Industry Day - Tuesday 06.09.2022 Open to all interested researchers! Welcome Coffee 9:00 - 9:15 Fover 47 Workshops 9:15 - 10:45 ${\tt DIVERSE-4th\ Workshop\ on\ Advanced\ Technologies\ in\ Industrial\ Vehicular\ Systems\ -\ Part\ 1}$ V47.01 Saad Mubeen, Mohammad Ashiaei The innovation in modern vehicles can be largely attributed to advanced computer-controlled functionalities. With the increasing volume of these functionalities, the complexity in vehicular systems has increased enormously over the past few years. The objective of this workshop is to 09:15 - 10:45 provide a platform to the researchers and practitioners to present and discuss advanced technologies that can address the challenges faced by the developers of vehicular systems Dakshina Dasari 09:15 - 09:45 Real-time Edge Orchestration: Opportunities and Challenges Taming overheads and timing analysis of complex data chains in embedded real-time systems Peter Ulbrich 10:15 - 10:45 Meeting End-to-End Delays by Design – From Analysis to Implementation Matthias Becker First Workshop on Implementing Asset Administration Shells (ImplAAS) - Part 1 Thomas Kuhn, Sten Grüner, Pablo Oliveira Antonino, Daniel Porta, Frank Schnick ImplAAS is a workshop is to discuss research challenges and experiences regarding the digital transformation of manufacturing environments with Asset Administration Shells and digital twins. Further relevant topics cover the use of AAS for the creation of digital twins, and to virtualize 09:15 - 10:45 (production) systems. All system domains are welcome. We solicit papers around the use, practical implementations, and experiences with Asset Administration Shells and digital twins that cover a wide range of research topics with a focus on the digital transformation of manufacturing and the digitization of value chains. 09:15 - 09:30 FTFA22-000278 FA³ST Service – An Open Source Implementation of the Reactive Asset Administration Shell Michael Jacoby ETFA22-000279 Asset Administration Shell as Integration Layer for the Orchestration of Mixed Process and Manufacturing Plants Julian Grothoff 09:30 - 09:45 09:45 - 10:00 ETFA22-000282 Migration and synchronization of plant segments with Asset Administration Shells Stephan Schäfer 10:00 - 10:15 FTFA22-000296 A Blueprint Of Digital Twins In High Volume Production Environments Using The Asset Administration Shell Sascha Gärtne ETFA22-000300 Historical Data Storage Architecture Blueprints for the Asset Administration Shell Rene-Pascal Fischer 10:15 - 10:30 10:30 - 10:45 ETFA22-000311 Al Asset Management: a Case Study with the Asset Administration Shell (AAS) Lukas Rauh Towards the factory of the future: advances in planning, control, and perception of industrial robots - Part 1 Dionisis Andronas, Marco Faroni, Stefano Ghidoni, Alessandro Umbrico Industrial robots play a key role in industrial automation. Robotic arms populate shop-floors: they are used for pick-and-place, assembly, inspection, and many other tasks, to increase the throughput of productive processes and alleviate fatigue and risks of human workers. A huge research effort has been put into the reasoning, planning, and control of robotic manipulators. Nonetheless, industrial implementations often do 09:15 - 10:45 not exploit at full the great advancements made in these fields. This workshop aims at discussing how recent developments in planning and control of robot manipulators, on the one hand, and synergetic integration with results from Artificial Intelligence and cognition, on the other, can advance the state of the art and be applied to real-world manufacturing. 09:15 - 09:20 Welcome and Intrudction Alessandro Umbrico 09:20 - 10:20 Invited Talk Werner Klaus ETFA22-000420 Continuous Teleoperation of a Robotic Manipulator via Brain-Machine Interface with Shared Control 10:20 - 10:45 Stefano Tortora CLONAR - Cloud Native Real-Time Systems - Part 1 Mohammad Ashjaei, Daniel Corujo, Paulo Pedreiras CLONAR will be a place where R&D solutions involving cloud native and real-time systems will be manifested and shared. The objective is to attract works focusing on either advancements from the industrial sphere or the cloud sphere (or both), in order to achieve groundbreaking 09:15 - 10:45 innovative systems for industry automation. Theoretical, experimental, trials or lessons learned will allow the experts communities of both areas to witness the deployment capability of the state of the art, or to pave the way for further evolutions. 09:15 - 09:45 ETFA22-000400 TOLERANCER: A Fault Tolerance Approach for Cloud Manufacturing Environments Auday Al-Dulaimy 09:45 - 10:15 Toward Networking for Intelligent Realities Kurt Tutschku 10:15 - 10:45 A cloud on time Johan Eker Biointelligent Manufacturing – Looking to biology with engineering eyes - Part 1 Thomas Bauernhansl, Robert Miehe, Ralf Takors The aim of the workshop is to bring together researchers and practitioners and provide them with a platform to report on recent advances in 09:15 - 10:45 the newly emerging area of biointelligent manufacturing. After the talks of three invited speakers, we attempt to define the basis for a joint perspectives paper in a peer-reviewed journal in a collaborative workshop. 09:15 - 09:45 Biointelligence - A new perspective for sustainable production? Thomas Bauernhansl 09:45 - 10:15 How bioconvergence does change products and processes' Holger Eickhoff 10:15 - 10:45 Status, potentials and challenges of soft sensors in bioprocess technology Dominik Ulrich Geier 10:45 - 11:00 Coffee Break Foyer 47 Workshops 11:00 - 13:00 DIVERSE: Advanced Technologies in Vehicular Systems - Part 2 V47.01 11:00 - 11:30 Towards Smart Construction Vehicle Industry Sara Afshar New cloud services for ADAS with 5G communications Roberto Cavicchioli

Using TSN for Timing Critical Communication in Avionics & Aerospace : Requirements and Challenges

Asset Administration Shell as an Enabler of Intent-Based Networks for Industry 4.0 Automation

Implementing a Metadata Manager for Machine Learning with the Asset Administration Shell

Employing Messenger Communication with Asset Administration Shells

Bringing Model-driven Vehicle Software Architectures and Timing Analysis Together: The Rubus Approach

First Workshop on Implementing Asset Administration Shells (ImplAAS) - Part 2

Rafik Henia

V47.02

John Lundbäck

Refik Fatih Ustok

Markus Damm

Alexandre Sawczuk da Silva

12:00 - 12:30

12:30 - 13:00

11:00 - 11:15

11:15 - 11:30

11:30 - 11:45

ETFA22-000326

ETFA22-000346

FTFA22-000405

WS07	<u> </u>	Future of Process Automation in BioPharma - Part 1	V47.02
		Lucas Vogt, Anselm Klose	
		industry imposes a unique set of requirements and challenges for the automation of its processes, whose emphases differ	
2:00 - 13:00	· ,	nother industries. Consequently, this workshop aims to create a discussion platform for the industry specific needs regarding	_
	automation technic	ologies. The talks aim to interconnect process automation, factory automation and operator centric design for biopharma fror an industry point of view.	!!
		difficulty point of fiction	
2:00 - 12:30		Introduction to the BioPharma World from an Owner/Operator View	Uwe Schwarzat
2:30 - 13:00		Outlook Digital Plants in Biopharma	Michel Claes
/\$08	To	owards the factory of the future: advances in planning, control, and perception of industrial robots - Part 2	V47.03
L:00 - 11:25	ETFA22-000389	Learning Action Duration and Synergy in Task and Motion Planning for Human-Robot Collaboration	Samuele Sandrini
L:25 - 11:50		Enhanced Cognition for Adaptive Human-Robot Collaboration	Alessandro Umbrico
1:50 - 12:15			
		Inverse Optimal Control for the identification of human objective: a preparatory study for physical Human-Robot Interaction	Paolo Franceschi
2:15 - 12:45		Panel Discussion and Conclusions	
/S02		CLONAR - Cloud Native Real-Time Systems - Part 2	V47.06
1:00 - 11:30		Predictable Cloud Computing Enhanced by Real-Time Scheduling in the Linux Kernel	Tommaso Cucinotta
COE	1	Biointelligent Manufacturing – Looking to biology with engineering eyes - Part 2	V47.05
/\$05		biointenigent Mandracturing — Looking to biology with engineering eyes - Part 2	V47.05
:00 - 13:00		Joint Workshop	
S06	1	Digital twins, components and systems for smart mechatronic applications - Part 1	V47.04
	•	Martin Cech, Manuel Beschi, Antonio Visioli	
	Research on die	gital twin technologies is affecting all of engineering domains. Specifically, one can see huge interest of applying digital twin	
		mart production technologies, robots and mechatronic devices. However, lots of components and systems must be modelled,	
1:00 - 13:00		ferent approach. The proposed workshop should focus on specific systems (SW, HW, sensors, actuators) that are necessary to	
	run machines in o	optimal way. Next, workshop will focus on specific toolchains and modelling platforms that allow to model those components	
		and integrate partial models into bigger units using standardized interfaces.	
1.00 44.22	ETEA33 000300	Whitening of grouphouse's roof using dropps and Datainst models	Cofia Hustin
1:00 - 11:20 1:20 - 11:40		Whitening of greenhouse's roof using drones and Petri net models Digital Twins and Al in Smart Motion Control Applications	Sofia Hustiu Martin Cech
1:40 - 12:00		An Evaluation Framework for Vision-in-the-Loop Motion Control Systems	Chaitanya Jugade
2:00 - 12:20	ETFA22-000249	Automated Multi-sensory Data Collection System for Continuous Monitoring of Refrigerating Appliances Recycling Plants	Mikhail Polikarpov
2:20 - 12:40		Construction of a Digital Twin for Reliability Analysis: A Case Study of a Storage Process	Vicente Lucena
2:40 - 13:00	ETFA22-000372	Design of robust PI controller by combining robustness regions with time-domain criteria	Martin Cech
VS10		Enabling robust, converged networks for Industry 4.0 - Part 1	V47 1.125
		Lukasz Wisniewski, Jos Knockaert, Philippe Saey	
		orkshop is to present and practically demonstrate the state of the art of some of the key enabling technologies of Industry 4.0 SN and OPC UA PubSub, and to evaluate how these facilitate the convergence of OT and IT networks for Industry 4.0. This	,
		eliver high quality lectures by experienced domain experts, describing the potentials as well as the limits of the technologies	
.1:00 - 13:00		e. To facilitate the interactive discussion, the workshop will be accompanied by several live demonstrations using industrially	
	relevant equipmer	nt, that practically show the current possibilities of the mentioned technologies, a number of measurement tools and method:	s,
		and aspects of robustness such as EMI/EMC and redundancy.	
1:00-11:10		Welcome and introduction to the workshop	
1:10-11:30		TSN Fundamentals	Mario Schoppmeier
1:30-11:45		Converged OT and IT traffic in TSN network with brownfield PROFINET RT	Arne Verhoeven
1:45-12:00		Ethernet TSN preemption - live demonstration	Mario Schoppmeier
2:00-12:25		OT/IT traffic in brownfield TSN vs. PROFINET RT - live demonstration	Arne Verhoeven
3:00 - 14:00		Lunch Break	Mensa
4:00 - 15:00	Plenary	Speech Industry Day "Practicalities of Data Analytics and AI in Industrial Control" - Dr. Andrea Dunbar (CSEM SA)	V47.01
5:00 - 15:15		Coffee Break	Foyer 47
J.JU 1J.1J		Correct Distance	. 0, 0, 7/
		Workshops 15:15 - 17:45	
		AAO(1101102 173-T 2 - T1'-42	
/S09		DIVERSE: Advanced Technologies in Vehicular Systems - Part 3	V47.01
		The second of th	Devile Courie
5:15 - 16:45 5:45 - 16:30		The new game in town: RUST in the automotive context Panel Discussion	Paulo Garcia
J.4J - 10.3U		Tunce piaceasion	
/S07		Future of Process Automation in BioPharma - Part 2	V47.02
5:15 - 15:45		Industrial Modular and Mobile Automation for a Bio Facility of the Future	Frank Maurer
5:15 - 15:45 5:45 - 16:15		User Guided Decision Making: The Future of Biologics Development and Manufacturing	David Pollard
6:15 - 16:45		Conductive Design for Process Engineering and Plant Operation	Florian Pelzer
6:45 - 17:45		Panel Discussion	
VS06	1	Digital twins, components and systems for smart mechatronic applications - Part 2	V47.04
	•	A Marie Estate and Alberta and	
5:15 - 15:35		Comparing repetitive control strategies in lift applications	Manuel Beschi
		Sim2Real image translation to improve a synthetic dataset for a bin picking task	Diana Duplevska
15:35 - 15:55 15:55 - 16:15		NC controlled robot for adaptive and constant force 3D polishing	Diego Gonzalez

MC10	1	Enabling reduct converged naturally for to distance 4.0. Best 2	V47.1.135
VS10		Enabling robust, converged networks for Industry 4.0 - Part 2	V47 1.125
4:00-14:25		Robustness against EMI: continuous waves vs. broadband vs. real life	Jos Knockaert
4:25-14:30		Redundancy for robustness: 802.1CB	Arne Verhoeven
1:30-14:50		Single Pair Ethernet: Fundamentals & measurement methods	Philippe Saey
5:10-15:45		Ethernet, RS485 and SPE under EMI - live demonstration	Jos Knockaert
5:45-16:00		Single Pair Ethernet Measurements - live demonstration	Mathieu Troch
5:00-16:25		802.1CB and HSR+PRP - live demonstration	Arne Verhoeven
5:25-16:45		OPC UA PubSub in TSN networks	Oliver Konradi
5:45-17:05		OPC UA TSN on field level devices - live demonstration	Oliver Konradi
9:00 - 22:00		Welcome Reception	White Hall of the New Castel ("Weisser Saal im Neunen Schloss") Schloßplatz 4 70173 Stuttgart
		Wednesday Session - 07.08.2022	
45 - 9:30		Welcome Ceremony	V47.01
:30 - 10:30	Keynote: "Indus	strie 4.0 from Technologies to Ubiquitous Use" - Prof. Dr. Dr. h.c. Detlef Zühlke (Technologie-Initiative SmartFactory KL e.V.	V47.01
0:30 - 11:00		Coffee Break	Foyer 47
			•
		Parallel Sessions 11:00 - 12:30	
	1		L
1		Digital Twins and their Application Hans Wernher van de Venn Vicente Lucena	V47.01
1:00 - 11:20	ETFA22-000176	A factory planning and design framework for integrating the Digital Twin in Industry 4.0	Tim van Erp
:20 - 11:40	ETFA22-000177	Method for selecting Digital Twins of Entities in a System-of-Systems approach based on essential Information Attributes	Milapji Singh Gill
:40 - 12:00	ETFA22-000198	Integrating an XPath-Enhanced OPC UA Data Collection Into Industrial Communication	Johannes Theissen-Lipp
2:00 - 12:20	ETFA22-000268	A Virtual Commissioning Selection Approach for Machine Automation	Daniel Siegrist
1		Domain Specific Modeling and Software Engineering in Automation	V47.02
	FFF 1 00 000111	Bianca Wiesmayr Alexander Fay	
1:00 - 11:20 1:20 - 11:40	ETFA22-000141 ETFA22-000186	Domain-specific Language for Condition Monitoring Software Development Architecture Blueprints to Enable Scalable Vertical Integration of Assets with Digital Twins	Faruk Pasic Frank Schnicke
1:40 - 12:00	ETFA22-000161	Software deployment in manufacturing environments: A requirements analysis	Matthias Schneider
2:00 - 12:20	ETFA22-000114	Industry Voices on Software Engineering Challenges in Cyber-Physical Production Systems Engineering	Kevin Feichtinger
10	1	Artificial Intelligence and Energy Systems	V47.03
10		Andrea Bonci Tomas Ausberger	V47.03
1:00 - 11:20	ETFA22-000243	Learning Physically Meaningful Representations of Energy Systems with Variational Autoencoders	Samim Multaheb
:20 - 11:40	ETFA22-000105	Active Power Optimization of a Turning Process by Cutting Conditions Selection: A Q-Learning Approach	Aitor Duo
:40 - 12:00	ETFA22-000156	Embedding Anomaly Detection Autoencoders for Wind Turbines	José Luis Conradi Hoffmann
2:00 - 12:20	ETFA22-000094	Reducing configuration efforts in energy management systems based on natural language processing methods and asset	Maximilian Both
		administration shells	
06	1	Innovative applications of Time Sensitive Networking (TSN) technologies and standards	V47.04
06		Stefano Scanzio Alon Regev	V-7.04
:00 - 11:20	ETFA22-000042	Updating the Linux TAPRIO Scheduler in Deterministic Time	Christian von Arnim
:20 - 11:40	ETFA22-000115	Safety-related Applications over Wireless Time Sensitive Networks	Jetmir Haxhibeqiri
:40 - 12:00	ETFA22-000185	On the relevance of TSN for Substation Communication Networks	Théo Docquier
::00 - 12:20	ETFA22-000189	Time-Sensitive Networking Over 5G for Industrial Control Systems	Nikhileswar Kota
		Challes and and the Color of th	h
3		Scheduling and analysis of real-time systems applications Inés Alvarez Vadillo Mohammad Ashjaei	V47.05
1:00 - 11:20	ETFA22-000029	Distributed method for Economic Dispatch Problem in power network with multiple uncertainties	Karel Kubíček
1:20 - 11:40	ETFA22-000098	Task and Memory Mapping Optimization for SDRAM Interference Minimization on Heterogeneous MPSoCs	Alfonso Mascareñas González
1:40 - 12:00	ETFA22-000100	Contention-free scheduling of PREM tasks on partitioned multicore platforms	Zahaf Houssam-Eddine
2:00 - 12:20	ETFA22-000155	Intrusion Detection in Multicore Embedded Systems based on Artificial Immune Systems	Leonardo Passig Horstmann
	1	Advanced Design of Industrial Controllers	huaz ne
		Advanced Design of Industrial Controllers Antonio Visioli Ivan. Pisa	V47.06
1:00 - 11:20	ETFA22-000006	Custom Matlab Toolbox for Systems with Parametric Uncertainties and Time Delay with Factorization for Two-Degree-of-	Marek Dlapa
1:20 - 11:40	ETFA22-000149	Freedom Feedback Loop Transfer Learning Suitability Metric for ANN-based Industrial Controllers	Ivan Pisa
1:40 - 11:40	ETFA22-000149	A comparison between PID and PIDA controllers	Antonio Visioli
12.00	2117122 000023		
2:30 - 14:00		LUNCH BREAK	

