensors in Societal Automation
Technological Singularity
Architectural Frameworks for Societal Automation – IoT and CPS & Applications
Cyber-Security in Societal Automation
Development of Ultra Complex Man-Made Engineering Systems
Smart Cities and Cities of the Future
Socio-Technical Aspects of Societal Automation
Economics of Innovation and New and Future Technology

SOCIETAL AUTOMATION

2nd International Conference
9 - 11 September 2020 Funchal Portugal

Keynotes & Invited Plenary Talks

John Baras, University of Maryland at College Park, USA
Athanasios Kalogeras, Industrial Systems Institute, Athena R.C., Greece
Roman Obermaisser, University of Siegen, Germany
Alberto L. Sangiovanni-Vincentelli, University of California, Berkeley, USA
Jacek M. Zurada, University of Louisville, USA

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SOCIETAL automation

The 4th Industrial Revolution and emerging Societal Automation initiatives deeply rooted in advances in Electronics, Communication, and Computer Science has been heralded by numerous visionary initiatives sponsored and advanced by industry, private consortia, and governments alike, all over the industrialized world – to mention smart factories, smart grid, smart homes, smart buildings, smart highways, smart transportation systems, urban automation, etc. The household names of the Internet of Things and Cyber-Physical Systems provide conceptual and architectural frameworks for those initiatives.

Technology and arising solutions are fast penetrating practically all areas and facets of our life; from pocket and wearable automation, to robotic companions, to home and building automation, to energy and transportation systems, to city/urban automation. In future: space colonies. Societal Automation, as this rapidly expanding human-centered technology penetration of our life can be called, has many aims: to make human-made engineering systems intuitive and safe in use; to strive to improve quality of our life; to provide comfortable and safe living habitat without degrading the surrounding natural environment to mention some - in addition to fulfilling other geo-engineering requirements and societal needs.

Themes of Internet of Things and Cyber-Physical Systems and applications are well represented in the body of articles and papers published in journals and presented at conferences. However, the presented ideas and actual developments are far from disruptive. The heralded over ten years ago a rapid evolution of man-made engineering systems drawing from the IoT and CPS paradigms never eventuated. This situation is acutely reflected in the unwillingness of the Venture Capital firms to fund small incremental developments which offer little prospects for major return on investment. It becomes increasingly clear that the lack of architectural and technological frameworks to base future developments on leads to this stalemate. It is also evident the vision of what is to be achieved is not in place and clear. It is time to explore top-down mode of thinking: From ideas and visions to frameworks, to solutions, to technologies and supporting development tools.

Technology development tends to be expensive. Funding is typically provided by public and private sectors. The motivations may differ. Public good, or profit. Irrespective, investors need to know the cost of development. Private sector, in addition to the profit projections, considers a range of issues before committing. That may include likelihood of the success and arising from that loss, likelihood of others developing disruptive technologies making further investment problematic, and also monetary value of the developed technology in various time frames to mention some.

The second edition of the Conference on Societal Automation will attempt to look in a holistic way at the Societal Automation domain in order to try to determine what solutions, technologies, architectural frameworks, and design tools are going to be needed in the design, development and deployment of future human-centered life-quality improving solutions and systems such as Cities of the Future, as well as economic aspects of innovation and new technology development.

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