27th INTERNATIONAL CONFERENCE
ON EMERGING TECHNOLOGIES
AND FACTORY AUTOMATION

ETFA 2022

STUTTGART, GERMANY
SEPTEMBER 6th-9th 2022

Call for Papers
SS08 - Industry 5.0 – Augmenting the Human Worker in Balanced Automation Systems

Organized and Co-Chaired by

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❖ **FOCUS**. The Fourth Industrial Revolution, or Industry 4.0, has created relevant changes in regards to the presence of human workers at the shop floor, and the roles they play in smart, resilient manufacturing systems. Although high to medium levels of automation, robotization, and digitalization are becoming a prevalent trend in many smart factories, there is consensus that human workers will remain an essential part of such smart manufacturing environments and systems. Nevertheless, "human-centric" strategies are still much underrepresented in the Industry 4.0 paradigm, making manufacturing companies realize that they need to make significant efforts to put their human workers back at the center of their shop floor digital transformations. This realization has created the emergence of a new Industrial Revolution, referred to as "Industry 5.0", aimed at bringing back the human worker at the center of the development of the factory of the future. The Fifth Industrial Revolution aims to pair humans, machines, robots, and artificial intelligence to utilize human creativity even further and increase processes efficiency by combining material and information workflows with intelligent assets and systems. While the primary concern in the Industry 4.0 paradigm is or was about automation, robotization, and digitalization, the Industry 5.0 hallmark is the exploration of new synergies between humans and intelligent assets and systems. Also, Industry 5.0 is about the social sustainability and the resilience of human workers and human-technology systems. The recent "Operator 5.0" concept and vision show a future of work in this direction.

❖ **TOPICS**

- ❖ Human-Machine/Robot/AI Interface in IIoT for Industrial Applications
- ❖ Digital Twins, Device Models, Adaptive- and Automation-Models
- ❖ Human-Machine/Robot/AI Interfaces and SCADA Supervisory Systems.
- ❖ Human Factors, Industrial Ergonomics, and Safety in Smart Maintenance Systems
- ❖ Smart Manufacturing Environments
- ❖ Industrial Sensor Networks and Wearables Sensors
- ❖ Real-time Locating Systems
- ❖ Process Modelling and Simulation

❖ **AIM.** The aim of the Special Session is to bring together researchers and practitioners from the industry and academia and provide them with a platform to report on recent advances and developments in the newly emerging areas of human-centred Fifth industrial revolution. Based on the aforementioned trends, manufacturing companies are currently being faced with the challenge of making the best possible strategic decisions such as full physical and/or cognitive automatization versus human-technology collaboration and/or workforce augmentation as part of their digital transformation efforts to realize human-centric, socially sustainable, and smart, resilient manufacturing environments and systems.

❖ **CONFERENCE FORMAT**. The conference will comprise multi-track sessions for regular papers, to present significant and novel research results with a prospect for a tangible impact on the research area and potential implementations, as well as work-in-progress (WiP) and industry practice sessions.

❖ **AUTHOR'S SCHEDULE (2022)**

❖Regular and special sessions papers
Submission deadline ..... April 1
Acceptance notification ..... May 6
Deadline for final manuscripts ..... June 17

❖Work-in-progress/Industry practice papers
Submission deadline ..... May 13
Acceptance notification ..... June 10
Deadline for final manuscripts ..... June 17