Parallel Sessions 14:00 - 15:30

т4	1	Operation and Maintenance	V47.01
14		Nico Braunisch Santiago Soler Perez Olaya	V47.01
14:00 - 14:20	ETFA22-000082	Maintenance interval monitoring and cutting edge breakout detection using an instrumented tool	Sascha Gent
14:20 - 14:40	ETFA22-000165	Anomaly Detection in Hot Forming Processes using Hybrid Modeling - Part II	Cederic Lenz
14:40 - 15:00	ETFA22-000233	Machine learning for monitoring and predictive maintenance of cutting tool wear for clean-cut machining machines	Andrea Bonci
15:00 - 15:20	ETFA22-000060	On the Impact of Transport Times in Flexible Job Shop Scheduling Problems	Damiano Carra
15.00 - 15.20	L11 A22-000000	on the impact of transport times in rexide 300 3100 scheduling reductins	Danilano Carra
T1		Performance Issues and Energy Management	V47.02
14:00 - 14:20	ETFA22-000166	Jörg Walter Patrick Denzler	Ke Shen
14:20 - 14:40	ETFA22-000100	Energy-efficient Flow-shop Scheduling in the Printing Industry using Memetic Algorithm Probability-based, Risk-adjusted Energy Consumption Optimisation in Industrial Applications	Aleksey Bratukhin
14:40 - 15:00	ETFA22-000032	Exploring Timing Covert Channel Performance over the IEEE 802.15.4	Ricardo Severino
15:00 - 15:20	ETFA22-000207	How Real (Time) Are Virtual PLCs?	Diogenes Javier Perez
T10	1	Artificial Intelligence Approaches for Automation	V47.03
120	-	Martin Cech Karel Kubicek	*******
14:00 - 14:20	ETFA22-000170	Graph Neural Networks Based Meta-scheduling in Adaptive Time-Triggered Systems	Samer Alshaer
14:20 - 14:40	ETFA22-000039	Towards Deep Industrial Transfer Learning: Clustering for Transfer Case Selection	Benjamin Maschler
14:40 - 15:00 15:00 - 15:20	ETFA22-000058 ETFA22-000146	Synthetic time series dataset generation for unsupervised autoencoders Identifying repeating patterns in IEC 61499 systems using feature-based embeddings	Hendrik Klopries Antonio Manuel Gutierrez
15.00 - 15.20	L11 A22-000140	dentifying repeating patterns in IEC 01499 systems using reature-based embeddings	Antonio Wander Gutterrez
WiP6		Computer Vision and Human-Machine Interaction in Industrial and Factory Automation	V47.04
14:00 14:05	ETEA 22 000205	Riccardo Monica Frank Golatowski	Sahar Danna
14:00 - 14:05	ETFA22-000265	Al-Based Assistance System for Manufacturing	Sahar Deppe
14:05 - 14:10	ETFA22-000292	Identification of Barriers to and Opportunities for Adoption of Machine Vision for Small and Medium-sized Enterprises	Mikkel Graugaard Antonsen
14:10 - 14:15	ETFA22-000305	Visual Detection of Tiny and Transparent Objects for Autonomous Robotic Pick-and-Place Operations	Timo Markert
14:15 - 14:20	ETFA22-000306	COVERED, CollabOratiVE Robot Environment Dataset for 3D Semantic segmentation	Fatemeh Mohammadi Amin
14:20 - 14:25	ETFA22-000322	Comparison of Deep Learning Models in Position Based Visual Servoing	Cosmin Copot
14:25 - 14:30	ETFA22-000351	Towards Tabular Data Extraction From Richly-Structured Documents Using Supervised and Weakly-Supervised Learning	Arnab Ghosh Chowdhury
14:30 - 14:35	ETFA22-000388	Multi-Model Machine Learning based Industrial Vision Framework for Assembly Part Quality Control	Steffen Klarmann
14:35 - 14:40	ETFA22-000396	Segmentation and Error Detection of PV Modules	Amr Abdo
14:40 - 14:45	ETFA22-000284	Concept for a Distributed Picking Application Utilizing Robotics and Digital Twins	Magnus Redeker
WIP8	1	Intelligent Sensors, Sensor Networks, and Information Processing	V47.04
WIFO	-	Frank Golatowski Philipp Westphal	V47.04
14:45 - 14:50	ETFA22-000271	A Methodology for classifying Data relevance to utilize external Data Sources in the Digital Twin	Gary Hildebrandt
14:50 - 14:55	ETFA22-000299	Using Machine Learning for Diaphragm Prediction in Solenoid Valves	Sebastian Heinze
14:55 - 15:00	ETFA22-000325	Sensor fusion for functional safety of autonomous mobile robots in urban and industrial environments	Yannick Wunderle
15:00 - 15:05 15:05 - 15:10	ETFA22-000327 ETFA22-000371	Time-efficient Sensor Data Prediction using iDC-MLP Algorithm for Industrial IoT Real-Time Velocity Estimation Algorithm for a Multivariable Motion Sensor	Made Adi Paramartha Putra Federico Mazzoli
		Additive-subtractive manufacturing of multi-material sensor-integrated electric machines using the example of the	
15:10 - 15:15	ETFA22-000259	transversal flux machine	Michael Baranowski
WIP3			i
		Analysis of real-time applications	V47.05
	FTFA22-000264	Svetlana Girs Gaetano Patti	-
14:00 - 14:05 14:05 - 14:10	ETFA22-000264 ETFA22-000356	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors	Mohammad Samadi Gharajeh
14:00 - 14:05		Svetlana Girs Gaetano Patti	-
14:00 - 14:05 14:05 - 14:10	ETFA22-000356	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems	Mohammad Samadi Gharajeh Dragos Truscan
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15	ETFA22-000356 ETFA22-000381	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20	ETFA22-000356 ETFA22-000381 ETFA22-000398	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20	ETFA22-000356 ETFA22-000381 ETFA22-000398	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25	ETFA22-000356 ETFA22-000381 ETFA22-000398 ETFA22-000377	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2	ETFA22-000356 ETFA22-000381 ETFA22-000377 ETFA22-000393	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25	ETFA22-000356 ETFA22-000381 ETFA22-000398 ETFA22-000377	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40	ETFA22-000356 ETFA22-000381 ETFA22-000397 ETFA22-000397 ETFA22-000393 ETFA22-000291 ETFA22-000267	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:40 - 14:45	ETFA22-000381 ETFA22-000381 ETFA22-000377 ETFA22-000393 ETFA22-000291 ETFA22-000267 ETFA22-000418	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:40 - 14:45 14:45 - 14:50	ETFA22-000356 ETFA22-000381 ETFA22-000377 ETFA22-000393 ETFA22-000291 ETFA22-000267 ETFA22-000418 ETFA22-000352	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:40 - 14:45 14:45 - 14:50 14:50 - 14:55	ETFA22-000356 ETFA22-000381 ETFA22-000398 ETFA22-000377 ETFA22-000291 ETFA22-000267 ETFA22-000352 ETFA22-000352 ETFA22-000368	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:40 - 14:45 14:45 - 14:50	ETFA22-000356 ETFA22-000381 ETFA22-000377 ETFA22-000393 ETFA22-000291 ETFA22-000267 ETFA22-000418 ETFA22-000352	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:40 - 14:45 14:45 - 14:50 14:55 - 15:00	ETFA22-000356 ETFA22-000381 ETFA22-000377 ETFA22-000393 ETFA22-000393 ETFA22-000267 ETFA22-000418 ETFA22-000418 ETFA22-000352 ETFA22-000368 ETFA22-000390	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:40 - 14:45 14:50 - 14:55 14:55 - 15:00 15:00 - 15:05 15:05 - 15:10 15:10 - 15:15	ETFA22-000356 ETFA22-000381 ETFA22-000397 ETFA22-000393 ETFA22-000291 ETFA22-000418 ETFA22-000418 ETFA22-000390 ETFA22-000390 ETFA22-000390 ETFA22-000390 ETFA22-000390 ETFA22-000390 ETFA22-000390	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNC for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and routing framework for rate-constrained traffic in TSN Towards multi-hop real-time communications over LoRa networks for industrial applications	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:40 - 14:45 14:45 - 14:50 14:50 - 14:55 14:55 - 15:00 15:00 - 15:05 15:05 - 15:10	ETFA22-000356 ETFA22-000381 ETFA22-000377 ETFA22-000393 ETFA22-000291 ETFA22-000267 ETFA22-000352 ETFA22-000368 ETFA22-000369 ETFA22-000369	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNC for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and routing framework for rate-constrained traffic in TSN	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:40 - 14:45 14:50 - 14:55 14:55 - 15:00 15:00 - 15:05 15:05 - 15:10 15:10 - 15:15	ETFA22-000356 ETFA22-000381 ETFA22-000397 ETFA22-000393 ETFA22-000291 ETFA22-000418 ETFA22-000418 ETFA22-000390 ETFA22-000390 ETFA22-000390 ETFA22-000390 ETFA22-000390 ETFA22-000390 ETFA22-000390	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNC for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and routing framework for rate-constrained traffic in TSN Towards multi-hop real-time communications over LoRa networks for industrial applications	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:40 - 14:45 14:45 - 14:50 14:50 - 14:55 14:55 - 15:00 15:00 - 15:05 15:05 - 15:10 15:10 - 15:15	ETFA22-000356 ETFA22-000381 ETFA22-000397 ETFA22-000393 ETFA22-000291 ETFA22-000418 ETFA22-000418 ETFA22-000390 ETFA22-000390 ETFA22-000390 ETFA22-000390 ETFA22-000390 ETFA22-000390 ETFA22-000390	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNC for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and routing framework for rate-constrained traffic in TSN Towards multi-hop real-time communications over LoRa networks for industrial applications Towards a Testbed for Critical Industrial Systems: SunSpec Protocol on DER Systems as a Case Study	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:40 - 14:45 14:45 - 14:50 14:55 - 15:00 15:00 - 15:05 15:05 - 15:10 15:15 - 15:10	ETFA22-000356 ETFA22-000381 ETFA22-000398 ETFA22-000377 ETFA22-000393 ETFA22-000291 ETFA22-000267 ETFA22-000418 ETFA22-000368 ETFA22-000368 ETFA22-000319 ETFA22-000319 ETFA22-000319 ETFA22-000315 ETFA22-000315	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNC for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and routing framework for industrial applications Towards a Testbed for Critical Industrial Systems: SunSpec Protocol on DER Systems as a Case Study Industrial Control Applications Fotis Koumboulis Gabriel Laport Vargas	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello Esteban Damian Gutierrez Mlot
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:45 - 14:50 14:55 - 15:00 15:00 - 15:05 15:05 - 15:10 15:10 - 15:15 15:15 - 15:20	ETFA22-000356 ETFA22-000381 ETFA22-000398 ETFA22-000377 ETFA22-000393 ETFA22-000291 ETFA22-000267 ETFA22-000368 ETFA22-000368 ETFA22-000369 ETFA22-000369 ETFA22-000369 ETFA22-000379 ETFA22-000379 ETFA22-000379 ETFA22-000373	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNC for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and routing framework for rate-constrained traffic in TSN Towards multi-hop real-time communications over LoRa networks for industrial applications Towards a Testbed for Critical Industrial Systems: SunSpec Protocol on DER Systems as a Case Study Industrial Control Applications Fotis Koumboulis Gabriel Laport Vargas Supervisor design for an assembly line in the presence of faults	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello Esteban Damian Gutierrez Mlot V47.06 Fotis N. Koumboulis
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:30 - 14:45 14:45 - 14:50 14:50 - 14:55 14:55 - 15:00 15:00 - 15:05 15:01 - 15:05 15:10 - 15:15 15:15 - 15:20	ETFA22-000356 ETFA22-000381 ETFA22-000398 ETFA22-000397 ETFA22-000393 ETFA22-000393 ETFA22-000364 ETFA22-000364 ETFA22-000364 ETFA22-000365 ETFA22-000373 ETFA22-000373 ETFA22-000373	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IIoT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNc for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and routing framework for rate-constrained traffic in TSN Towards multi-hop real-time communications over LoRa networks for industrial applications Towards a Testbed for Critical Industrial Systems: SunSpec Protocol on DER Systems as a Case Study Industrial Control Applications Fotis Koumboulis Gabriel Laport Vargas Supervisor design for an assembly line in the presence of faults Makespan reduction for Time-Weighted Systems using a Clonal Selection algorithm	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello Esteban Damian Gutierrez Mlot V47.06 Fotis N. Koumboulis Gabriel Laport Vargas
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:40 - 14:45 14:45 - 14:50 14:50 - 14:55 14:50 - 14:55 14:50 - 15:05 15:00 - 15:05 15:01 - 15:15 15:10 - 15:15	ETFA22-000356 ETFA22-000381 ETFA22-000398 ETFA22-000377 ETFA22-000393 ETFA22-000291 ETFA22-000267 ETFA22-000368 ETFA22-000368 ETFA22-000369 ETFA22-000369 ETFA22-000369 ETFA22-000379 ETFA22-000379 ETFA22-000379 ETFA22-000373	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNC for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and routing framework for rate-constrained traffic in TSN Towards multi-hop real-time communications over LoRa networks for industrial applications Towards a Testbed for Critical Industrial Systems: SunSpec Protocol on DER Systems as a Case Study Industrial Control Applications Fotis Koumboulis Gabriel Laport Vargas Supervisor design for an assembly line in the presence of faults	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello Esteban Damian Gutierrez Mlot V47.06 Fotis N. Koumboulis
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:30 - 14:45 14:45 - 14:55 14:50 - 14:55 14:50 - 14:55 15:00 - 15:05 15:00 - 15:05 15:10 - 15:15 15:15 - 15:20 T5	ETFA22-000356 ETFA22-000381 ETFA22-000398 ETFA22-000397 ETFA22-000393 ETFA22-000393 ETFA22-000364 ETFA22-000364 ETFA22-000364 ETFA22-000365 ETFA22-000373 ETFA22-000373 ETFA22-000373	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNC for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and routing framework for rate-constrained traffic in TSN Towards multi-hop real-time communications over LoRa networks for industrial applications Towards a Testbed for Critical Industrial Systems: SunSpec Protocol on DER Systems as a Case Study Industrial Control Applications Fotis Koumboulis Gabriel Laport Vargas Supervisor design for an assembly line in the presence of faults Makespan reduction for Time-Weighted Systems using a Clonal Selection algorithm Manoeuvring of Differential Drive Mobile Robots on Horizontal Plane through I/O Decoupling	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello Esteban Damian Gutierrez Mlot V47.06 Fotis N. Koumboulis Gabriel Laport Vargas
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:30 - 14:45 14:40 - 14:45 14:45 - 14:50 14:55 - 15:00 15:00 - 15:05 15:05 - 15:10 15:10 - 15:15 15:15 - 15:20 14:00 - 14:20 14:20 - 14:40 14:40 - 14:45	ETFA22-000356 ETFA22-000381 ETFA22-000398 ETFA22-000397 ETFA22-000393 ETFA22-000393 ETFA22-000364 ETFA22-000364 ETFA22-000364 ETFA22-000365 ETFA22-000373 ETFA22-000373 ETFA22-000373	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IIoT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNc for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and routing framework for rate-constrained traffic in TSN Towards multi-hop real-time communications over LoRa networks for industrial applications Towards a Testbed for Critical Industrial Systems: SunSpec Protocol on DER Systems as a Case Study Industrial Control Applications Fotis Koumboulis Gabriel Laport Vargas Supervisor design for an assembly line in the presence of faults Makespan reduction for Time-Weighted Systems using a Clonal Selection algorithm	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello Esteban Damian Gutierrez Mlot V47.06 Fotis N. Koumboulis Gabriel Laport Vargas Fotis N. Koumboulis
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:45 - 14:50 14:55 - 15:00 15:00 - 15:05 15:05 - 15:10 15:10 - 15:15 15:15 - 15:20 14:20 - 14:40 14:20 - 14:40 14:40 - 14:45	ETFA22-000356 ETFA22-000381 ETFA22-000398 ETFA22-000397 ETFA22-000393 ETFA22-000393 ETFA22-000364 ETFA22-000364 ETFA22-000364 ETFA22-000365 ETFA22-000373 ETFA22-000373 ETFA22-000373	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNC for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and routing framework for rate-constrained traffic in TSN Towards multi-hop real-time communications over LoRa networks for industrial applications Towards a Testbed for Critical Industrial Systems: SunSpec Protocol on DER Systems as a Case Study Industrial Control Applications Fotis Koumboulis Gabriel Laport Vargas Supervisor design for an assembly line in the presence of faults Makespan reduction for Time-Weighted Systems using a Clonal Selection algorithm Manoeuvring of Differential Drive Mobile Robots on Horizontal Plane through I/O Decoupling	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello Esteban Damian Gutierrez Mlot V47.06 Fotis N. Koumboulis Gabriel Laport Vargas Fotis N. Koumboulis
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:30 - 14:45 14:45 - 14:50 14:50 - 14:55 15:05 - 15:00 15:00 - 15:05 15:10 - 15:15 15:15 - 15:20 T5 14:00 - 14:20 14:20 - 14:40 14:40 - 14:45	ETFA22-000356 ETFA22-000381 ETFA22-000398 ETFA22-000397 ETFA22-000393 ETFA22-000393 ETFA22-000364 ETFA22-000364 ETFA22-000364 ETFA22-000365 ETFA22-000373 ETFA22-000373 ETFA22-000373	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNC for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and conting framework for rate-constrained traffic in TSN Towards multi-hop real-time communications over LoRa networks for industrial applications Towards a Testbed for Critical Industrial Systems: SunSpec Protocol on DER Systems as a Case Study Industrial Control Applications Fotis Koumboulis Gabriel Laport Vargas Supervisor design for an assembly line in the presence of faults Makespan reduction for Time-Weighted Systems using a Clonal Selection algorithm Manoeuvring of Differential Drive Mobile Robots on Horizontal Plane through I/O Decoupling Coffee Break Parallel Sessions 16:00 - 17:30	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello Esteban Damian Gutierrez Mlot V47.06 Fotis N. Koumboulis Gabriel Laport Vargas Fotis N. Koumboulis
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:30 - 14:45 14:40 - 14:45 14:45 - 14:50 14:55 - 15:00 15:00 - 15:05 15:05 - 15:10 15:10 - 15:15 15:15 - 15:20 14:00 - 14:20 14:20 - 14:40 14:40 - 14:45	ETFA22-000356 ETFA22-000381 ETFA22-000398 ETFA22-000397 ETFA22-000393 ETFA22-000393 ETFA22-000364 ETFA22-000364 ETFA22-000364 ETFA22-000365 ETFA22-000373 ETFA22-000373 ETFA22-000373	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNC for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and routing framework for rate-constrained traffic in TSN Towards multi-hop real-time communications over LoRa networks for industrial applications Towards a Testbed for Critical Industrial Systems: SunSpec Protocol on DER Systems as a Case Study Industrial Control Applications Fotis Koumboulis Gabriel Laport Vargas Supervisor design for an assembly line in the presence of faults Makespan reduction for Time-Weighted Systems using a Clonal Selection algorithm Manoeuvring of Differential Drive Mobile Robots on Horizontal Plane through I/O Decoupling Coffee Break Parallel Sessions 16:00 - 17:30 Optimisation	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello Esteban Damian Gutierrez Mlot V47.06 Fotis N. Koumboulis Gabriel Laport Vargas Fotis N. Koumboulis
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:45 - 14:50 14:50 - 14:50 15:00 - 15:05 15:05 - 15:10 15:10 - 15:15 15:15 - 15:20 T5 14:00 - 14:20 14:40 - 14:45 14:40 - 14:45 15:30 - 16:00	ETFA22-000356 ETFA22-000381 ETFA22-000398 ETFA22-000397 ETFA22-000393 ETFA22-000393 ETFA22-000364 ETFA22-000364 ETFA22-000364 ETFA22-000365 ETFA22-000373 ETFA22-000373 ETFA22-000373	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs 5G RAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNC for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and conting framework for rate-constrained traffic in TSN Towards multi-hop real-time communications over LoRa networks for industrial applications Towards a Testbed for Critical Industrial Systems: SunSpec Protocol on DER Systems as a Case Study Industrial Control Applications Fotis Koumboulis Gabriel Laport Vargas Supervisor design for an assembly line in the presence of faults Makespan reduction for Time-Weighted Systems using a Clonal Selection algorithm Manoeuvring of Differential Drive Mobile Robots on Horizontal Plane through I/O Decoupling Coffee Break Parallel Sessions 16:00 - 17:30	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello Esteban Damian Gutierrez Mlot V47.06 Fotis N. Koumboulis Gabriel Laport Vargas Fotis N. Koumboulis
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:45 - 14:50 14:50 - 14:50 15:00 - 15:05 15:05 - 15:10 15:10 - 15:15 15:15 - 15:20 T5 14:00 - 14:20 14:40 - 14:45 14:40 - 14:45 15:30 - 16:00	ETFA22-000356 ETFA22-000381 ETFA22-000393 ETFA22-000393 ETFA22-000291 ETFA22-000267 ETFA22-000418 ETFA22-000368 ETFA22-000369 ETFA22-000369 ETFA22-000369 ETFA22-000369 ETFA22-000369 ETFA22-000175	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs GRAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IloT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNr for Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and routing framework for rate-constrained traffic in TSN Towards multi-hop real-time communications over LoRa networks for industrial applications Fotis Koumboulis Gabriel Laport Vargas Supervisor design for an assembly line in the presence of faults Makespan reduction for Time-Weighted Systems using a Clonal Selection algorithm Manoeuvring of Differential Drive Mobile Robots on Horizontal Plane through I/O Decoupling Coffee Break Parallel Sessions 16:00 - 17:30 Optimisation	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello Esteban Damian Gutierrez Mlot V47.06 Fotis N. Koumboulis Gabriel Laport Vargas Fotis N. Koumboulis
14:00 - 14:05 14:05 - 14:10 14:10 - 14:15 14:15 - 14:20 14:20 - 14:25 WIP2 14:25 - 14:30 14:30 - 14:35 14:35 - 14:40 14:45 - 14:45 14:45 - 14:50 14:55 - 15:00 15:05 - 15:10 15:10 - 15:15 15:15 - 15:20 T5 14:00 - 14:20 14:20 - 14:45 14:40 - 14:45	ETFA22-000356 ETFA22-000381 ETFA22-000398 ETFA22-000397 ETFA22-000393 ETFA22-000291 ETFA22-000267 ETFA22-000368 ETFA22-000368 ETFA22-000368 ETFA22-000369 ETFA22-000369 ETFA22-000379 ETFA22-000369 ETFA22-000379 ETFA22-000379	Svetlana Girs Gaetano Patti Heuristic-based Task-to-Thread Mapping in Multi-Core Processors A Two-phase Metamorphic Approach for Testing Industrial Control Systems Memory allocation for low-power real-time embedded microcontroller: a case study Towards Practical and Formal Security Risk Analysis of IoT Applications Cognitive and Time Predictable Task Scheduling in Edge-cloud Federation Industrial Communication Technologies and Systems & Real-Time (and Networked) Embedded Systems Gaetano Patti Svetlana Girs GRAN Slicing to Support Reliability in Industrial Applications Data Autonomy in Message Brokers in Edge and Cloud for Mobile Machinery: Requirements and Technology Survey NextGenGW: a software-based architecture targeting IoT interoperability Exploiting Software-Defined Networking to improve runtime reconfigurability of TSN-based networks Towards an Industrial Converged Network with OPC UA PubSub and TSN Secure Onboarding of IIoT Devices using OPC UA The Effects of Clock Synchronization in TSN Networks with Legacy End-stations Implementing a First CNG For Scheduling and Configuring TSN Networks MALOC: Building an adaptive scheduling and routing framework for rate-constrained traffic in TSN Towards multi-hop real-time communications over LoRa networks for industrial applications Towards a Testbed for Critical Industrial Systems: SunSpec Protocol on DER Systems as a Case Study Industrial Control Applications Fotis Koumboulis Gabriel Laport Vargas Supervisor design for an assembly line in the presence of faults Makespan reduction for Time-Weighted Systems using a Clonal Selection algorithm Manoeuvring of Differential Drive Mobile Robots on Horizontal Plane through I/O Decoupling Coffee Break Parallel Sessions 16:00 - 17:30 Optimisation Santiago Soler Perez Olaya Hans Wernher van de Venn	Mohammad Samadi Gharajeh Dragos Truscan Tomasz Kloda Muhammad Taimoor Khan Mohammad Ashjaei V47.05 M.Carmen Lucas-Estañ Petri Kannisto Carlos Resende Luca Leonardi Oliver Konradi Florian Kohnhäuser Mohammad Ashjaei Inés Álvarez Nitin Desai Lucia Lo Bello Esteban Damian Gutierrez Mlot V47.06 Fotis N. Koumboulis Gabriel Laport Vargas Fotis N. Koumboulis Foyer 47

