Title

Agile and Cooperative Manufacturing based on Automated Guided Vehicles (ACMAGV)

Proposer / Main Organizer

Provide complete address/affiliation, phone, email and biography.

The main organizer will be the primary contact person to whom all correspondence will be sent:

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IEEE Member or SMC Society Member

Dariusz Mrozek, IEEE Senior Member, SMC Member, Secretary of Polish Section of IEEE SMC
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Category

Please select one of the following categories:

– Systems Science and Engineering

Number of Expected Paper Submissions:

9

Keywords

See list of topics in the Call for Papers

Consumer and Industrial Applications, Communications, Enterprise Information Systems, Robotic Systems, Cooperative Systems and Control, Intelligent Transportation Systems, Application of Artificial Intelligence

Brief Description and Justification (200-250 words):

Add a short description (200 to 250 words).

The growing popularity of Autonomous Guided Vehicles (AGVs), which are used in manufacturing, has not only been the result of their technical features but also their ability to cooperate. Cooperative-based internal logistics enables increased production flexibility. AGVs have become a critical enabling technology for flexible internal logistics required for agile production systems. Modern production systems are characterized by frequent changes that result from orders that are changed by customers, low material buffers, the agile production technologies that are performed by robotized production stands, and the many variants of production technology that can be used. All of the factors mentioned above require the production process to be supported online by highly advanced information services, which are
performed during the successive steps in the production chain. This means that the production activities cannot be centrally planned but have to be performed cooperatively concerning the ongoing production tasks, available materials, production equipment, and technologies. The new generation of manufacturing execution systems has to support the autonomy and distribution of decision-making processes. The ACMAGV session is focused on (but not limited to):
- Data Mining support for Energy and Resource Efficient Internal Logistics
- Communication between Automated Guided Vehicles and Production Stands and Production System
- Automated Guided Vehicle Integrated with Collaborative Robot
- Use Case Based CoBotAGVs Integration with Industry4.0 Production Systems