



Call for Contributions to the 6th GI/ACM I4.0 Standardization Workshop on Industrial Automation and Control Systems (6th IACS WS'21)

The 6th IACS WS'21 in series is again aligned with the yearly assembly of the 'GI Jahrestagung 2021'. Hence the Workshop schedule is planned in accordance with the conference schedule

of the [51st GI Jahrestagung from September 27 to October 01, 2021](#)

organized by GI Berlin.

Please notice that all the communications to prepare the Workshop including submissions uploads and reviewing of participants, organizers, PC members, authors etc. SHALL be done via the *easychair tool* by logging-in to **6th IACS WS'21!**

<https://easychair.org/cfp/6th-IACS-WS21>

Please be aware that the easychair tool requires to be registered before logging-in

—> <https://easychair.org/account/signup>

The 6th IACS WS'21 Time Plan:

1. Early Registration of Abstracts of Intentional Submissions: April 11;
2. LNI-ready papers for the 6th IACS WS'21 LNI Proceedings: June 10; (End of Reviewing)
3. LNI Proceedings Preparation: July 31;
4. The 6th IACS WS'21, GI Berlin: September 27/28 (accepted papers' presentations due).

One of the general objective of the 6th IACS WS'21 and of the conference 'GI Jahrestagung 2021' is on how to achieve sustainability by standardization of I4.0 Automation and Control Systems (IACS) according to the current development of one of the most important industrial standards series IEC 62443!

Work of Standards Developing Organizations and international Technical Committees which is related to IACS is part of IEC TC65 'Smart Manufacturing' WG23 and WG24, and ISO/JTC1 SC27 on Security Technologies, SC38 on Cloud Computing, SC41

on Industrial Internets of Things, SC42 on Artificial Intelligence Technology in Smart Factories, Smart Cities, Smart Grids etc.

Since the GI Conference *Informatik2016* in Klagenfurt the IACS Workshop Series appreciate cooperation with EU and national industrial standardization supporting organizations:



The 6th IACS WS'21 Objectives:

One of the important basic objective of the 6th IACS WS'21 is to contribute to

- ,Sustainability by Standardization of new I4.0 technologies in the areas of Smart Manufacturing, Digital Twin, AI-based Robotics, Industrial Internet of Things etc.

With respect to the multi-standard IEC 62443 stating requirements on security, safety, privacy, quality of work, asset management etc. the 6th IACS WS'21 adopts the following derived objectives:

- IACS Modeling, Vocabularies and Concepts
- System Security Conformance Metrics
- Production Lifecycle and Use Cases of New Technologies
- IACS Risk Assessment and Security Levels
- Administration Shell of Repositories for I4.0 Objects and IoT Devices
- Knowledge Derivation from Big Data Lakes
- Ontology Language and Unique Object Identification
- Security Algebra and Verification Techniques
- Human-Machine Interoperability
- Semantic Interoperability in SM/IIoTs
- New Artificial Intelligence Techniques and Approaches

- Functional Safety and Trustworthiness
- ICT Application Regulations and Ethics

The 6th GI/ACM IACS WS'21 nominated Board of Co-Chairs:

Jan B. de Meer¹, Karl Waedt², Axel Rennoch³, Hans-Joachim Hof⁴

The 6th GI/ACM IACS WS'21 proposed Programme Committee:

Scott Cadzow	C3L UK
Jan-Bernhard De Meer	German Chapter ACM
Rainer Falk	Siemens AG Munich
Steffen Fries	Siemens AG Munich
Hans-Joachim Hof	Technische Hochschule Ingolstadt INSI
Olga Meyer	Fraunhofer Institute IPA Karlsruhe
Axel Rennoch	Fraunhofer Institute FOKUS Berlin
Peer Reymann	ITQS GmbH Germany
Ulrich Seldeslachts	Leuven Belgium
Karl Waedt	Framatome GmbH Erlangen

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The Narrative of the GI/ACM I4.0 Standardization Workshop Series on Industrial Automation and Control Systems (IACS)

The industrial multipart standard IEC 62443 IACS addressed by the GI/ACM I4.0 standardization workshop series has been and still is developed in accordance with other standardization organizations aiming at methods and techniques in the realms compared to: CRITIS, ETSI TC Cyber, IEC TC65 Smart Factoring, ISO JTC1 SC27/WG4 IT Security, Artificial Intelligence (SC42) and Industrial IoT (SC41) and more.

From 2013 and before the multipart standard IEC 62443 is continuously growing. Almost every 2 years a new standard part is published. The roadmap towards a complete view on I4.0 Systems comprises a system view of four groups of standards, i.e. General Concepts (1), Policies and Procedures (2), System Aspects (3), Component Aspects (4).

In 2018 a 5th group of 'Industry Profiles' has been defined and started and is now nearly to be finished. Industry Profiles are based on available normative parts of IEC 62443-2.4 for solutions suppliers and IEC 62443-4.1 for product developers.

This is now the 6th IACS Workshop in series joined with 'GI Jahrestagung' this year 2021 in Berlin Germany. The former I4.0 standardization workshops joined with GI Jahrestagungen happened in Karlsruhe (the 5th but the first virtual Workshop), Kassel (4th), Berlin(3rd), Chemnitz (2nd) and Klagenfurt (1st).

The PC and its Chairing Board (CB) of the workshop appreciated and acknowledges the manifold support from the associations of 'German Chapter ACM' and 'Gesellschaft für Informatik (GI)' of the D-A-CH countries, the EU 'ECSO' and, the national 'SCI4.0' and 'Plattform I4.0' organizations.

The 'European Cyber Organization (ECSO)' supports the workshop's main issue of addressing industrial development and harmonization by standards as it is central to IEC 62443 IACS series. ECSO is structured into 6 working groups comprising but not limited to Standardization of Supply Chain Management (1), International Collaborations (2), Sectorial Demanding I4.0 (3), Coordination with Regions (4) and Awareness of Cyber Ranges (5).

The use and deployment of *EasyChair* enabled the organizers to fulfill all the constraints and conditions on this diverging communications EU-wide and quite heterogeneously including industrial, scientific, governmental start-up SMEs and many other participants to be integrated on one virtual round table of *EasyChair*.

The workshop's joint PC/CB appreciates the continuous support in providing logistics and scientific experiences for preparing the workshop but also for printing posters, organizing decision-making reviewing meetings etc. gained from FhG-FOKUS Berlin!

February 19, 2021, Berlin, the Board of Co-Chairs:

Jan-Bernhard deMeer, Karl Waedt, Axel Rennoch, Hans-Joachim Hof.