Safety and Security Kaja Babareet Alois Zoit 15:00 - 16:20 ETFA22-000128 Functional Safety Use Cases in the Context of Reconfigurable Manufacturing Systems Dieter Etz 15:00 - 16:20 ETFA22-000012 Towards Resilience by Self-Adaptation of Industrial Control Systems Laurin Percel 16:00 - 17:70 ETFA22-000013 An OT Forensic Model Based on Established IT Forensics Using IRIA Alexios Karagiozidis 17:00 - 17:20 ETFA22-000055 On the Security of IO-Link Wireless Communication in the Safety Domain Thomas Doebbert 17:00 Artificial Intelligence Applications V47.03 16:00 - 16:20 ETFA22-000204 Development of a Framework for Continual Learning in Industrial Robotics Minh Trinh 16:00 - 16:20 ETFA22-000110 An Al benchmark for Diagnosis, Reconfiguration & Planning Jonas Errhardt 16:00 - 16:20 ETFA22-000219 A Digital Twin-based Approach Performing Integrated Process Planning and Scheduling for Service-based Production Zai Mueller-Zhang 16:00 - 16:20 ETFA22-000010 Hierarchical Feature Fusion based Reconstruction Newbork for Ususpervised Anomaly Detection Binjie Zhao 16:00 - 16:20 ETFA22-000013 Hierarchical Feature Fusion based Reconstruction Network for Ususpervised Anomaly Detection Maxim Runge 17:00 - 17:20 ETFA22-000031 Universal energy information model for industrial communication Maxim Runge 17:00 - 17:20 ETFA22-000032 Identification, Activity, and Biometric Classification using Radar-based Sensing Le Nguyen 16:00 - 16:20 ETFA22-00024 Towards Multilevel Modelling and Montroling of Real All Provinces Planning 16:00 - 16:20 ETFA22-00024 Towards Multilevel Modelling and Montroling of Real-Line Personalised Health Conditions Asad Aftab 16:00 - 16:20 ETFA22-000124 Towards Automatic Inventory Checking Using an Autonomous Ummanned Aerial Vehicle ETFA22-000125 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier ETFA22-000114 Efficient Creation of Beh		1		luar as
EFRA22-00013 Functional Safety Use Cases in the Context of Reconfigurable Manufacturing Systems Dieter Etz	11		· · · · · · · · · · · · · · · · · · ·	V47.U2
16:20 - 16:40 ETFA22-000014 An OT Forensic Model Based on Established IT Forensics Using IIRA Alexios Karagioudis 17:00 - 17:20 ETFA22-000055 On the Security of IO-Link Wireless Communication in the Safety Domain Thomas Doebbert TIO Artificial Intelligence Applications V47.03 Artificial Intelligence Applications Waring System Communication in the Safety Domain Thomas Doebbert Artificial Intelligence Applications Waring System Communication in the Safety Domain Thomas Doebbert TIO Artificial Intelligence Applications Waring System Communication in the Safety Domain Thomas Doebbert Artificial Intelligence Applications Waring System Communication Maintenance Communication Thomas Doebbert Artificial Intelligence Applications Waring System Communication Maintenance Communication Thomas Doebbert Artificial Intelligence Applications Waring System Sale Communication Maintenance Communication Thomas Doebbert Thomas	16:00 16:20	ETEA 22 000102		Diotor Eta
16:40 - 17:00 ETFA22-000014 An OT Forensic Model Based on Established IT Forensics Using IRIA Alexos Karagiozidis 17:00 - 17:20 ETFA22-000055 On the Security of IO-Link Wireless Communication in the Safety Domain Thomas Doebbert TIO Artificial Intelligence Applications V47.03 Marina Indri Pangcheng David Cen Cheng 16:00 - 16:20 ETFA22-000214 Development of a Framework for Continual Learning in Industrial Robbits Minh Trinh Jonas Ehrhardt 16:40 - 17:00 ETFA22-000110 An Al benchmark for Diagnosis, Reconfiguration & Planning Jonas Ehrhardt 16:40 - 17:00 ETFA22-000219 A Digital Twin-based Approach Performing Integrated Process Planning and Scheduling for Service-based Production Zai Mueller-Zhang TI Intelligent Sensors, Sensor Networks, and Information Processing V47.04 Frank Golatowski Ramez Doud Julia			, , , , , , , , , , , , , , , , , , , ,	
17:00 - 17:20 ETFA22-000055 On the Security of IO-Link Wireless Communication in the Safety Domain Thomas Doebbert TIO Artificial Intelligence Applications V47.03 Marina Indri Pangcheng David Cen Cheng 16:00 - 16:20 ETFA22-000210 Development of a Framework for Continual Learning in Industrial Robotics Minh Trinh 16:20 - 16:40 ETFA22-000110 An Al benchmark for Diagnosis, Reconfiguration Relanning Jonas Ehrhardt 16:40 - 17:00 ETFA22-000219 A Digital Twin-based Approach Performing Integrated Process Planning and Scheduling for Service-based Production Zai Mueller-Zhang TR Intelligent Sensors, Sensor Networks, and Information Processing V47.04 Frank Golatowski Ramez Doud Incident Golatowski				
Artificial Intelligence Applications V47.03 Marian Indri Pangcheng David Cen Cheng 16:00 - 16:20			•	9
Marina Indri Pangcheng David Cen Cheng Marina Indri Pangcheng David Cen Cheng	17.00 17.20	E117422 000033	of the security of to Link whereas communication in the surety bornium	monius boessere
Marina Indri Pangcheng David Cen Cheng Marina Indri Pangcheng David Cen Cheng				
16:00 - 16:20 ETFA22-000204 Development of a Framework for Continual Learning in Industrial Robotics Minh Trinh 16:20 - 16:40 ETFA22-000110 An AI Denchmark for Diagnosis, Reconfiguration & Planning Jonas Ehrhardt 16:40 - 17:00 ETFA22-000219 A Digital Twin-based Approach Performing Integrated Process Planning and Scheduling for Service-based Production Zai Mueller-Zhang The Intelligent Sensors, Sensor Networks, and Information Processing V47.04 Frank Golatowski Ramez Doud 16:00 - 16:20 ETFA22-000010 Hierarchical Feature Fusion based Reconstruction Network for Unsupervised Anomaly Detection Binjie Zhao 16:00 - 16:40 ETFA22-000014 Comprehensive Analysis of Supply Voltage Watermarking for Protection of Sensor Systems Albert Treytl 16:40 - 17:00 ETFA22-000038 Universal energy information model for industrial communication Maxim Runge 17:00 - 17:20 ETFA22-00038 Universal energy information model for industrial communication Maxim Runge 17:20 - 17:40 ETFA22-000251 Approximate Fast Fourier Transform-based Preprocessing for Edge AI Lukas Krupp 17:20 - 17:40 ETFA22-000251 Identification, Activity, and Biometric Classification using Radar-based Sensing Le Nguyen S501 Model-based/Data-driven Safety, Security and Privacy in Society 5.0 V47.06 Taimoor Khan Dimitrios Serpanos 16:00 - 16:20 ETFA22-000244 Towards Multilevel Modelling and Monitoring of Real-time Personalised Health Conditions Asad Aftab 16:20 - 16:40 ETFA22-000245 On the Performance and Scalability of Simulators for Improving Security and Safety of Smart Cities Ali Mohsin S512 Automation of Automation V47.05 Werner Kraus Thomas Bauernhans! 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Autonomous Umanned Aerial Vehicle Jaromir Stanko 16:20 - 16:40 ETFA22-000125 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform	T10	1	Artificial Intelligence Applications	V47.03
16:20 - 16:40 ETFA22-000219 A Digital Twin-based Approach Performing Integrated Process Planning and Scheduling for Service-based Production Zai Mueller-Zhang TB Intelligent Sensors, Sensor Networks, and Information Processing V47.04 Frank Golatowski Ramez Doud Frank Golato		•	Marina Indri Pangcheng David Cen Cheng	•
TRA22-000219 A Digital Twin-based Approach Performing Integrated Process Planning and Scheduling for Service-based Production Zai Mueller-Zhang Intelligent Sensors, Sensor Networks, and Information Processing Frank Golatowski Ramez Doud 16:00 - 16:20 ETFA22-000010 Hierarchical Feature Fusion based Reconstruction Network for Unsupervised Anomaly Detection Binjie Zhao 16:00 - 16:40 ETFA22-000012 Comprehensive Analysis of Supply Voltage Watermarking for Protection of Sensor Systems Albert Treytl 16:40 - 17:00 ETFA22-000235 Universal energy information model for industrial communication Maxim Runge 17:00 - 17:20 ETFA22-000235 Approximate Fast Fourier Transform-based Preprocessing for Edge Al Lukas Krupp 17:20 - 17:40 ETFA22-000251 Identification, Activity, and Biometric Classification using Radar-based Sensing Le Nguyen 16:00 - 16:20 ETFA22-000244 Towards Multilevel Modelling and Monitoring of Real-time Personalised Health Conditions Asad Aftab 16:20 - 16:40 ETFA22-000246 A Civil Protection Early Warning System to Improve the Resilience of Adriatic-Ionian Territories to Natural and Man-made Risk Kyriakos Stefanidis 16:40 - 17:00 ETFA22-000248 On the Performance and Scalability of Simulators for Improving Security and Safety of Smart Cities Ali Mohsin 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Autonomous Unmanned Aerial Vehicle Jaronir Stanko ETFA22-000127 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Simon Pieske	16:00 - 16:20	ETFA22-000204	Development of a Framework for Continual Learning in Industrial Robotics	Minh Trinh
Intelligent Sensors, Sensor Networks, and Information Processing Frank Golatowski Ramez Doud 16:00 - 16:20	16:20 - 16:40	ETFA22-000110	An Al benchmark for Diagnosis, Reconfiguration & Planning	Jonas Ehrhardt
Intelligent Sensors, Sensor Networks, and Information Processing Frank Golatowski Ramez Doud 16:00 - 16:20	16:40 - 17:00	FTFA22-000219	A Digital Twin-based Approach Performing Integrated Process Planning and Scheduling for Service-based Production	7ai Mueller-7hang
Frank Golatowski Ramez Doud 16:00 - 16:20	20.10 27.00	2117122 000213	. Digital	Zar Miderier Zhang
Frank Golatowski Ramez Doud 16:00 - 16:20				
Frank Golatowski Ramez Doud 16:00 - 16:20		Ì	to the literature of the second secon	luur aa
16:00 - 16:20 ETFA22-000010 Hierarchical Feature Fusion based Reconstruction Network for Unsupervised Anomaly Detection Binjie Zhao 16:20 - 16:40 ETFA22-000024 Comprehensive Analysis of Supply Voltage Watermarking for Protection of Sensor Systems Albert Treytl 16:40 - 17:00 ETFA22-000283 Universal energy information model for industrial communication Maxim Runge 17:00 - 17:20 ETFA22-000235 Approximate Fast Fourier Transform-based Preprocessing for Edge Al Lukas Krupp 17:20 - 17:40 ETFA22-000251 Identification, Activity, and Biometric Classification using Radar-based Sensing Le Nguyen SS01 Model-based/Data-driven Safety, Security and Privacy in Society 5.0 V47.06 Talmoor Khan Dimitrios Serpanos 16:00 - 16:20 ETFA22-000244 Towards Multilevel Modelling and Monitoring of Real-time Personalised Health Conditions Asad Aftab 16:20 - 16:40 ETFA22-000246 A Civil Protection Early Warning System to Improve the Resilience of Adriatic-Ionian Territories to Natural and Man-made Risk Kyriakos Stefanidis 16:40 - 17:00 ETFA22-000248 On the Performance and Scalability of Simulators for Improving Security and Safety of Smart Cities Ali Mohsin SS12 Automation of Automation V47.05 Werner Kraus Thomas Bauernhans! 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Clerking Using an Autonomous Unmanned Aerial Vehicle Jaromir Stanko 16:20 - 16:40 ETFA22-000127 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske	18			V47.04
16:20 - 16:40 ETFA22-000074 Comprehensive Analysis of Supply Voltage Watermarking for Protection of Sensor Systems Albert Treytl 16:40 - 17:00 ETFA22-000083 Universal energy information model for industrial communication Maxim Runge 17:00 - 17:20 ETFA22-000235 Approximate Fast Fourier Transform-based Preprocessing for Edge Al Lukas Krupp 17:20 - 17:40 ETFA22-000251 Identification, Activity, and Biometric Classification using Radar-based Sensing Le Nguyen SS01 Model-based/Data-driven Safety, Security and Privacy in Society 5.0 V47.06 Taimoor Khan Dimitrios Serpanos 16:00 - 16:20 ETFA22-000244 Towards Multilevel Modelling and Monitoring of Real-time Personalised Health Conditions Asad Aftab 16:20 - 16:40 ETFA22-000246 A Civil Protection Early Warning System to Improve the Resilience of Adriatic-Ionian Territories to Natural and Man-made Risk Kyriakos Stefanidis 16:40 - 17:00 ETFA22-000248 On the Performance and Scalability of Simulators for Improving Security and Safety of Smart Cities Ali Mohsin SS12 Automation of Automation V47.05 Werner Kraus Thomas Bauernhans! 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Autonomous Unmanned Aerial Vehicle Jaromir Stanko 16:20 - 16:40 ETFA22-000125 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske	46.00 46.20	FTF 4 22 000040	·	Distinction
16:40 - 17:00 ETFA22-000235 Approximate Fast Fourier Transform-based Preprocessing for Edge AI 17:20 - 17:40 ETFA22-000251 Identification, Activity, and Biometric Classification using Radar-based Sensing Le Nguyen SS01 Model-based/Data-driven Safety, Security and Privacy in Society 5.0 V47.06 Taimoor Khan Dimitrios Serpanos 16:00 - 16:20 ETFA22-000244 Towards Multilevel Modelling and Monitoring of Real-time Personalised Health Conditions Asad Aftab 16:20 - 16:40 ETFA22-000246 A Civil Protection Early Warning System to Improve the Resilience of Adriatic-Ionian Territories to Natural and Man-made Risk Kyriakos Stefanidis 16:40 - 17:00 ETFA22-000248 On the Performance and Scalability of Simulators for Improving Security and Safety of Smart Cities Ali Mohsin SS12 Automation of Automation V47.05 Werner Kraus Thomas Bauernhans! 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Automonous Unmanned Aerial Vehicle Jaromir Stanko 16:00 - 16:40 ETFA22-000125 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske			· ,	•
17:00 - 17:20 ETFA22-000235 Approximate Fast Fourier Transform-based Preprocessing for Edge Al Identification, Activity, and Biometric Classification using Radar-based Sensing Le Nguyen Model-based/Data-driven Safety, Security and Privacy in Society 5.0 V47.06				•
17:20 - 17:40 ETFA22-000251 Identification, Activity, and Biometric Classification using Radar-based Sensing Le Nguyen Model-based/Data-driven Safety, Security and Privacy in Society 5.0 V47.06			0,	9
Model-based/Data-driven Safety, Security and Privacy in Society 5.0 Taimoor Khan Dimitrios Serpanos 16:00 - 16:20 ETFA22-000244 Towards Multilevel Modelling and Monitoring of Real-time Personalised Health Conditions Asad Aftab 16:20 - 16:40 ETFA22-000246 A Civil Protection Early Warning System to Improve the Resilience of Adriatic-Ionian Territories to Natural and Man-made Risk Kyriakos Stefanidis 16:40 - 17:00 ETFA22-000248 On the Performance and Scalability of Simulators for Improving Security and Safety of Smart Cities Ali Mohsin S512 Automation of Automation Werner Kraus Thomas Bauernhansl 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Autonomous Unmanned Aerial Vehicle 16:20 - 16:40 ETFA22-000127 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske			.,,	
Taimoor Khan Dimitrios Serpanos 16:00 - 16:20 ETFA22-000244 Towards Multilevel Modelling and Monitoring of Real-time Personalised Health Conditions Asad Aftab 16:20 - 16:40 ETFA22-000246 A Civil Protection Early Warning System to Improve the Resilience of Adriatic-Ionian Territories to Natural and Man-made Risk Kyriakos Stefanidis 16:40 - 17:00 ETFA22-000248 On the Performance and Scalability of Simulators for Improving Security and Safety of Smart Cities Ali Mohsin SS12 Automation of Automation Werner Kraus Thomas Bauernhansl 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Automomeous Aerial Vehicle Jaromir Stanko 16:20 - 16:40 ETFA22-000127 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske	17.20 - 17.40	ETFA22-000231	identification, Activity, and biometric classification using Kadar-based sensing	Le Nguyen
Taimoor Khan Dimitrios Serpanos 16:00 - 16:20 ETFA22-000244 Towards Multilevel Modelling and Monitoring of Real-time Personalised Health Conditions Asad Aftab 16:20 - 16:40 ETFA22-000246 A Civil Protection Early Warning System to Improve the Resilience of Adriatic-Ionian Territories to Natural and Man-made Risk Kyriakos Stefanidis 16:40 - 17:00 ETFA22-000248 On the Performance and Scalability of Simulators for Improving Security and Safety of Smart Cities Ali Mohsin SS12 Automation of Automation Werner Kraus Thomas Bauernhansl 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Automomeous Aerial Vehicle Jaromir Stanko 16:20 - 16:40 ETFA22-000127 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske				
Taimoor Khan Dimitrios Serpanos 16:00 - 16:20 ETFA22-000244 Towards Multilevel Modelling and Monitoring of Real-time Personalised Health Conditions Asad Aftab 16:20 - 16:40 ETFA22-000246 A Civil Protection Early Warning System to Improve the Resilience of Adriatic-Ionian Territories to Natural and Man-made Risk Kyriakos Stefanidis 16:40 - 17:00 ETFA22-000248 On the Performance and Scalability of Simulators for Improving Security and Safety of Smart Cities Ali Mohsin SS12 Automation of Automation Werner Kraus Thomas Bauernhansl 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Automomeous Aerial Vehicle Jaromir Stanko 16:20 - 16:40 ETFA22-000127 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske	\$\$01	I	Model-based/Data-driven Safety, Security and Privacy in Society 5.0	V47.06
16:00 - 16:20 ETFA22-000244 Towards Multilevel Modelling and Monitoring of Real-time Personalised Health Conditions Asad Aftab 16:20 - 16:40 ETFA22-000246 A Civil Protection Early Warning System to Improve the Resilience of Adriatic-Ionian Territories to Natural and Man-made Risk Kyriakos Stefanidis 16:40 - 17:00 ETFA22-000248 On the Performance and Scalability of Simulators for Improving Security and Safety of Smart Cities Ali Mohsin S512 Automation of Automation Werner Kraus Thomas Bauernhansl 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Autonomous Unmanned Aerial Vehicle 16:20 - 16:40 ETFA22-000127 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske	3301			47.00
16:20 - 16:40 ETFA22-000246 A Civil Protection Early Warning System to Improve the Resilience of Adriatic-Ionian Territories to Natural and Man-made Risk Kyriakos Stefanidis 16:40 - 17:00 ETFA22-000248 On the Performance and Scalability of Simulators for Improving Security and Safety of Smart Cities Ali Mohsin SS12 Automation of Automation Werner Kraus Thomas Bauernhans 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Autonomous Unmanned Aerial Vehicle 16:20 - 16:40 ETFA22-000127 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske	16:00 - 16:20	FTFA22-000244	· · · · · · · · · · · · · · · · · · ·	Asad Aftab
16:40 - 17:00 ETFA22-000248 On the Performance and Scalability of Simulators for Improving Security and Safety of Smart Cities Ali Mohsin S512 Automation of Automation Werner Kraus Thomas Bauernhansl 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Autonomous Unmanned Aerial Vehicle Jaromir Stanko 16:20 - 16:40 ETFA22-000127 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske			0	
S512 Automation of Automation V47.05 Werner Kraus Thomas Bauernhansl 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Autonomous Unmanned Aerial Vehicle Jaromir Stanko 16:20 - 16:40 ETFA22-000127 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske	16:20 - 16:40	ETFA22-000246	A Civil Protection Early Warning System to Improve the Resilience of Adriatic-Ionian Territories to Natural and Man-made Risk	Kyriakos Stefanidis
Werner Kraus Thomas Bauernhansl 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Autonomous Unmanned Aerial Vehicle Jaromir Stanko 16:20 - 16:40 ETFA22-000127 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske	16:40 - 17:00	ETFA22-000248	On the Performance and Scalability of Simulators for Improving Security and Safety of Smart Cities	Ali Mohsin
Werner Kraus Thomas Bauernhansl 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Autonomous Unmanned Aerial Vehicle Jaromir Stanko 16:20 - 16:40 ETFA22-000127 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske				
Werner Kraus Thomas Bauernhansl 16:00 - 16:20 ETFA22-000125 Towards Automatic Inventory Checking Using an Autonomous Unmanned Aerial Vehicle Jaromir Stanko 16:20 - 16:40 ETFA22-000127 Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping Systems Valentin Stegmaier 16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske		_		
16:00 - 16:20ETFA22-000125Towards Automatic Inventory Checking Using an Autonomous Unmanned Aerial VehicleJaromir Stanko16:20 - 16:40ETFA22-000127Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping SystemsValentin Stegmaier16:40 - 17:00ETFA22-000134Semantic Modeling of a cyber-physical biological production platformSimon Pieske	SS12		Automation of Automation	V47.05
16:20 - 16:40ETFA22-000127Efficient Creation of Behavior Models for Digital Twins Exemplified for Vacuum Gripping SystemsValentin Stegmaier16:40 - 17:00ETFA22-000134Semantic Modeling of a cyber-physical biological production platformSimon Pieske			·	
16:40 - 17:00 ETFA22-000134 Semantic Modeling of a cyber-physical biological production platform Simon Pieske	16:00 - 16:20		· · · · · · · · · · · · · · · · · · ·	
	16:20 - 16:40	ETFA22-000127	• • • • • • • • • • • • • • • • • • • •	Valentin Stegmaier
17:00 - 17:20 ETFA22-000181 Integration method of custom information models into existing OPC UA Servers Aleksandra Mueller				
	17:00 - 17:20	ETFA22-000181	Integration method of custom information models into existing OPC UA Servers	Aleksandra Mueller

Thursday Session - 08.09.2022

Parallel Sessions 9:00 - 10:30

WiE	1	Women in IES - Part 1	V47.01
****		Lucia Lo Bello Larisa Dunai	V47.01
9:30 - 9:40		Welcome and Introduction to the Women in IES initiative	Lucia Lo Bello
09:40 - 10:00		The role of AI and Explainable AI in Telecom industry	Rafia Inam
10:00 - 10:20		Collaborative robotics as part of the daily activities in various fields	Marta Millet Pascual Leone
10.00 10.20			Warte Willet Lastaur Econe
Г1		IT System Architectures and IT/OT Convergence	V47.02
	-	Virendra Ashiwal Wolfgang Kastner	-
9:00 - 9:20	ETFA22-000089	A toolchain for testing OPC UA interfaces	Andrea Walchshofer
9:20 - 9:40	ETFA22-000196	Supporting a Model-driven Development Process for Distributed Control Software	Bianca Wiesmayr
9:40 - 10:00	ETFA22-000236	Comparing Different Persistent Storage Approaches for Containerized Stateful Applications	Patrick Denzler
10:00 - 10:20	ETFA22-000113	Architecture Blueprints for the Application of the Industry 4.0 Asset Administration Shell	Frank Schnicke
WiP9	ı	Recent research in Complex Automation Systems and Systems Engineering	V47.03
	_!	Christian Neureiter Arndt Lüder	
9:00 - 9:05	ETFA22-000262	A bi-directional Interface enabling cross-disciplinary Systems Engineering with RAMI 4.0 and AutomationML	Christoph Binder
9:05 - 9:10	ETFA22-000283	Digital ressource models in engineering and operation – Data transformation and process changes	Carmen Listl
9:10 - 9:15	ETFA22-000340	Functional Smart Grid Application Development	Felix Knorr
9:15 - 9:20	ETFA22-000342	Automated Model-Based Reliability Assessment of Software-Defined Manufacturing	Philipp Grimmeisen
9:20 - 9:25	ETFA22-000344	Static Data Race Detection in Multi-Task Programs for Industrial Robots	Meenakshi D'Souza
9:25 - 9:30	ETFA22-000348	A New Approach to Secure Industrial Communication Systems Based on Revolution Pi Module	Henry Beuster
9:30 - 9:35	ETFA22-000350	Studio4Education: An Educational Model-Driven Workbench for IoT Automation	Fadwa Rekik
9:35 - 9:40	ETFA22-000353	Balanced Selection in Industrial Bin Picking	Sofia Fernanda Espericueta Martinez
9:40 - 9:45	ETFA22-000365	Upcoming domains for the MTP and an evaluation of its usability for electrolysis	Lukas Bittorf
9:45 - 9:50	ETFA22-000367	A software engineering point of view on digital twin architecture	Gaëlic Bechu
9:50 - 9:55	ETFA22-000387	Formed Workpieces in Industrial Bin Picking	Matthias Sarna
9:55 - 10:00	ETFA22-000391	Towards Coordinating Production Reconfiguration	Kristof Meixner
10:00 - 10:05	ETFA22-000399	Data requirements for factory layout planning and simulation – Setting up a module-based concept for information delivery manuals	Marian Süße
10:05 - 10:10	ETFA22-000406	Towards Design Patterns for Production Security	David Hoffmann
10:10 - 10:15	ETFA22-000407	Towards Multi-View Test Specification in CPPS Engineering	Dietmar Winkler
		· · · · · · · · · · · · · · · · · · ·	
NiP5		Industrial Control	V47.04
		Ramon Vilanova Raúl Suárez	
9:00 - 9:05	ETFA22-000313	Improving Gold Mining Process Operations using Advanced Control Systems	Ramon Vilanova
9:05 - 9:10	ETFA22-000339	Nonlinear model based control for the BioPower 5 CHP plant	Jukka Kortela

17.42 (2002) Addressed mails acal anth information for bother venticies Ventication and Treating Ventication and Ventication and Treating Ventication and Ventication	WiP7	1	Intelligent Robots and Systems	V47.04
13-928 THAC 200321 Profession of contracting personnel for process companions Logopol Protons Application	2.40 0.45	FTF 4.22 0002.62		David Cooper
15 15 15 15 15 15 15 15			- · · · · · · · · · · · · · · · · · · ·	
17.10.2 (1970) 17.1				
17.1422-003009			-	
15-9.00 177-22-20037 International Protection of tigo further content using photosis feedback (Daty 157-201-20037 Transition identification price of the content violence 177-20-20037 Transition of the content violence 177-20-20037				
1879-1879 1879			, g	
## 17922 000014 Antonous for rate and interface harmon occin missestant robusts Provided National Space Provided Nat				
CFF422-000037 Recommended and personal processors of policy analysis of the processors of the proc	:40 - 9:45	ETFA22-000375	Towards Industry-Inspired Use-Cases for Path Finding in Robotic Mobile Fulfillment Systems	Benedikt Hein
Verification of retaining Very	:45 - 9:50	ETFA22-000384	A framework for safe and intuitive human-robot interaction for assistant robotics	Fiorella Sibona
Verification and Tracting Totals Rational Process Rational Ration	:50 - 9:55	ETFA22-000397	Randomized multi-goal path planning for Dubins vehicles	Vojtech Vonasek
Totals Riseard Time Translation Total Riseard Time Translation Total Riseard Time Translation FFFA72-000110 Automatic Handward Annual Processes Automatic Handward Time Translation Time Translation Automatic Handward Time Translation Time Tran	:55 - 10:00	ETFA22-000403	Reasoning and state monitoring for the robust execution of robotic manipulation tasks	Jan Rosell
Totals Riseard Time Translation Total Riseard Time Translation Total Riseard Time Translation FFFA72-000110 Automatic Handward Annual Processes Automatic Handward Time Translation Time Translation Automatic Handward Time Translation Time Tran	T/I	I	Verification and Testing	V47.05
In Page 20, 1987 Company Compa	4		· · · · · · · · · · · · · · · · · · ·	V47.03
Automate feet Subre Generation for PEC Serbors on the Internet of Production Automate Management Per Subre	:00 - 9:20	ETFA22-000028		Karel Kubíček
Totals a Kinner Note Instantish	9:20 - 9:40	ETFA22-000310		Marco Grochowski
Totals a Kinner Note Instantish	A/:DO4	ı	Automated Manufacturing Systems	N/47 OF
## 15-95 ETIA/2.000370	VIPO4			V47.03
19.9 ±95 EFFA22-000392 All Passed Serfice Registrees Prediction Model for Automated CAM Planning Optimization Lea Tenges Development of Intelligence o	:40 - 9:45	ETFA22-000280	Work cell for assembling small components in PCB	Mauro Queirós
59- 95-5 1000 ETRAZ-2003019 Advanced representation of the control	:45 - 9:50	ETFA22-000297	Extracting Functional Machine Knowledge from STEP Files for Digital Twins	Birte Caesar
55-10.00 ETRAZ-2000319 CTRAZ-2000119 ETRAZ-2000119 ETRAZ-2000129 ETRAZ-2				
Debasion Trees based Flesher Tay Planne Bull on BODS Framework TTAZ2-00013 A problemation and pattern mining supporting the Digital Twin creation of existing manufacturing portines TTAZ2-00013 A problemation and pattern mining supporting the Digital Twin creation of existing manufacturing portines TTAZ2-00013 A problemation and pattern mining supporting the Digital Twin creation of existing manufacturing processes Actional Visited Samuela's Sandrina Vol. 20 TTAZ2-000225 Benchmarking and Prediction of Existine Performance on Manufacturing Processes through MEA, Robust XGBoots and SMAP Application of Existine Performance on Manufacturing Processes through MEA, Robust XGBoots and SMAP Application of Existing Processes and Prediction				·
Trivaz 200133 A grant-based knowledge representation and pattern mining supporting the Digital Twin creation of enisting manufacturing systems Antonia Visibili Samulas Sandrifis Antonia Visibili Samulas Sandrifis Benchmarking and Prediction of Entities Performance on Manufacturing Processes through MEA, Robust XGBoost and SIAP Supplin Rocha Analysis of RPI Scenarias, Automated Best Practices identification, and Deviations on Manufacturing Processes and SIAP Supplin Rocha Analysis of RPI Scenarias, Automated Best Practices identification, and Deviations on Manufacturing Processes Maria losa Loges Antonia Visibili Samulas Sandrifis Antonia Visibili Sandrifis Antonia V				
Artificial Intelligence and Manufacturing Artificial Intelligence and Manufacturing Artificial Intelligence and Manufacturing Artificial Intelligence and Manufacturing Benchmarking and Prediction of Entities Performance on Manufacturing Processes through MEA, Robust XiGloost and SIAP Artificial Intelligence in Automation Artificial Intelligence in Automation in Automation Intelligence in Automation Artificial Intelligence in Automation of New Intelligence in Automation in Automation in Vehicles Intelligence in Automation in A	J.00 - 10:05	E1FM22-000411		momas nipeduu
Antonio Visioli Samuels Sandrini Benchmarking and Prediction of Entities Performance on Manufacturing Processes through MEA, Robust XidBoost and SIAP Analysis of RPI Scenarios, Automated Best Practices identification, and Deviations on Manufacturing Processes Maria Asso Lopes	0:05 - 10:10	ETFA22-000413		Dominik Braun
Denchmarking and Perdiction of Entities Performance on Manufacturing Processes through MEA, Robust XGBoost and SHAP Augles Performance on Manufacturing Processes Waria Joan Lopes Impact Analysis of KPI Scenarios, Automated Best Practices Identification, and Deviations on Manufacturing Processes Maria Joan Lopes Antificial Intelligence in Automation Automot Vision Samuelas Sandrion Automot Visi	10	1	Artificial Intelligence and Manufacturing	V47.06
20 - 9-40 ETA22-00023 Impact Analysis of IPI Scenarios, Automated Best Practices Identification, and Deviations on Manufacturing Processes Muria Joso Lopes Artificial Isentifigence in Automated 4 Practices Identification, and Deviations on Manufacturing Processes Muria Joso Lopes 40 - 9-40 ETA22-000024 Active Learning Application for Recognizing Spees in Chemical Batch Production Application Speed of Practices Spees in Chemical Batch Production Application Speed of Practices Spees in Chemical Batch Production Application Speed of Practices Spees in Chemical Batch Production Application Speed of Practices Spees in Chemical Batch Production Practices Speed of Practices Speed of Practices Spees in Chemical Batch Production Practices Speed of Practices Speed				
Artificial Intelligence in Automation Artificial Intelligence in Automation Antonio Visidal Samuele Sandrini Antonio Visidal Samuele Sandrini Antonio Visidal Samuele Sandrini Berjalmin Klopper Andreas Burne Francesco Diodatal Trivata 2000328 Artificial Intelligence in Automation Berjalmin Klopper Andreas Burne Francesco Diodatal Trivata 2000328 FPGA Realization of a Neural Network based Motor Controller FFA22 2000334 FFA22 2000335 FFA22 2000345 FFA22 2000345 FFA22 2000340 FFA22 2000340 FFA22 2000340 FFA22 2000340 FFA22 2000340 Artificial Intelligence in Automation in A Neural Network based Motor Controller Francesco Diodatal Trivata 2000340 FFA22 2000340 Artificial Intelligence in Automation in A Neural Network based Motor Controller FFA22 2000340 Artificial Intelligence in Automatic Intelligence in Automation in A Neural Network based Motor Controller FFA22 2000340 Artificial Intelligence in Automatic Intelligence in Automatic Intelligence in Automatic Intelligence	9:00 - 9:20	ETFA22-000223	g g ,	Eugénio Rocha
49-945 TFA22-000324 Active learning Application for Recogning Steps in Chemical Bath Production	9:20 - 9:40	ETFA22-000225	Impact Analysis of KPI Scenarios, Automated Best Practices Identification, and Deviations on Manufacturing Processes	Maria Joao Lopes
49.9-95 FFA22-000312 Active Learning Application for Recognizing Steps in Chemical Batch Production 49.9-95 FFA22-000328 FFA22-000328 PFAA Realization of a Neural Network based Motor Controller 59.9-95 FFA22-000328 PFAA Realization of a Neural Network based Motor Controller 59.9-95 FFA22-000328 PFAA Realization of a Neural Network based Motor Controller 59.9-95 FFA22-000338 PFAA Realization of a Neural Network based Motor Controller 59.9-95 FFA22-000338 PFAA Realization of a Neural Network based Motor Controller 59.9-95 FFA22-000338 Null Profession of a Neural Network based Motor Controller 59.9-95 FFA22-000338 Null Profession of a Neural Network Seed Administration which Neural Language model and semantic University of the Neural Network of Neural Network	WiP10	I	Artificial Intelligence in Automation	V47.06
45-9:50 FTR-22-000328 Explaining solutions to multi-stage stochastic optimization problems to decision makers Andreas Sunte Fancesco Diddit Fancesco Fance		•	Antonio Visioli Samuele Sandrini	
45-9:50 FTR-22-000328 Explaining solutions to multi-stage stochastic optimization problems to decision makers Andreas Sunte Fancesco Diddit Fancesco Fance	:40 - 9:45	ETFA22-000324	Active Learning Application for Recognizing Steps in Chemical Batch Production	Benjamin Klöpper
Francesco Diodati Fran				
Automated generation of asset administration shell: A transfer learning approach with neural language model and semantic figure prints proposed to the print of the prints				
559-1000 ETRAZ-000315 fingerprints 1005-1016 ETRAZ-000318 Majerprints 1005-1016 ETRAZ-00018 Majerprints 1005-1016 ETRAZ-00018 Majerprints 1005-1017 ETRAZ-000018 ETRAZ-000018 ETRAZ-000018 Majerprints 1005-1017 ETRAZ-000018 ETRAZ-000018 ETRAZ-000018 Majerprints 1005-1017 ETRAZ-000018 Majerprints 1005-1017 ETRAZ-000018 A membajerprints 1005-1018 ETRAZ-000018 A membajerprints 1005-1018 ETRAZ-000018 A membajerprints 1005-1018 ETRAZ-0	.50 - 9.55	L11 A22-000302		Trancesco Diodati
0.90-1.10.0 ETFA22-000378 MLAProFlow: A Framework for Low-Code Data Processing from Edge to Cloud in Industrial Production Stephan Seidel 1.00-1.0.15 ETFA22-000384 A reinforcement learning approach for optimal heating curve adaption Stephan Seidel 1.00-1.1.00 Coffee Break Foyer 47 1.00-1.1.00 Women in IES - Part 2 V47.01 1.00-1.1.10 From Oilfield to IT - life as a woman in Engineering Nadja Yang Heike Ratar Lucia Lo Bello Lucia Lu	:55 - 10:00		fingerprints	
Coffee Break Women in IES - Part 2	.0:00 - 10:05	ETFA22-000414	Deep learning-based 5G indoor positioning in a manufacturing environment	Hannes Vietz
Coffee Break Women in IES - Part 2 Women in IES - Part 2 Wat 7.01 Li20 - 11:40 From Oilfield to IT - life as a woman in Engineering Agile Development @ Bosch Power Tools Helke Rastz Li20 - 12:20 Communication in Vehicular Systems Communication in Vehicular Systems Wat 7.02 Li20 - 11:20 ETFA22-000021 Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures Saad Mulbean Ramze Daoud FiffA22-000025 Agile Development @ Bosch Power Tools Li20 - 11:20 ETFA22-000025 ETFA22-000025 ETFA22-000025 ETFA22-000026 ETFA22-000026 ETFA22-000026 ETFA22-000160 Modeling Misbehavior Detection Timeliness in VANETS Modeling and Digital Twin Nasser Jazdi Vicente Lucena Modeling and Digital Twin Nasser Jazdi Vicente Lucena Modeling and Digital Twin Nasser Jazdi Vicente Lucena Amethodology for creating semantic digital twin models supported by knowledge graphs Charles Steinmetz Automation of modular systems and the Module Type Package 1 Automation of modular systems and the Module Type Package 1 Automation of modular systems and the Module Type Package 1 Automation of modular systems and the Module Type Package 1 Automation of modular systems and the Moduler Type Package 1 Automation of modular systems and the Moduler Type Package 1 Automation of modular systems and the Moduler Type Package 1 Automation of modular systems and the Moduler Type Package 1 Automation of modular systems and the Moduler Type Package 1 Automation of modular systems and the Automation of modular process plants Art and Markaj Coordination of Modeling Service properties to manage their diversity within modular manufacturing plants (WP) Automation of the Halber Package 1 Automation of the Halb	.0:05 - 10:10	ETFA22-000378	ML4ProFlow: A Framework for Low-Code Data Processing from Edge to Cloud in Industrial Production	Christian Klarhorst
Women in IES - Part 2	10:10 - 10:15	ETFA22-000394	A reinforcement learning approach for optimal heating curve adaption	Stephan Seidel
1.20 - 11:40 From Oilfield to IT – life as a woman in Engineering Nadja Yang Heike Raatz Lucia to Bello Agile Development @ Bosch Power Tools Heike Raatz Lucia to Bello Lucia Bello Lucia to Bello Lucia Bello Lucia to Bello Lucia to Bello Lucia to Bello Lucia to	10:30 - 11:00		Coffee Break	Foyer 47
1.20 - 11:40 From Oilfield to IT – life as a woman in Engineering Nadja Yang Heike Raatz Lucia to Bello Agile Development @ Bosch Power Tools Heike Raatz Lucia to Bello Lucia Bello Lucia to Bello Lucia Bello Lucia to Bello Lucia to Bello Lucia to Bello Lucia to				
Agile Development @ Bosch Power Tools Closing Lucia Lo Bello Communication in Vehicular Systems Lucia Lo Bello Communication in Vehicular Systems Lucia Lo Bello Communication in Vehicular Systems Saad Mubbeen Ramez Daouud EFFA22-000021 EFFA22-000092 SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB EFFA22-000093 SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB EFFA22-000094 Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modelling Misbehavior Detection Timeliness in VANETS Mateus Martinez de Lucena Modelling and Digital Twin Nasser Jazdi Vicente Lucena Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs Charles Steinmetz EFFA22-000107 A methodology for creating semantic digital twin models supported by knowledge graphs Charles Steinmetz EFFA22-000106 A Structure of Modelling Depths in Behavior Models for Digital Twins Valentin Stegmaier Automation of modular systems and the Module Type Package 1 Automation of modular systems and the Module Type Package 1 Automation of Modular Packaging Lines Using Automation Service Choreographies Michelle Blumenstein Alea EFFA22-000158 Coordination of Modular Packaging Lines Using Automation of wordular process plants Artan Markaj Modelling service properties to manage their diversity within modular manufacturing plants (WP) Fascal Habiger Lucas Bitrof Modelling service properties to manage their diversity within modular manufacturing plants (WP) Fascal Habiger Lucas Bitrof EFFA22-000036 Machine Learning and Data Analytics for Failure Analysis in Semiconductor industry EFFA22-000365 Machine Learning and Data Analytics for Failure Analysis in Semiconductor industry EFFA22-000166 Modelling service properties to manage their diversity within modular process plants Artan Markaj Simon Kamm Anis Hoayek Simon Kamm Anis Hoaye				
Agile Development @ Bosch Power Tools Closing Lucia Lo Bello Communication in Vehicular Systems Lucia Lo Bello Communication in Vehicular Systems Lucia Lo Bello Communication in Vehicular Systems Saad Mubbeen Ramez Daouud EFFA22-000021 EFFA22-000092 SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB EFFA22-000093 SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB EFFA22-000094 Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modelling Misbehavior Detection Timeliness in VANETS Mateus Martinez de Lucena Modelling and Digital Twin Nasser Jazdi Vicente Lucena Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs Charles Steinmetz EFFA22-000107 A methodology for creating semantic digital twin models supported by knowledge graphs Charles Steinmetz EFFA22-000106 A Structure of Modelling Depths in Behavior Models for Digital Twins Valentin Stegmaier Automation of modular systems and the Module Type Package 1 Automation of modular systems and the Module Type Package 1 Automation of Modular Packaging Lines Using Automation Service Choreographies Michelle Blumenstein Alea EFFA22-000158 Coordination of Modular Packaging Lines Using Automation of wordular process plants Artan Markaj Modelling service properties to manage their diversity within modular manufacturing plants (WP) Fascal Habiger Lucas Bitrof Modelling service properties to manage their diversity within modular manufacturing plants (WP) Fascal Habiger Lucas Bitrof EFFA22-000036 Machine Learning and Data Analytics for Failure Analysis in Semiconductor industry EFFA22-000365 Machine Learning and Data Analytics for Failure Analysis in Semiconductor industry EFFA22-000166 Modelling service properties to manage their diversity within modular process plants Artan Markaj Simon Kamm Anis Hoayek Simon Kamm Anis Hoaye	NIE		Women in IES - Part 2	V47.01
Communication in Vehicular Systems Communication in Vehicular Systems Saad Mubeen Ramez Daoud Effa22-00021 Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin Modeling and Digital Twin Modeling and Digital Twin Nasser Jazdi Vicente Lucena Modeling and Digital Twin Nasser Jazdi Vicente Lucena Modeling and Digital Twin Nasser Jazdi Vicente Lucena In Privacy Communication in Vehicular Systems and the Module Type Package 1 Automation of modular systems and the Module Type Package 1 Automation of Modular Packaging Lines Using Automation Firal Packaging Lines Using Automation of modular process plants Andreas Stutz Michelle Blumenstein Andreas Stutz Michelle Blumenstein Coordination of Modular Packaging Lines Using Automation of modular process plants Artan Markaj Modeling service properties to manage their diversity within modular manufacturing plants (WIP) Pascal Habiger Warnon Kamm Anis Hoayek Machine Learning and Data Analytics for Failure Analysis in Automation and the Manufacturing Industry 1 Warnon Kamm Anis Hoayek Simon Kamm Anis Hoayek Nu Based on GCVAE for intelligent Fault Analysis in Semiconductor industry Tagic Failure Analysis in Sumiconductor industry Tagic Failure Analysis in Semiconductor industry Tagic Failure Analysis in Sem	NIE			
Sad Mubbeen Ramez Daoud Syn Alve: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Weijiang Kong Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS Mateus Martinez de Lucena Mateus Martinez de Lucena Modelling and Digital Twin Modeling and Digital Twin Modeling and Digital Twin Susser Jazdi Vicente Lucena Susser Jazdi Vicent	11:20 - 11:40		From Oilfield to IT – life as a woman in Engineering	Nadja Yang
Saad Mubbern Ramez Daoud Saad Mubbern Ramez Daoud Saad Mubbern Ramez Daoud Saad Mubbern Ramez Daoud Since	1:40 - 12:00		From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools	Nadja Yang Heike Raatz
Saad Mubbern Ramez Daoud Saad Mubbern Ramez Daoud Saad Mubbern Ramez Daoud Saad Mubbern Ramez Daoud Since	1:40 - 12:00	1	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools	Nadja Yang Heike Raatz
ETFA22-000022 SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Jamila Josip Borda	1:40 - 12:00 2:00 - 12:20	ı	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing	Nadja Yang Heike Raatz Lucia Lo Bello
ETFA22-000022 SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Jamila Josip Borda	1:40 - 12:00 2:00 - 12:20		From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems	Nadja Yang Heike Raatz Lucia Lo Bello
Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS Mateus Martinez de Lucena Modeling and Digital Twin V47.03 Masser Jazdi Vicente Lucena Modeling and Digital Twin V47.03 Nasser Jazdi Vicente Lucena 1:00 - 11:20 ETFA22-000107 A methodology for creating semantic digital twin models supported by knowledge graphs Charles Steinmetz 1:20 - 11:40 ETFA22-000182 ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station Valdemar Leiras 1:40 - 12:00 ETFA22-000066 A Structure of Modelling Depths in Behavior Models for Digital Twins Valentin Stegmaier Automation of modular systems and the Module Type Package 1 V47.04 Andreas Stutz Michelle Blumenstein 1:20 - 11:40 ETFA22-000158 Coordination of Modular Packaging Lines Using Automation Service Choreographies Michelle Blumenstein Valentin Khaydarov Interval Coordination of Modular Automation Interval Service Propers on Coordination of Modular Automation Interval Service Prope	1:40 - 12:00 2:00 - 12:20	ETFA22-000021	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud	Nadja Yang Heike Raatz Lucia Lo Bello V47.02
Implementations Implementations Implementations Modeling Misbehavior Detection Timeliness in VANETs Modelling and Digital Twin Nasser Jazdi Vicente Lucena 1:20 - 11:20	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20		From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau
Modelling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin Nasser Jazdi Vicente Lucena ETFA22-000167	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40	ETFA22-000092	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong
Nasser Jazdi Vicente Lucena 1:00 - 11:20	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40	ETFA22-000092	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong
Nasser Jazdi Vicente Lucena 1:00 - 11:20	11:20 - 11:40 11:40 - 12:00 12:00 - 12:20 11:41 11:00 - 11:20 11:20 - 11:40 11:40 - 12:00 12:00 - 12:20	ETFA22-000092 ETFA22-000047	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda
### Table #### American Stutz Michelle Blumenstein ###################################	11:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20	ETFA22-000092 ETFA22-000047	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena
1:20 - 11:40 ETFA22-000182 ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station Valdemar Leiras 1:40 - 12:00 ETFA22-000066 A Structure of Modelling Depths in Behavior Models for Digital Twins Valentin Stegmaier A Structure of Modelling Depths in Behavior Models for Digital Twins Valentin Stegmaier A Structure of Modelling Depths in Behavior Models for Digital Twins Valentin Stegmaier A Structure of Modelling Depths in Behavior Models for Digital Twins Valentin Stegmaier A Structure of Modelling Depths in Behavior Models for Digital Twins Valentin Stegmaier A Structure of Modelling Depths in Behavior Models for Digital Twins Valentin Stegmaier A Structure of Modelling Depths in Behavior Models Type Package 1 Andreas Stutz Michelle Blumenstein Michelle Blumenstein Michelle Blumenstein Valentin Khaydarov Valentin Kha	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20	ETFA22-000092 ETFA22-000047	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena
Automation of modular systems and the Module Type Package 1 Andreas Stutz Michelle Blumenstein Coordination of Modular Packaging Lines Using Automation Service Choreographies MTPPy: Open-Source Al-friendly Modular Automation ETFA22-000172 MTPPy: Open-Source Al-friendly Modular Automation ETFA22-000305 MTPPy: Open-Source Al-friendly Modular Automation Tetra22-000305 MOdelling service properties to manage their diversity within modular manufacturing plants (WiP) Pascal Habiger Upcoming domains for the MTP and an evaluation of its usability for electrolysis (WiP) Machine Learning and Data Analytics for Failure Analysis in Automation and the Manufacturing Industry 1 W47.05 Simon Kamm Anis Hoayek 1:00 - 11:20 ETFA22-000026 Simulation-to-Reality based Transfer Learning for the Failure Analysis of SiC Power Transistors NLP based on GCVAE for intelligent Fault Analysis in Semiconductor industry FIDA22-000215 Tapir Faharisov Tapir Faharisov Tapir Faharisov	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20	ETFA22-000092 ETFA22-000047 ETFA22-000160	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin Nasser Jazdi Vicente Lucena	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena
Automation of modular systems and the Module Type Package 1 Andreas Stutz Michelle Blumenstein 1:00 - 11:20	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20 S02 1:00 - 11:20	ETFA22-000092 ETFA22-000047 ETFA22-000160 ETFA22-000107	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETs Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz
Andreas Stutz Michelle Blumenstein Andreas Stutz Michelle Blumenstein Coordination of Modular Packaging Lines Using Automation Service Choreographies Michelle Blumenstein Valentin Khaydarov Intention-based engineering for the early design phases and the automation of modular process plants Artan Markaj Intention-based engineering for the early design phases and the automation of modular process plants Artan Markaj Modelling service properties to manage their diversity within modular manufacturing plants (WiP) Pascal Habiger Upcoming domains for the MTP and an evaluation of its usability for electrolysis (WiP) Machine Learning and Data Analytics for Failure Analysis in Automation and the Manufacturing Industry 1 W47.05 Simon Kamm Anis Hoayek 1:00 - 11:20 ETFA22-000026 Simulation-to-Reality based Transfer Learning for the Failure Analysis of SiC Power Transistors NLP based on GCVAE for intelligent Fault Analysis in Semiconductor industry FIDGET: Deep Learning-Based Fault Injection Framework for Safety Analysis and Intelligent Generation of Labeled Training Tagir Faharisov	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20 502 1:00 - 11:20 1:20 - 11:40	ETFA22-000092 ETFA22-000047 ETFA22-000160 ETFA22-000107 ETFA22-000182	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz Valdemar Leiras
1:00 - 11:20 ETFA22-000158 Coordination of Modular Packaging Lines Using Automation Service Choreographies Michelle Blumenstein 1:20 - 11:40 ETFA22-000172 MTPPy: Open-Source Al-friendly Modular Automation Valentin Khaydarov 1:40 - 12:00 ETFA22-00080 Intention-based engineering for the early design phases and the automation of modular process plants Artan Markaj 1:00 - 12:01 ETFA22-000316 Modelling service properties to manage their diversity within modular manufacturing plants (WiP) Pascal Habiger 1:00 - 12:10 ETFA22-000365 Upcoming domains for the MTP and an evaluation of its usability for electrolysis (WiP) Lukas Bittorf 1:00 - 11:20 ETFA22-00026 Simulation-to-Reality based Transfer Learning for the Failure Analysis in Semiconductor industry 1:00 - 11:20 ETFA22-00016 NLP based on GCVAE for intelligent Fault Analysis in Semiconductor industry 2. FIGA22-000215 FIGA22-000215 FIGA22-000215 FIGA22-000215 FIGA22-000215 Tagic Faharisov 2. Tagic Faharisov	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20 502 1:00 - 11:20 1:20 - 11:40	ETFA22-000092 ETFA22-000047 ETFA22-000160 ETFA22-000107 ETFA22-000182	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz Valdemar Leiras
1:20 - 11:40 ETFA22-000172 MTPPy: Open-Source Al-friendly Modular Automation Valentin Khaydarov 1:40 - 12:00 ETFA22-000080 Intention-based engineering for the early design phases and the automation of modular process plants Artan Markaj 2:00 - 12:05 ETFA22-000316 Modelling service properties to manage their diversity within modular manufacturing plants (WiP) Pascal Habiger 2:05 - 12:10 ETFA22-000365 Upcoming domains for the MTP and an evaluation of its usability for electrolysis (WiP) Lukas Bittorf Machine Learning and Data Analytics for Failure Analysis in Automation and the Manufacturing Industry 1 V47.05 Simon Kamm Anis Hoayek 1:00 - 11:20 ETFA22-000016 Simulation-to-Reality based Transfer Learning for the Failure Analysis of SiC Power Transistors Simon Kamm 1:20 - 11:40 ETFA22-00016 NIP based on GCVAE for intelligent Fault Analysis in Semiconductor industry Zhiqiang Wang FIDGET: Deep Learning-Based Fault Injection Framework for Safety Analysis and Intelligent Generation of Labeled Training Tagir Faharisov	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20 S02 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00	ETFA22-000092 ETFA22-000047 ETFA22-000160 ETFA22-000107 ETFA22-000182	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modelling Misbehavior Detection Timeliness in VANETs Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station A Structure of Modelling Depths in Behavior Models for Digital Twins Automation of modular systems and the Module Type Package 1	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz Valdemar Leiras Valentin Stegmaier
1:20 - 11:40 ETFA22-000172 MTPPy: Open-Source Al-friendly Modular Automation Valentin Khaydarov 1:40 - 12:00 ETFA22-000080 Intention-based engineering for the early design phases and the automation of modular process plants Artan Markaj 2:00 - 12:05 ETFA22-000316 Modelling service properties to manage their diversity within modular manufacturing plants (WiP) Pascal Habiger 2:05 - 12:10 ETFA22-000365 Upcoming domains for the MTP and an evaluation of its usability for electrolysis (WiP) Lukas Bittorf Machine Learning and Data Analytics for Failure Analysis in Automation and the Manufacturing Industry 1 V47.05 Simon Kamm Anis Hoayek 1:00 - 11:20 ETFA22-00026 Simulation-to-Reality based Transfer Learning for the Failure Analysis of SiC Power Transistors Simon Kamm 1:20 - 11:40 ETFA22-00016 NIP based on GCVAE for intelligent Fault Analysis in Semiconductor industry Zhiqiang Wang FIDGET: Deep Learning-Based Fault Injection Framework for Safety Analysis and Intelligent Generation of Labeled Training Tagir Faharisov	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20 502 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00	ETFA22-000092 ETFA22-000047 ETFA22-000160 ETFA22-000107 ETFA22-000182 ETFA22-000066	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station A Structure of Modelling Depths in Behavior Models for Digital Twins Automation of modular systems and the Module Type Package 1 Andreas Stutz Michelle Blumenstein	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz Valdemar Leiras Valentin Stegmaier
1:40 - 12:00 ETFA22-00080 Intention-based engineering for the early design phases and the automation of modular process plants Artan Markaj 2:00 - 12:05 ETFA22-000316 Modelling service properties to manage their diversity within modular manufacturing plants (WiP) Pascal Habiger Upcoming domains for the MTP and an evaluation of its usability for electrolysis (WiP) Lukas Bittorf Machine Learning and Data Analytics for Failure Analysis in Automation and the Manufacturing Industry 1 Simon Kamm Anis Hoayek 1:00 - 11:20 ETFA22-00026 Simulation-to-Reality based Transfer Learning for the Failure Analysis in Semiconductor industry Thiqland Wang FIDEST: Deep Learning-Based Fault Injection Framework for Safety Analysis and Intelligent Generation of Labeled Training Tagir Faharisov	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20 502 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00	ETFA22-000092 ETFA22-000047 ETFA22-000160 ETFA22-000107 ETFA22-000182 ETFA22-000066	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station A Structure of Modelling Depths in Behavior Models for Digital Twins Automation of modular systems and the Module Type Package 1 Andreas Stutz Michelle Blumenstein	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz Valdemar Leiras Valentin Stegmaier
2:00 - 12:05 ETFA22-000316 Modelling service properties to manage their diversity within modular manufacturing plants (WiP) Pascal Habiger Upcoming domains for the MTP and an evaluation of its usability for electrolysis (WiP) Lukas Bittorf Machine Learning and Data Analytics for Failure Analysis in Automation and the Manufacturing Industry 1 Simon Kamm Anis Hoayek 1:00 - 11:20 ETFA22-00026 Simulation-to-Reality based Transfer Learning for the Failure Analysis in Semiconductor industry Thiqland Wang FIDGET: Deep Learning-Based Fault Injection Framework for Safety Analysis and Intelligent Generation of Labeled Training Tapir Faharisov	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20 502 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 504 1:00 - 11:20	ETFA22-000160 ETFA22-000160 ETFA22-000182 ETFA22-000066 ETFA22-000158	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station A Structure of Modelling Depths in Behavior Models for Digital Twins Automation of modular systems and the Module Type Package 1 Andreas Stutz Michelle Blumenstein Coordination of Modular Packaging Lines Using Automation Service Choreographies	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz Valdemar Leiras Valentin Stegmaier V47.04 Michelle Blumenstein
ETFA22-000365 Upcoming domains for the MTP and an evaluation of its usability for electrolysis (WiP) Lukas Bittorf Machine Learning and Data Analytics for Failure Analysis in Automation and the Manufacturing Industry 1 Simon Kamm Anis Hoayek 1:00 - 11:20 ETFA22-000026 Simulation-to-Reality based Transfer Learning for the Failure Analysis of SiC Power Transistors Simon Kamm Liz0 - 11:40 ETFA22-00016 NIP based on GCVAE for intelligent Fault Analysis in Semiconductor industry FIGA2-000215 FIGA2-000215 FIGA2-000215 FIGA2-000215 Transfer Learning Based Fault Injection Framework for Safety Analysis and Intelligent Generation of Labeled Training Tagir Faharisov	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20 S02 1:00 - 11:20 1:40 - 12:00 504 1:00 - 11:20 1:40 - 12:00	ETFA22-000160 ETFA22-000160 ETFA22-000107 ETFA22-000182 ETFA22-000066 ETFA22-000158 ETFA22-000172	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETs Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station A Structure of Modelling Depths in Behavior Models for Digital Twins Automation of modular systems and the Module Type Package 1 Andreas Stutz Michelle Blumenstein Coordination of Modular Packaging Lines Using Automation Service Choreographies MTPPy: Open-Source Al-friendly Modular Automation	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz Valdemar Leiras Valentin Stegmaier V47.04 Michelle Blumenstein Valentin Khaydarov
Machine Learning and Data Analytics for Failure Analysis in Automation and the Manufacturing Industry 1 Simon Kamm Anis Hoayek 1:00 - 11:20 ETFA22-00026 Simulation-to-Reality based Transfer Learning for the Failure Analysis of SiC Power Transistors Simon Kamm NIP based on GCVAE for intelligent Fault Analysis in Semiconductor industry Zhiqiang Wang FIDGET: Deep Learning-Based Fault Injection Framework for Safety Analysis and Intelligent Generation of Labeled Training Tagir Faharisov	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20 502 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 504 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00	ETFA22-000160 ETFA22-000160 ETFA22-000160 ETFA22-000182 ETFA22-000066 ETFA22-000158 ETFA22-000172 ETFA22-000080	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modelling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station A Structure of Modelling Depths in Behavior Models for Digital Twins Automation of modular systems and the Module Type Package 1 Andreas Stutz Michelle Blumenstein Coordination of Modular Packaging Lines Using Automation Service Choreographies MTPPy: Open-Source Al-friendly Modular Automation Intention-based engineering for the early design phases and the automation of modular process plants	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz Valdemar Leiras Valentin Stegmaier V47.04 Michelle Blumenstein Valentin Khaydarov Artan Markaj
Simon Kamm Anis Hoayek 1:00 - 11:20 ETFA22-000026 Simulation-to-Reality based Transfer Learning for the Failure Analysis of SiC Power Transistors Simon Kamm 1:20 - 11:40 ETFA22-000106 NLP based on GCVAE for intelligent Fault Analysis in Semiconductor industry Zhiqiang Wang 1:40 - 12:00 FTFA22-000215 FIDGET: Deep Learning-Based Fault Injection Framework for Safety Analysis and Intelligent Generation of Labeled Training Tagir Faharisov	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20 502 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 504 1:00 - 11:20 1:20 - 11:40 1:20 - 11:40 1:20 - 12:00 2:00 - 12:00 2:00 - 12:00	ETFA22-000160 ETFA22-000160 ETFA22-000160 ETFA22-000107 ETFA22-000182 ETFA22-000066 ETFA22-000158 ETFA22-000172 ETFA22-000316	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station A Structure of Modelling Depths in Behavior Models for Digital Twins Automation of modular systems and the Module Type Package 1 Andreas Stutz Michelle Blumenstein Coordination of Modular Packaging Lines Using Automation Service Choreographies MTPPy: Open-Source Al-friendly Modular Automation Intention-based engineering for the early design phases and the automation of modular process plants Modelling service properties to manage their diversity within modular manufacturing plants (WiP)	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz Valdemar Leiras Valentin Stegmaier V47.04 Michelle Blumenstein Valentin Khaydarov Artan Markaj Pascal Habiger
Simon Kamm Anis Hoayek 1:00 - 11:20 ETFA22-000026 Simulation-to-Reality based Transfer Learning for the Failure Analysis of SiC Power Transistors Simon Kamm 1:20 - 11:40 ETFA22-000106 NLP based on GCVAE for intelligent Fault Analysis in Semiconductor industry Zhiqiang Wang 1:40 - 12:00 FTFA22-000215 FIDGET: Deep Learning-Based Fault Injection Framework for Safety Analysis and Intelligent Generation of Labeled Training Tagir Faharisoy	.1:40 - 12:00 .2:00 - 12:20 .11 .1:00 - 11:20 .1:20 - 11:40 .1:40 - 12:00	ETFA22-000160 ETFA22-000160 ETFA22-000160 ETFA22-000107 ETFA22-000182 ETFA22-000066 ETFA22-000158 ETFA22-000172 ETFA22-000316	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station A Structure of Modelling Depths in Behavior Models for Digital Twins Automation of modular systems and the Module Type Package 1 Andreas Stutz Michelle Blumenstein Coordination of Modular Packaging Lines Using Automation Service Choreographies MTPPy: Open-Source Al-friendly Modular Automation Intention-based engineering for the early design phases and the automation of modular process plants Modelling service properties to manage their diversity within modular manufacturing plants (WiP)	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz Valdemar Leiras Valentin Stegmaier V47.04 Michelle Blumenstein Valentin Khaydarov Artan Markaj Pascal Habiger
1:20 - 11:40 ETFA22-000106 NLP based on GCVAE for intelligent Fault Analysis in Semiconductor industry Zhiqiang Wang 1:40 - 12:00 FTFA22-000215 FIDGET: Deep Learning-Based Fault Injection Framework for Safety Analysis and Intelligent Generation of Labeled Training Tagic Faharison	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20 502 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 504 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:05 2:05 - 12:10	ETFA22-000160 ETFA22-000160 ETFA22-000160 ETFA22-000107 ETFA22-000182 ETFA22-000066 ETFA22-000158 ETFA22-000172 ETFA22-000316	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station A Structure of Modelling Depths in Behavior Models for Digital Twins Automation of modular systems and the Module Type Package 1 Andreas Stutz Michelle Blumenstein Coordination of Modular Packaging Lines Using Automation Service Choreographies MTPPy: Open-Source Al-friendly Modular Automation Intention-based engineering for the early design phases and the automation of modular process plants Modelling service properties to manage their diversity within modular manufacturing plants (WiP) Upcoming domains for the MTP and an evaluation of its usability for electrolysis (WiP)	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz Valdemar Leiras Valentin Stegmaier V47.04 Michelle Blumenstein Valentin Khaydarov Artan Markaj Pascal Habiger Lukas Bittorf
1:40 - 12:00 FTEA22-000215 FIDGET: Deep Learning-Based Fault Injection Framework for Safety Analysis and Intelligent Generation of Labeled Training Tagir Faharisov	1:40 - 12:00 1:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 1:20 - 11:40 1:40 - 12:00 1:20 - 11:20 1:20 - 11:40 1:40 - 12:00 1:20 - 11:40 1:40 - 12:00 1:20 - 11:40 1:40 - 12:00	ETFA22-000160 ETFA22-000160 ETFA22-000160 ETFA22-000182 ETFA22-000166 ETFA22-000158 ETFA22-000172 ETFA22-000178 ETFA22-000178 ETFA22-000178	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station A Structure of Modelling Depths in Behavior Models for Digital Twins Automation of modular systems and the Module Type Package 1 Andreas Stutz Michelle Blumenstein Coordination of Modular Packaging Lines Using Automation Service Choreographies MTPPy: Open-Source Al-friendly Modular Automation Intention-based engineering for the early design phases and the automation of modular process plants Modelling service properties to manage their diversity within modular manufacturing plants (WiP) Upcoming domains for the MTP and an evaluation of its usability for electrolysis (WiP) Machine Learning and Data Analytics for Failure Analysis in Automation and the Manufacturing Industry 1 Simon Kamm Anis Hoayek	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz Valdemar Leiras Valentin Stegmaier V47.04 Michelle Blumenstein Valentin Khaydarov Artan Markaj Pascal Habiger Lukas Bittorf
1:40 - 12:00 FTFA22-000215 - Tagir Faharisov	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20 502 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 504 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:05 2:05 - 12:10	ETFA22-000160 ETFA22-000160 ETFA22-000107 ETFA22-000182 ETFA22-000066 ETFA22-000158 ETFA22-000172 ETFA22-000080 ETFA22-000365 ETFA22-000365	From Oilfield to IT – life as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modelling Misbehavior Detection Timeliness in VANETS Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station A Structure of Modelling Depths in Behavior Models for Digital Twins Automation of modular systems and the Module Type Package 1 Andreas Stutz Michelle Blumenstein Coordination of Modular Packaging Lines Using Automation Service Choreographies MTPPy: Open-Source Al-friendly Modular Automation Intention-based engineering for the early design phases and the automation of modular process plants Modelling service properties to manage their diversity within modular manufacturing plants (WiP) Upcoming domains for the MTP and an evaluation of its usability for electrolysis (WiP) Machine Learning and Data Analytics for Failure Analysis in Automation and the Manufacturing Industry 1 Simon Kamm Anis Hoayek Simulation-to-Reality based Transfer Learning for the Failure Analysis of SiC Power Transistors	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz Valdemar Leiras Valentin Stegmaier V47.04 Michelle Blumenstein Valentin Khaydarov Artan Markaj Pascal Habiger Lukas Bittorf V47.05 Simon Kamm
	1:40 - 12:00 2:00 - 12:20 11 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 2:00 - 12:20 502 1:00 - 11:20 1:20 - 11:40 1:40 - 12:00 504 1:00 - 11:20 1:20 - 11:40 1:20 - 11:40 1:20 - 12:00 2:00 - 12:00 2:00 - 12:00	ETFA22-000160 ETFA22-000160 ETFA22-000160 ETFA22-000182 ETFA22-000188 ETFA22-000066 ETFA22-000080 ETFA22-000365 ETFA22-000365	From Oilfield to IT – Ilfe as a woman in Engineering Agile Development @ Bosch Power Tools Closing Communication in Vehicular Systems Saad Mubeen Ramez Daoud Efficient Timing Isolation for Mixed-Criticality Communication Stacks in Performance Architectures SynAVB: Route and Slope Synthesis Ensuring Guaranteed Service in Ethernet AVB Characterization of Multi-Gigabit Automotive Ethernet Channel Radiated Emissions in Relation to ECU PCB Shield-Ground Implementations Modeling Misbehavior Detection Timeliness in VANETs Modelling and Digital Twin Nasser Jazdi Vicente Lucena A methodology for creating semantic digital twin models supported by knowledge graphs ISO23247 Digital Twin Approach for Industrial Grade Radio Frequency Testing Station A Structure of Modelling Depths in Behavior Models for Digital Twins Automation of modular systems and the Module Type Package 1 Andreas Stutz Michelle Blumenstein Coordination of Modular Packaging Lines Using Automation Service Choreographies MTPPy: Open-Source Al-friendly Modular Automation Intention-based engineering for the early design phases and the automation of modular process plants Modelling service properties to manage their diversity within modular manufacturing plants (WiP) Upcoming domains for the MTP and an evaluation of its usability for electrolysis (WiP) Machine Learning and Data Analytics for Failure Analysis in Automation and the Manufacturing Industry 1 Simon Kamm Anis Hoayek Simulation-to-Reality based Transfer Learning for the Failure Analysis of SiC Power Transistors NLP based on GCVAE for intelligent Fault Analysis in Semiconductor industry	Nadja Yang Heike Raatz Lucia Lo Bello V47.02 Kai-Björn Gemlau Weijiang Kong Jamila Josip Borda Mateus Martínez de Lucena V47.03 Charles Steinmetz Valdemar Leiras Valentin Stegmaier V47.04 Michelle Blumenstein Valentin Khaydarov Artan Markaj Pascal Habiger Lukas Bittorf V47.05 Simon Kamm

Ministry				
19-11-10 (1992-20000) International Confession of State of American State of State	S07			V47.06
Pittage Pitt	1.00 44.00	ETEA 22 00000		Mulahaf B.C.
46.7360 177.2 (2003) Application part fracting posterior in the content of				
19-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2				
Lunch Break Usanch Break Wasses Co-1-160 Expeate_plusdign Path is Michanical Engineering - How Onto and A size Triggering Changes in Manufacturing* - Or. Thomas Scholder Co-1-160 Expeate_plusdign Path is Michanical Engineering - How Onto and A size Triggering Changes in Manufacturing* - Or. Thomas Scholder Forumation School - 1-1-20 Advanced Manufacturing - How Onto and A size Triggering Changes in Manufacturing* - Or. Thomas Scholder Forumation School - 1-1-20 Advanced Manufacturing - Or. Thomas School - Or. Thoma				-
10:15:00 Coffee Break Feyne 47	00 - 12.20	ETFA22-000139	by framic replanning using multi-ragent systems and asset Administration shells	Simon Jungbiuth
	:30 - 14:00		Lunch Break	Mensa
	:00 - 15:00	Keynote: "Para	digm Shift in Mechanical Engineering – How Data and Al are Triggering Changes in Manufacturing" - Dr. Thomas Sch	neider V47.01
Advanced Methods for the Management of Factory Networks Station Scanitis Station Sca	5:00 - 15:30		Coffee Break	Foyer 47
Advanced Methods for the Management of Factory Networks Station Scanitis Station Sca			Parallel Sessions 15-30 . 16-30	
Stefans South Ciffee Control Stefan	510	ı		V47.01
19-15.10 ETFA22.000079 Control of the Control		ETEA 22 000222	Stefano Scanzio Oliver Konradi	
Inc. 1830 TFRAZ-200024 Office of Embedding a Programming Language in Office codes to support Decision and Management Variable Variabl				
Secure Data Processing and Protestypes in Volvinues Systems 30-1550 ETRA2-200029 Minimar Trust Efficient and Succe Data Processing Trust Decision Fortines Processing Process Decision Fortines Process Decision Fortines Process Decision Fortines Process Decision Fortines Fortines Decision Fortines Process Decision Fortines			· · · · · · · · · · · · · · · · · · ·	
Sand Numbers Sand	.10 - 10.30	L11A22-000247	Quadrips. Embedding a riogramming Language in Quadous to support Decision and Management	Sterano Scanzio
10.1550 ETA22.00025 Mimer Trust Efficient and Secure Date Processing for Trusted Execution Environment in Automation Environment In Information In Information In Information In Information In Information In	1			V47.02
	-20 45-52	ETEA 22 02221		Simin Ca'
### Section Se	:50 - 16:10			
130 - 150 151 151 152	02		Safety and Risk Assesment	V47.03
150-1610 ETRA22-000134 Stuation-based Identification of Probable Loss Scenarios of Industrial Mobile Robots Manuel Müller			Behrang Ashtari Nasser Jazdi	
Automation of modular systems and the Module Type Package 2 V47.04			· · · · · · · · · · · · · · · · · · ·	•
Automation of modular systems and the Module Type Package 2 Michelle Blumenstein Andreas Stutz 10-15:00 ETFA22-000225 Automated Integration of Renote Emminal Units via EC Prococol with the Module Type Package Andreas Stutz 10-16:00 ETFA22-000025 Concept for extending the Module Type Package Andreas Stutz 10-16:00 ETFA22-000025 Automated Integration of Renote Emminal Units via EC Prococol with the Module Type Package Andreas Stutz 10-16:00 ETFA22-000025 ETFA22-000026 Whyth Commissioning of Industrial Plansis, Merge-Tool for Profitiket Sher Fur Machine Learning and Data Analytics for Failure Analysis in Automation and the Manufacturing Industry 2 V47.05 Machine Learning and Data Analytics for Failure Analysis in Automation and the Manufacturing Industry 2 V47.05 Simon Karmi Annis Nalosyste Computer Vision based welding defect detection using YOLD/3 Melahabou Abdallah Amine 10-15:00 ETFA22-00008 TinyMi-based approach for Remaining Useful Uter Procision of Turbofan Engines Stefanos Health Panalysis of Procision of Turbofan Engines V47.06 10-15:00 ETFA22-000027 Analysing Approach for Demonstrating Useful Uter Procision of Turbofan Engines V47.06 10-16:00 ETFA22-000027 Analysing Approach to Convert MTPs into a Capability and Skill Oncology Algoba Köcher 10-16:00 ETFA22-000027 Analysing Approach for Science Analysis of Turbofan Engines 10-16:00 ETFA22-000027 Analysing Approach for Science Analysis of Turbofan Engines 10-16:00 ETFA22-000027 Analysis of Turbofan Engines Analysis of Turbofan Engines 10-16:00 ETFA22-000027 Analysis of Turbofan Engines Analysis of Turbofan Engines 10-16:00 ETFA22-000027 Analysis of Turbofan Engines Analysis of Turbofan Engines 10-16:00 ETFA22-000028 Analysis of Turbofan Engines Analysis of Turbofan Engines 10-16:00 ETFA22-000028 Analysis of Turbofan Engines Analysis of Turbofan Engines 10-16:00 ETFA22-000028 Analysis of Turbofan Engines An				
Michael Blumentain Andreas Stutz	10 - 16:30	ETFA22-000144	Situation-based Identification of Probable Loss Scenarios of Industrial Mobile Robots	Manuel Müller
30 : 15:00 ETFA22:000022 Automated integration of Remote Terminal Units via IEC Protocol with the Module Type Factage Andreas Stutz Leil-Thore Riche 10 : 16:30 ETFA22:00002 ETFA22:00002 Hybrid Commissioning of Industrial Plants: A Merge-Tool for PROFINET Shan Fur Shan Fur Shan Fur Machine Learning and Data Analytics for Fallure Analysis in Automation and the Manufacturing Industry 2 W47:05 Smork Xamma I Anni Florayek Machine Learning and Data Analytics for Fallure Analysis in Automation and the Manufacturing Industry 2 W47:05 Smork Xamma I Anni Florayek Melakhsou Abdallah Annine Stefanos Heikal Panagorou Smork Xamma I Anni Florayek Melakhsou Abdallah Annine Stefanos Heikal Panagorou St	04	1	Automation of modular systems and the Module Type Package 2	V47.04
Solition ETRAZ2 0000202 Watchine Learning and Data Analytics for Failture Analytis in Automation and the Manufacturing Industry 2 W47.05		-	Michelle Blumenstein Andreas Stutz	•
EFFA22-000202 Hybrid Commissioning of Industrial Plants: A Merge-Tool for PROFINET Shan Fur	:30 - 15:50	ETFA22-000229	Automated Integration of Remote Terminal Units via IEC Protocol with the Module Type Package	Andreas Stutz
Machine Learning and Data Analytics for Failure Analytis in Automation and the Manufacturing Industry 2 Simon Kamm Anis Hoayek Melakhsou Abdallah Amine ETA22-000078 Computer Vision based welding defect detection using YOLOV3 Melakhsou Abdallah Amine Stefanos Herika Pragotovo Stefanos Herika Pragotovo Stefanos Herika Pragotovo Stefanos Herika Pragotovo TimyMi-based approach for Remaining Lyfed III de Prediction of Turbofan Engines Stefanos Heisik Panagiotovo Skill Based Systems Engineering 2 W47.06 Skill Based Systems Engineering 2 W47.06 Skill Based Systems Engineering 2 W47.06 Aljosha Köcher Aljosha Köcher Stefanos Herika Pragotovo Aljosha Köcher Stefano	50 - 16:10	ETFA22-000076	Concept for extending the Module Type Package with energy management functionalities	Leif-Thore Reiche
Simon Kamm Anis Howyek Simon Kamma Simon Kamm Anis Howyek Simon Kamma	10 - 16:30	ETFA22-000202	Hybrid Commissioning of Industrial Plants: A Merge-Tool for PROFINET	Shan Fur
Melahabu Abdallah Amine Seption FirA22-00008 Computer Vision based welding defect detection using YOLOV3 ETRA22-00008 TinyML-based approach for Remaining Useful Life Prediction of Turbofan Engineering 2 V47.06	05			V47.05
Self Based Systems Engineering 2 V47.06				
Skill Based Systems Engineering 2 V47.06 Rristof Mehmer Aljoha Kicher				
Strict Melanar Aligoha Köcher ETFA22-000224 Architectural Concepts for IEC 61499-based Machine Controls: Beyond Normal Operation Handling Lisa Sonnleithner	:50 - 16:10	ETFA22-000068	TinyML-based approach for Remaining Useful Life Prediction of Turbofan Engines	Stefanos Heikki Panagiotou
Strict Melanar Aligoha Köcher ETFA22-000224 Architectural Concepts for IEC 61499-based Machine Controls: Beyond Normal Operation Handling Lisa Sonnleithner	07	I	Skill Based Systems Engineering 2	V47.06
Gathering Time Bus transfer Friday Session - 09.09.2022 Friday Session - 09.09.2022 Friday Session - 09.09.2022 Keynote: "Is Ethernet the Solution for all? " - Dr. Kirsten Matheus (BMW Group) Parallel Sessions 10:30 - 10:30 Coffee Break Foyer 47 Parallel Sessions 10:30 - 12:30 Planning and human-robot interaction Rail Sudrez Andrea Bonci Friday Session - 09.09.2022 Planning and human-robot interaction Rail Sudrez Andrea Bonci Friday Session - 09.09.2022 Planning and human-robot interaction Rail Sudrez Andrea Bonci Friday Session 10:30 - 12:30 Planning and human-robot interaction Rail Sudrez Andrea Bonci Friday Session - 09.09.2022 Planning and human-robot interaction Rail Sudrez Andrea Bonci Friday Session 10:30 - 12:30 Price Friday Session 10:30 - 12:30 Planning and human-robot interaction Rail Sudrez Andrea Bonci Friday Session 10:30 - 12:30 Price Friday Session 10:30 - 12:30 Planning and human-robot interaction Rail Sudrez Andrea Bonci Friday Session 10:30 - 12:30 Price Friday Session 10:30 - 12:30 Price Friday Session - 09.09.2022 Price Friday Session - 09.09.2022 Price Friday Session - 09.09.2022 Planning and human-robot interaction Rail Sudrez Andrea Bonci Rail Sudrez And		-		
Gala Dinner Friday Session - 09.09.2022 Triday Session - 09.09.2022 Panallel Sessions 10:30 - 12:30 Planning and human-robot interaction Panallel Sessions 10:30 - 12:30 Planning and human-robot interaction Panallel Sessions 10:30 - 12:30 Planning and human-robot interaction Panallel Sessions 10:30 - 12:30 Planning and human-robot interaction Panallel Sessions 10:30 - 12:30 Planning and human-robot interaction Panallel Sessions 10:30 - 12:30 Planning and human-robot interaction Panallel Sessions 10:30 - 12:30 ETFA22-000036 Dynamic Path Planning of a mobile robot adopting a costmap layer approach in ROS2 Pangcheng David Cen Cheng Fernando Urra Anish Pratheepkumar Luca Gerett Doract Fanallel Sessions Prediction in Human-Robot Work Environments Luca Gerett India Parallel Sessions Prediction in Human-Robot Work Environments Luca Gerett Maryam Rezayati Christoph Binder Arnat Luder Arnat Luder Christoph Binder Arnat Luder Arnat Lu	:30 - 15:50	ETFA22-000227	A Mapping Approach to Convert MTPs into a Capability and Skill Ontology	Aljosha Köcher
Gala Dinner Friday Session - 09.09.2022 Coffee Break Foyer 47 Parallel Sessions 10:30 - 12:30 Planning and human-robot interaction V47.01 Rail Suárez Andrea Bonci Suárez S	:50 - 16:10	ETFA22-000224	Architectural Concepts for IEC 61499-based Machine Controls: Beyond Normal Operation Handling	Lisa Sonnleithner
Gala Dinner Friday Session - 09.09.2022 The parallel Sessions 10.30 - 12.30 Planning and human-robot interaction Rail Suárez Andrea Bonci Rail Suárez				
Friday Session - 09.09.2022 To - 10:00 Keynote: "Is Ethernet the Solution for all? " - Dr. Kirsten Matheus (BMW Group) V47.01 Parallel Sessions 10:30 - 12:30 Parallel Sessions 10:30 - 12:30 Planning and human-robot interaction Rail Sudrez Andrea Bonci Rail Sudrez Andrea Rai	:45 :00			
Friday Session - 09.09.2022 Coffee Break Foyer 47	:00 - 22:00		Gala Dinner	
Planning and human-robot interaction Planning and human-robot interaction Raúl Suárez Andrea Bonci 30 - 10:50 ETFA22-000036 Dynamic Path Planning of a mobile robot adopting a costmap layer approach in ROS2 Pangcheng David Cen Cheng Fernando Urra 130 - 10:50 ETFA22-000234 Task Space Vector Field Guiding for Motion Planning 150 - 11:10 ETFA22-00025 Domain Adaptation With Evolved Target Dejects for Al Driven Grasping 150 - 11:50 ETFA22-000130 Process-driven Collision Prediction in Human-Robot Work Environments 150 - 12:10 ETFA22-000054 GLIR: A Practical Global-local Integrated Reactive Planner towards Safe Human-Robot Collaboration 150 - 12:30 ETFA22-000055				Flughafenstraße 50, 70629 Stuttgart
Planning and human-robot interaction Planning and human-robot interaction Raúl Suárez Andrea Bonci 30 - 10:50 ETFA22-000036 Dynamic Path Planning of a mobile robot adopting a costmap layer approach in ROS2 Pangcheng David Cen Cheng Fernando Urra 130 - 10:50 ETFA22-000234 Task Space Vector Field Guiding for Motion Planning 150 - 11:10 ETFA22-00025 Domain Adaptation With Evolved Target Dejects for Al Driven Grasping 150 - 11:50 ETFA22-000130 Process-driven Collision Prediction in Human-Robot Work Environments 150 - 12:10 ETFA22-000054 GLIR: A Practical Global-local Integrated Reactive Planner towards Safe Human-Robot Collaboration 150 - 12:30 ETFA22-000055			Friday Session - 09 09 2022	
Parallel Sessions 10:30 - 12:30 Planning and human-robot interaction Raúl Suárez Andrea Bonci Sport 11:10 ETFA22-00036 Dynamic Path Planning of a mobile robot adopting a costmap layer approach in ROS2 Pangcheng David Cen Cheng Fernando Urra Anish Pratheepkumar Sport 11:30 ETFA22-000234 Task Space Vector Field Guiding for Motion Planning Fernando Urra Domain Adaptation With Evolved Target Objects for Al Driven Grasping Fernando Urra Anish Pratheepkumar Sport 12:30 ETFA22-000130 ETFA22-000130 Process-driven Collision Prediction in Human-Robot Work Environments Luca Geretti Maryam Rezayati Engineering process challenges W47.02 Christoph Binder Arndt Lüder Towards Round-trip Engineering to evolve Complex Production Systems by utilizing AutomationML Christoph Binder ETFA22-000152 A Coordination Artifact for Multi-disciplinary Reuse in Production Systems by utilizing AutomationML Christoph Binder Kristof Meixner Towards Round-trip Engineering to evolve Complex Production Systems by utilizing AutomationML Christoph Binder Kristof Meixner Jan Kaiser ETFA22-000051 Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach Jan Kaiser ETFA22-000050 ETFA22-000051 Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach Jan Kaiser Sto - 12:10 ETFA22-000000 Coupling and Decoupling in IEC 61499 and IEC 61131-3 Applications Aydin Homay			11tday 30335011 03.03.2022	
Planning and human-robot interaction Raúl Suárez Andrea Bonci 30 - 10:50 ETFA22-000036 Dynamic Path Planning of a mobile robot adopting a costmap layer approach in ROS2 Pangcheng David Cen Cheng Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding For Alore Graphing Manyam Rezayati Task Space Vector Field Guiding Alore Boot Voltage Planner Boot Collaboration Mohamed El-Shamouty Task Space Vector Field Guiding Alore Boot Voltage Planner Boot Collaboration Task Space Vector Field Guiding Alore Boot Voltage	00 - 10:00		Keynote: "Is Ethernet the Solution for all? " - Dr. Kirsten Matheus (BMW Group)	V47.01
Planning and human-robot interaction Raúl Suárez Andrea Bonci 30 - 10:50 ETFA22-000036 Dynamic Path Planning of a mobile robot adopting a costmap layer approach in ROS2 Pangcheng David Cen Cheng Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding For Alore Graphing Manyam Rezayati Task Space Vector Field Guiding Alore Boot Voltage Planner Boot Collaboration Mohamed El-Shamouty Task Space Vector Field Guiding Alore Boot Voltage Planner Boot Collaboration Task Space Vector Field Guiding Alore Boot Voltage	·00 10·20		Coffee Break	Foyor 47
Planning and human-robot interaction Raúl Suárez Andrea Bonci 30 - 10:50	.00 - 10.30		Collect Break	royer 47
Raúl Suárez Andrea Bonci Raúl Suárez Andrea Bonci 30 - 10:50 ETFA22-000036 Dynamic Path Planning of a mobile robot adopting a costmap layer approach in ROS2 Pangcheng David Cen Cheng Fernando Urra Fernando Urra Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Task Space Vector Field Guiding for Motion Planning Fernando Urra Anish Pratheepkumar Luca Geretti Maryam Rezayati Maryam Rezayati Maryam Rezayati Mohamed El-Shamouty Engineering process challenges V47.02 Christoph Binder Arndt Lüder 30 - 10:50 ETFA22-000049 Towards Round-trip Engineering to evolve Complex Production Systems by utilizing AutomationML Christoph Binder Xio - 11:30 ETFA22-000152 A Coordination Artifact for Multi-disciplinary Reuse in Production Systems Engineering Kristof Meixner 30 - 11:50 ETFA22-000152 Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach Jan Kaiser 30 - 11:50 ETFA22-000120 ETFA22-000120 Coupling and Decoupling in IEC 61499 and IEC 61131-3 Applications Aydin Homay Aydin Homay Aydin Homay Aydin Homay Anish Pratheepkumar Permando Urra Pernando Urra Permando Urra Pernando Urra Pernando Urra Pernando Urra Pernando Urra Permando Urra Pernando Urra Pernando Urra Pernando U			Parallel Sessions 10:30 - 12:30	
Signature Sign				V47.01
### To 11:10 ETFA22-000234 Task Space Vector Field Guiding for Motion Planning Fernando Urra ### To 11:30 ETFA22-00045 Domain Adaptation With Evolved Target Objects for Al Driven Grasping Anish Pratheepkumar ### Soo - 12:10 ETFA22-000130 Process-driven Collision Prediction in Human-Robot Work Environments Luca Geretti ### Improving safety in physical human-robot collaboration via deep metric learning Maryam Rezayati ### Maryam Rezayati ### Christoph Binder Arndt Lüder ### Christoph Binder Arndt Lüder ### Christoph Binder Arndt Lüder ### Towards Round-trip Engineering to evolve Complex Production Systems by utilizing AutomationML Christoph Binder ### Towards Round-trip Engineering to evolve Complex Production Systems Engineering ### Kristof Meixner ### Towards Round-trip Engineering to evolve Complex Production Systems Engineering ### Kristof Meixner #### Towards Round-trip Engineering to evolve Complex Production Systems Engineering ### Kristof Meixner #### ETFA22-000152 Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach #### Jan Kaiser #### Towards Round-trip Engineering to ETFA22-000152 Impact of Modularization and Coupling on the Complexity of Industrial Control and Automation Systems Aydin Homay #### Aydin Homay	:30 - 10:50	ETFA22-000036		Pangcheng David Cen Cheng
10 - 11:30 ETFA22-000045 Domain Adaptation With Evolved Target Objects for Al Driven Grasping Anish Pratheepkumar 30 - 11:50 ETFA22-000130 Process-driven Collision Prediction in Human-Robot Work Environments Luca Geretti 50 - 12:10 ETFA22-000242 Improving safety in physical human-robot collaboration via deep metric learning Maryam Rezayati 10 - 12:30 ETFA22-000054 GLIR: A Practical Global-local Integrated Reactive Planner towards Safe Human-Robot Collaboration Mohamed El-Shamouty				
30 - 11:50 ETFA22-000130 Process-driven Collision Prediction in Human-Robot Work Environments Luca Geretti 50 - 12:10 ETFA22-000242 Improving safety in physical human-robot collaboration via deep metric learning Maryam Rezayati 10 - 12:30 ETFA22-000054 GLIR: A Practical Global-local Integrated Reactive Planner towards Safe Human-Robot Collaboration Mohamed El-Shamouty Engineering process challenges V47.02				
50 - 12:10 ETFA22-000242 Improving safety in physical human-robot collaboration via deep metric learning Maryam Rezayati 10 - 12:30 ETFA22-000054 GLIR: A Practical Global-local Integrated Reactive Planner towards Safe Human-Robot Collaboration Mohamed El-Shamouty Engineering process challenges Christoph Binder Arndt Lüder Towards Round-trip Engineering to evolve Complex Production Systems by utilizing AutomationML Christoph Binder ETFA22-000152 A Coordination Artifact for Multi-disciplinary Reuse in Production Systems Engineering Kristof Meixner 10 - 11:30 ETFA22-000051 Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach 30 - 11:50 ETFA22-000194 Impact of Modularization and Coupling on the Complexity of Industrial Control and Automation Systems Aydin Homay 50 - 12:10 ETFA22-000200 Coupling and Decoupling in IEC 61499 and IEC 61131-3 Applications Aydin Homay				•
ErfA22-000054 GLIR: A Practical Global-local Integrated Reactive Planner towards Safe Human-Robot Collaboration Mohamed El-Shamouty Engineering process challenges V47.02 Christoph Binder Arndt Lüder 30 - 10:50 ETFA22-00049 Towards Round-trip Engineering to evolve Complex Production Systems by utilizing AutomationML Christoph Binder S0 - 11:10 ETFA22-000152 A Coordination Artifact for Multi-disciplinary Reuse in Production Systems Engineering Kristof Meixner 10 - 11:30 ETFA22-000151 Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach Jan Kaiser 30 - 11:50 ETFA22-000194 Impact of Modularization and Coupling on the Complexity of Industrial Control and Automation Systems Aydin Homay 50 - 12:10 ETFA22-000200 Coupling and Decoupling in IEC 61499 and IEC 61131-3 Applications Aydin Homay				
Christoph Binder Arndt Lüder 30 - 10:50 ETFA22-000049 Towards Round-trip Engineering to evolve Complex Production Systems by utilizing AutomationML Christoph Binder 50 - 11:10 ETFA22-000152 A Coordination Artifact for Multi-disciplinary Reuse in Production Systems Engineering Kristof Meixner 10 - 11:30 ETFA22-000051 Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach Jan Kaiser 30 - 11:50 ETFA22-000194 Impact of Modularization and Coupling on the Complexity of Industrial Control and Automation Systems Aydin Homay 50 - 12:10 ETFA22-000200 Coupling and Decoupling in IEC 61499 and IEC 61131-3 Applications Aydin Homay				
Christoph Binder Arndt Lüder Towards Round-trip Engineering to evolve Complex Production Systems by utilizing AutomationML Christoph Binder Arndt Lüder Towards Round-trip Engineering to evolve Complex Production Systems by utilizing AutomationML Kristof Meixner A Coordination Artifact for Multi-disciplinary Reuse in Production Systems Engineering Kristof Meixner Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach Jan Kaiser Jan Kaiser Aydin Homay Sto - 12:10 ETFA22-000200 Coupling and Decoupling in IEC 61499 and IEC 61131-3 Applications Aydin Homay		ı	Engineering process challenges	V47.02
30 - 10:50 ETFA22-00049 Towards Round-trip Engineering to evolve Complex Production Systems by utilizing AutomationML Christoph Binder 50 - 11:10 ETFA22-000152 A Coordination Artifact for Multi-disciplinary Reuse in Production Systems Engineering Kristof Meixner 100 - 11:30 ETFA22-000151 Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach Jan Kaiser 130 - 11:50 ETFA22-000194 Impact of Modularization and Coupling on the Complexity of Industrial Control and Automation Systems Aydin Homay 50 - 12:10 ETFA22-000200 Coupling and Decoupling in IEC 61499 and IEC 61131-3 Applications Aydin Homay				
### ETFA22-000152 A Coordination Artifact for Multi-disciplinary Reuse in Production Systems Engineering Kristof Meixner ### Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach Jan Kaiser ### Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach Jan Kaiser ### Complexity of Industrial Control and Automation Systems Aydin Homay ### Coupling and Decoupling in IEC 61499 and IEC 61131-3 Applications Aydin Homay			Towards Round-trip Engineering to evolve Complex Production Systems by utilizing AutomationML	Christoph Binder
:10 - 11:30 ETFA22-000051 Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach Jan Kaiser :30 - 11:50 ETFA22-000194 Impact of Modularization and Coupling on the Complexity of Industrial Control and Automation Systems Aydin Homay :50 - 12:10 ETFA22-000200 Coupling and Decoupling in IEC 61499 and IEC 61131-3 Applications Aydin Homay	:30 - 10:50	ETFA22-000049		
50 - 12:10 ETFA22-000200 Coupling and Decoupling in IEC 61499 and IEC 61131-3 Applications Aydin Homay				Kristof Meixner
	:50 - 11:10 :10 - 11:30	ETFA22-000152 ETFA22-000051	A Coordination Artifact for Multi-disciplinary Reuse in Production Systems Engineering Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach	Jan Kaiser
:10 - 12:30 ETFA22-000212 Street Lighting Simulation for Energy Efficiency Improvement Alireza Estaji	:50 - 11:10 :10 - 11:30 :30 - 11:50	ETFA22-000152 ETFA22-000051 ETFA22-000194	A Coordination Artifact for Multi-disciplinary Reuse in Production Systems Engineering Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach Impact of Modularization and Coupling on the Complexity of Industrial Control and Automation Systems	Jan Kaiser Aydin Homay
	:30 - 10:50 :50 - 11:10 :10 - 11:30 :30 - 11:50 :50 - 12:10	ETFA22-000152 ETFA22-000051 ETFA22-000194 ETFA22-000200	A Coordination Artifact for Multi-disciplinary Reuse in Production Systems Engineering Configurable Solutions for Low-Cost Digital Manufacturing: a Building Block Approach Impact of Modularization and Coupling on the Complexity of Industrial Control and Automation Systems Coupling and Decoupling in IEC 61499 and IEC 61131-3 Applications	Jan Kaiser Aydin Homay Aydin Homay

		Wireless systems in industrial andientions	1/47 02
2		Wireless systems in industrial applications	V47.03
0.20 40.50	FTE 4 22 00007F	Stefano Scanzio TBD	Chara Callingar
0:30 - 10:50	ETFA22-000075	Towards Performance Benchmarking of Cyclic OPC UA PubSub over TSN	Sten Grüner
0:50 - 11:10	ETFA22-000116	Towards 5G-Aware Robot Planning for Industrial Applications	Nils Jörgensen
L:10 - 11:30	ETFA22-000123	Multi-AP Coordination PHY/MAC Management for Industrial Wi-Fi	Iñaki Val
1:30 - 11:50	ETFA22-000084	Deep Neural Network for Indoor Positioning Based on Channel Impulse Response	Van-Lan Dao
1:50 - 12:10	ETFA22-000117	Experimental Characterization of In-Pipe Acoustic Communication Channels Through Measurement of Pressure Transfer Functions	Markeljan Fishta
		ruittuis	
6		Robots and Computer vision in Factory Automation	V47.04
		Luca Leonardi Timo Market	
0:30 - 10:50	ETFA22-000035	Detection of Unsorted Metal Components for Robot Bin Picking Using an Inexpensive RGB-D Sensor	Riccardo Monica
0:50 - 11:10	ETFA22-000030	Visual Monitoring Intelligent System for Cardboard Packaging Lines	Pablo Gil
1:10 - 11:30	ETFA22-000031	Automation of Offline Tool Wear Measurement on the Example of Inserts for Super-Alloy Machining	Philipp Westphal
1:30 - 11:50	ETFA22-000230	WireAR: AR-based electrician-assistance system for visualization of wiring process	Anastasiia Archangelskaya
1:50 - 12:10	ETFA22-000018	HawkEye-HMI-Generation: A Method to Synthesize Zoomable Process Automation User Interfaces	Heiko Koziolek
S08		Industry 5.0 – Augmenting the Human Worker in Balanced Automation Systems Tamás Ruppert David Romero	V47.05
0:30 - 10:50	ETFA22-000240	Intelligent Collaborative Manufacturing Space for Augmenting Human Workers in Semi-Automated Manufacturing Systems	Tamás Ruppert
			• •
0:50 - 11:10	ETFA22-000193	Trajectory Prediction of Moving Workers for Autonomous Mobile Robots on the Shop Floor	Andreas Löcklin
1:10 - 11:30	ETFA22-000108	A Review on Communicative Mechanisms of External HMIs in Human-Technology Interaction	Peter Thorvald
1:30 - 11:50	ETFA22-000270	A methodology to select wearable devices for Industry 5.0 applications	Elias Montini
S14		Knowledge Graphs for Smart Manufacturing	V47.06
		Franz Georg Listl László Nagy	
0:30 - 10:50	ETFA22-000069	Knowledge Graph-based Support for Automated Manufacturability Analysis	Irlan Grangel-Gonzalez
0:50 - 11:10	ETFA22-000201	Variant generation of software-defined mechatronic systems in model-based systems engineering	Matthias Weiß
1:10 - 11:30	ETFA22-000085	Context-enriched modeling using Knowledge Graphs for intelligent Digital Twins of Production Systems	Timo Müller
		Nada Sahlab Irlán Grangel-González	
1:30 - 11:50	ETFA22-000162	Ontological Architecture for Knowledge Graphs in Manufacturing and Simulation	Franz Georg Listl
1:50 - 12:10	ETFA22-000138	Accessing and Interpreting of OPC UA Event Traces based on Semantic Process Descriptions	Tom Westermann
2:10 - 12:30	ETFA22-000218	Human-centered knowledge graph-based design concept for collaborative manufacturing	László Nagy
2.20 14.00		Lunch Break	Mensa
L2:30 - 14:00		Lunch Dicar	IVIEIISd
12:30 - 14:00		Euron oreas	Wellsd
2:30 - 14:00		Parallel Sessions 14:00 - 15:30	IVIETISA
7	I		V47.01
7	1	Parallel Sessions 14:00 - 15:30	
7	ETFA22-000011	Parallel Sessions 14:00 - 15:30 Industrial and autonomous applications	
7 4:00 - 14:20		Parallel Sessions 14:00 - 15:30 Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085	V47.01 Gian Frederik Mewes
7 4:00 - 14:20 4:20 - 14:40	ETFA22-000043	Parallel Sessions 14:00 - 15:30 Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving	V47.01 Gian Frederik Mewes Matis Ottan
7 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00	ETFA22-000043 ETFA22-000093	Parallel Sessions 14:00 - 15:30 Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots	V47.01 Gian Frederik Mewes Matis Ottan Julian Hanke
7 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00	ETFA22-000043	Parallel Sessions 14:00 - 15:30 Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving	V47.01 Gian Frederik Mewes Matis Ottan
7 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00	ETFA22-000043 ETFA22-000093	Parallel Sessions 14:00 - 15:30 Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots	V47.01 Gian Frederik Mewes Matis Ottan Julian Hanke
7 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20	ETFA22-000043 ETFA22-000093 ETFA22-000008	Parallel Sessions 14:00 - 15:30 Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prerna Juhlin Arndt Lüder	V47.01 Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo
7 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20	ETFA22-000043 ETFA22-000093 ETFA22-000008	Parallel Sessions 14:00 - 15:30 Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prema Juhlin Arndt Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin	V47.01 Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior
7 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 9 4:00 - 14:20	ETFA22-000043 ETFA22-000093 ETFA22-000008	Parallel Sessions 14:00 - 15:30 Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prerna Juhlin Arndt Lüder	V47.01 Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo
7 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 9 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000059 ETFA22-000061 ETFA22-000154	Parallel Sessions 14:00 - 15:30 Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prerna Juhlin Arndt Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units Designing a Digital Shadow for Efficient, Low-Delay Analysis of Production Quality Risk	V47.01 Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior Prerna Juhlin Sebastian Kropatschek
7 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 9 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000059 ETFA22-000061	Parallel Sessions 14:00 - 15:30 Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prerna Juhlin Arndt Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units	V47.01 Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior Prerna Juhlin
7 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 9 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000059 ETFA22-000061 ETFA22-000154	Parallel Sessions 14:00 - 15:30 Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prerna Juhlin Arndt Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units Designing a Digital Shadow for Efficient, Low-Delay Analysis of Production Quality Risk An interactive learning approach on digital twin for deriving the controller logic in IEC 61499 standard	V47.01 Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior Prerna Juhlin Sebastian Kropatschek Midhun Xavier
7 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 9 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000059 ETFA22-000061 ETFA22-000154	Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prema Juhlin Arnott Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units Designing a Digital Shadow for Efficient, Low-Delay Analysis of Production Quality Risk An interactive learning approach on digital twin for deriving the controller logic in IEC 61499 standard	V47.01 Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior Prerna Juhlin Sebastian Kropatschek
7 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000059 ETFA22-000061 ETFA22-000154	Parallel Sessions 14:00 - 15:30 Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prerna Juhlin Arndt Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units Designing a Digital Shadow for Efficient, Low-Delay Analysis of Production Quality Risk An interactive learning approach on digital twin for deriving the controller logic in IEC 61499 standard	V47.01 Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior Prerna Juhlin Sebastian Kropatschek Midhun Xavier
7 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 9 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000059 ETFA22-000061 ETFA22-000154	Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prema Juhlin Arnott Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units Designing a Digital Shadow for Efficient, Low-Delay Analysis of Production Quality Risk An interactive learning approach on digital twin for deriving the controller logic in IEC 61499 standard	W47.01 Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo W47.02 Johannes Prior Prerna Juhlin Sebastian Kropatschek Midhun Xavier
4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 9 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000059 ETFA22-000061 ETFA22-000154 ETFA22-000199	Parallel Sessions 14:00 - 15:30 Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prema Juhlin Arndt Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units Designing a Digital Shadow for Efficient, Low-Delay Analysis of Production Quality Risk An interactive learning approach on digital twin for deriving the controller logic in IEC 61499 standard TSN in Industrial Systems Mohammad Ashjaei Manuel Barranco Aligning Emerging Technologies onto I4.0 principles: Towards a Novel Architecture for Zero-defect Manufacturing	V47.01 Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior Prerna Juhlin Sebastian Kropatschek Midhun Xavier V47.03 Konstantinos Apostolakis
4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 9 4:00 - 14:20 4:20 - 14:40 2 4:00 - 14:20 4:00 - 14:20 4:20 - 14:40	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000059 ETFA22-000061 ETFA22-000154 ETFA22-000199 ETFA22-000199	Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prema Juhlin Arndt Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units Designing a Digital Shadow for Efficient, Low-Delay Analysis of Production Quality Risk An interactive learning approach on digital twin for deriving the controller logic in IEC 61499 standard TSN in Industrial Systems Mohammad Ashjaei Manuel Barranco Aligning Emerging Technologies onto I4.0 principles: Towards a Novel Architecture for Zero-defect Manufacturing Migrating Legacy Ethernet-Based Traffic with Spatial Redundancy to TSN networks	Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior Prerna Juhlin Sebastian Kropatschek Midhun Xavier V47.03 Konstantinos Apostolakis Mateu Jover
4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 4:20 - 14:20 4:20 - 14:40 4:40 - 15:00 2 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000059 ETFA22-000061 ETFA22-000154 ETFA22-000199 ETFA22-000191 ETFA22-000168	Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prerna Juhlin Arndt Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units Designing a Digital Shadow for Efficient, Low-Delay Analysis of Production Quality Risk An interactive learning approach on digital twin for deriving the controller logic in IEC 61499 standard TSN in Industrial Systems Mohammad Ashjaei Manuel Barranco Aligning Emerging Technologies onto I4.0 principles: Towards a Novel Architecture for Zero-defect Manufacturing Migrating Legacy Ethernet-Based Traffic with Spatial Redundancy to TSN networks Holistic Monitoring for heterogeneous industrial Time Sensitive Networks	V47.01 Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior Prerna Juhlin Sebastian Kropatschek Midhun Xavier V47.03 Konstantinos Apostolakis Mateu Jover Santiago Soler Perez Olaya
4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 9 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 2 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000059 ETFA22-000061 ETFA22-000154 ETFA22-000199 ETFA22-000199	Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prema Juhlin Arndt Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units Designing a Digital Shadow for Efficient, Low-Delay Analysis of Production Quality Risk An interactive learning approach on digital twin for deriving the controller logic in IEC 61499 standard TSN in Industrial Systems Mohammad Ashjaei Manuel Barranco Aligning Emerging Technologies onto I4.0 principles: Towards a Novel Architecture for Zero-defect Manufacturing Migrating Legacy Ethernet-Based Traffic with Spatial Redundancy to TSN networks	Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior Prerna Juhlin Sebastian Kropatschek Midhun Xavier V47.03 Konstantinos Apostolakis Mateu Jover
4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 9 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 2 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000059 ETFA22-000061 ETFA22-000154 ETFA22-000199 ETFA22-000191 ETFA22-000168	Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prema Juhlin Arndt Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units Designing a Digital Shadow for Efficient, Low-Delay Analysis of Production Quality Risk An interactive learning approach on digital twin for deriving the controller logic in IEC 61499 standard TSN in Industrial Systems Mohammad Ashjaei Manuel Barranco Aligning Emerging Technologies onto I4.0 principles: Towards a Novel Architecture for Zero-defect Manufacturing Migrating Legacy Ethernet-Based Traffic with Spatial Redundancy to TSN networks Holistic Monitoring for heterogeneous industrial Time Sensitive Networks A Detailed Analysis of Timing Effects in an IEC 61499 Ethernet/TSN Communication Scenario	Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior Prerna Juhlin Sebastian Kropatschek Midhun Xavier V47.03 Konstantinos Apostolakis Mateu Jover Santiago Soler Perez Olaya Friederike Bruns
4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 9 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 2 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000059 ETFA22-000061 ETFA22-000154 ETFA22-000199 ETFA22-000191 ETFA22-000168	Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prerna Juhlin Arndt Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units Designing a Digital Shadow for Efficient, Low-Delay Analysis of Production Quality Risk An interactive learning approach on digital twin for deriving the controller logic in IEC 61499 standard TSN in Industrial Systems Mohammad Ashjaei Manuel Barranco Aligning Emerging Technologies onto I4.0 principles: Towards a Novel Architecture for Zero-defect Manufacturing Migrating Legacy Ethernet-Based Traffic with Spatial Redundancy to TSN networks Holistic Monitoring for heterogeneous industrial Time Sensitive Networks	V47.01 Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior Prerna Juhlin Sebastian Kropatschek Midhun Xavier V47.03 Konstantinos Apostolakis Mateu Jover Santiago Soler Perez Olaya
4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 2 4:00 - 14:20 4:40 - 14:20 4:40 - 15:00 5:00 - 15:20	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000061 ETFA22-000154 ETFA22-000199 ETFA22-000191 ETFA22-000191 ETFA22-000168 ETFA22-000163	Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Prerna Juhlin Arndt Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units Designing a Digital Shadow for Efficient, Low-Delay Analysis of Production Quality Risk An interactive learning approach on digital twin for deriving the controller logic in IEC 61499 standard TSN in Industrial Systems Mohammad Ashjaei Manuel Barranco Aligning Emerging Technologies onto I4.0 principles: Towards a Novel Architecture for Zero-defect Manufacturing Migrating Legacy Ethernet-Based Traffic with Spatial Redundancy to TSN networks Holistic Monitoring for heterogeneous industrial Time Sensitive Networks A Detailed Analysis of Timing Effects in an IEC 61499 Ethernet/TSN Communication Scenario Automatic Learning in Computer Vision Applications Riccardo Monica Philipp Westphal	Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior Prerna Juhlin Sebastian Kropatschek Midhun Xavier V47.03 Konstantinos Apostolakis Mateu Jover Santiago Soler Perez Olaya Friederike Bruns
4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 2 4:00 - 14:20 4:40 - 15:00 5:00 - 15:20 6 4:00 - 14:20	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000061 ETFA22-000154 ETFA22-000199 ETFA22-000199 ETFA22-000199 ETFA22-000199 ETFA22-000199 ETFA22-000191 ETFA22-000191 ETFA22-000191 ETFA22-000191 ETFA22-000191 ETFA22-000191	Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Digital twins Prema Juhlin Arndt Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units Designing a Digital Shadow for Efficient, Low-Delay Analysis of Production Quality Risk An interactive learning approach on digital twin for deriving the controller logic in IEC 61499 standard TSN in Industrial Systems Mohammad Ashjaei Manuel Barranco Aligning Emerging Technologies onto I4.0 principles: Towards a Novel Architecture for Zero-defect Manufacturing Migrating Legacy Ethernet-Based Traffic with Spatial Redundancy to TSN networks Holistic Monitoring for heterogeneous industrial Time Sensitive Networks A Detailed Analysis of Timing Effects in an IEC 61499 Ethernet/TSN Communication Scenario Automatic Learning in Computer Vision Applications Riccardo Monica Philipp Westphal Am I done learning? - Determining learning states in adaptive assembly systems	V47.01 Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior Prerna Juhlin Sebastian Kropatschek Midhun Xavier V47.03 Konstantinos Apostolakis Mateu Jover Santiago Soler Perez Olaya Friederike Bruns V47.04 Philip Sehr
7 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 9 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 5:00 - 15:20 2 4:00 - 14:20 4:20 - 14:40 4:40 - 15:00 6 4:00 - 14:20 4:20 - 14:40 4:20 - 14:40 4:20 - 14:40 4:20 - 14:40 4:20 - 14:40	ETFA22-000043 ETFA22-000093 ETFA22-000008 ETFA22-000061 ETFA22-000154 ETFA22-000199 ETFA22-000191 ETFA22-000191 ETFA22-000168 ETFA22-000163	Industrial and autonomous applications Andrea Bonci Raúl Suárez The Correction of the Nozzle-Bed-Distance in Robotic Curved Layer Fused Deposition Modeling with ULTEM 9085 Leading vehicle length estimation using pressure data for use in autonomous driving Software-defined testing facility for component testing with industrial robots On the creation of a robotics software architecture for Al-based advanced applications Prerna Juhlin Arndt Lüder A method for mapping novel product groups in AutomationML as the first step for creating their virtual twin Cloud-enabled Drive-Motor-Load Simulation Platform using Asset Administration Shell and Functional Mockup Units Designing a Digital Shadow for Efficient, Low-Delay Analysis of Production Quality Risk An interactive learning approach on digital twin for deriving the controller logic in IEC 61499 standard TSN in Industrial Systems Mohammad Ashjaei Manuel Barranco Aligning Emerging Technologies onto I4.0 principles: Towards a Novel Architecture for Zero-defect Manufacturing Migrating Legacy Ethernet-Based Traffic with Spatial Redundancy to TSN networks Holistic Monitoring for heterogeneous industrial Time Sensitive Networks A Detailed Analysis of Timing Effects in an IEC 61499 Ethernet/TSN Communication Scenario Automatic Learning in Computer Vision Applications Riccardo Monica Philipp Westphal	W47.01 Gian Frederik Mewes Matis Ottan Julian Hanke Ignacio Fidalgo V47.02 Johannes Prior Prerna Juhlin Sebastian Kropatschek Midhun Xavier V47.03 Konstantinos Apostolakis Mateu Jover Santiago Soler Perez Olaya Friederike Bruns

		Development, adoption and application of IT for automation systems	V47.05
	-	Alois Zoitl Andreas Bunte	
4:00 - 14:05	ETFA22-000355	How to make energy flexibility business models work - the case for integration into existing ERP systems	Maximilian Stange
1:05 - 14:10	ETFA22-000253	An Analysis of Use Cases for the Asset Administration Shell in the Context of Edge Computing	Marie Platenius-Mohr
1:10 - 14:15	ETFA22-000266	Integrating Third-Party Asset Monitoring Applications in an Edge Architecture using the Asset Administration Shell	Marie Platenius-Mohr
1:15 - 14:20	ETFA22-000287	Supporting Variability Management in Cyber-Physical Production Systems: Towards Semi-Automatic Delta Model Mining for IEC 61499	Hafiyyan Sayyid Fadhlillah
1:20 - 14:25	ETFA22-000401	Model-aware Simulation of IEC 61499 Designs	Sven Mehlhop
1:25 - 14:30	ETFA22-000298	Evaluation of Middleware Technologies for the PLC-Service Bus in IEC 61499	Virendra Ashiwal
1:30 - 14:35	ETFA22-000290	Controlling concurrent events in IEC 61499 based systems on FPGAs	Martin Melik Merkumians
1:35 - 14:40	ETFA22-000303	Toward a Generic Mapping Language for Transformations between RDF and Data Interchange Formats	Artan Markaj
1:40 - 14:45	ETFA22-000316	Modelling service properties to manage their diversity within modular manufacturing plants	Pascal Habiger
1:45 - 14:50	ETFA22-000323	RPC-Based OPC-UA Agent for Legacy PLCs	Minyoung Sung
1:50 - 14:55	ETFA22-000338	Concurrent OPC UA information model access, enabling real-time OPC UA PubSub	Patrick Denzler
1:55 - 15:00	ETFA22-000345	Connecting Industrie 4.0 Digital Twins during Execution to Other Components' Interfaces	Magnus Redeker
5:00 - 15:05	ETFA22-000334	Towards an Asset Administration Shell Integrity Verification Scheme	Andre Bröring
5:05 - 15:10	ETFA22-000304	Modeling Error Propagation in a Modular Plant	Santonu Sarkar
5:10 - 15:15	ETFA22-000312	A Model Based Framework for Testing Safety and Security in Operational Technology Environments	Mukund Bhole
5:15 - 15:20	ETFA22-000314	Automating Safety and Security Risk Assessment in Industrial Control Systems: Challenges and Constraints	Pushparaj Bhosale
:20 - 15:25	ETFA22-000404	Work In Progress: Towards Adaptive RF Fingerprint-based Authentication of IIoT devices.	Ricardo Severino
13.23	ETTALE GOOTO	Total in Togless Total as Adaptive in Tinger plant assect Adultant addition of Not detrees.	mediae severino
/iP11	1	WIP: Vehicular Embedded Systems	V47.06
		Saad Mubeen Ramez Daoud	-
1:40 - 14:45	ETFA22-000277	Evolution of the Automotive Reference Architecture Model towards a Domain-Specific Systems Engineering Approach	Katharina Polanec
1:45 - 14:50	ETFA22-000315	Fault-Tolerant Low-Cost Analog Sensor Implementation for By-Wire Vehicle	Ramez Daoud
1:50 - 14:55	ETFA22-000330	Fault-Tolerant Optical Controller Area Network (FTO-CAN) Based on Heartbeat Signal Termination	Duc Hoang
1:55 - 15:00	ETFA22-000376	Evil SteVe: An Approach to Simplify Penetration Testing of OCPP Charge Points	Lisa Gebauer
5:00 - 15:05	ETFA22-000343	On in-vehicle network security testing methodologies in construction machinery	Sheela Hariharan
5:05 - 15:10	ETFA22-000382	Work in Progress: A Centralized Configuration Model for TSN-5G Networks	Zenepe Satka
5:10 - 15:15	ETFA22-000383	AUTOSAR University Package Classic Demonstrator	Moisés Urbina Fuentes
5:30 - 16:00		Coffee Break	Foyer 47
		Parallel Sessions 14:00 - 15:30	
7	ı	Calibration, localization and control	V47.01
		Andrea Bonci Marina Indri	V47.01
		Allurea Dollor Marilla Illuri	
5:00 - 16:20	FTFΔ22-0000/41	An Unified iterative Hand-Eye Calibration Method for Eye-on-Pase and Eye-in-Hand Setups	Daniele Evangelista
	ETFA22-000041 ETFA22-000197	An Unified iterative Hand-Eye Calibration Method for Eye-on-Base and Eye-in-Hand Setups Cloud Vision: DNN-based visual localization of autonomous robots using prebuilt LiDAR point cloud.	Daniele Evangelista
5:20 - 16:40	ETFA22-000197	CloudVision: DNN-based visual localization of autonomous robots using prebuilt LiDAR point cloud	Evgeny Yudin
5:20 - 16:40			-
5:20 - 16:40	ETFA22-000197	CloudVision: DNN-based visual localization of autonomous robots using prebuilt LiDAR point cloud Deep Reinforcement Learning Based Networked Control with Network Delays for Signal Temporal Logic Specifications	Evgeny Yudin Junya Ikemoto
5:20 - 16:40	ETFA22-000197	CloudVision: DNN-based visual localization of autonomous robots using prebuilt LiDAR point cloud Deep Reinforcement Learning Based Networked Control with Network Delays for Signal Temporal Logic Specifications Safety and Security	Evgeny Yudin
5:20 - 16:40	ETFA22-000197 ETFA22-000007	CloudVision: DNN-based visual localization of autonomous robots using prebuilt LiDAR point cloud Deep Reinforcement Learning Based Networked Control with Network Delays for Signal Temporal Logic Specifications Safety and Security Nikolaos Papakonstantinou Arndt Lüder	Evgeny Yudin Junya Ikemoto V47.02
5:20 - 16:40 5:40 - 17:00 5:00 - 16:20	ETFA22-000197 ETFA22-000007 ETFA22-000013	CloudVision: DNN-based visual localization of autonomous robots using prebuilt LiDAR point cloud Deep Reinforcement Learning Based Networked Control with Network Delays for Signal Temporal Logic Specifications Safety and Security Nikolaos Papakonstantinou Arndt Lüder Security and Safety Integration for the Nuclear Instrumentation and Control Systems	Evgeny Yudin Junya Ikemoto V47.02 Joonas Linnosmaa
5:20 - 16:40 5:40 - 17:00 5:00 - 16:20 5:20 - 16:40	ETFA22-000197 ETFA22-000007 ETFA22-000013 ETFA22-000040	CloudVision: DNN-based visual localization of autonomous robots using prebuilt LiDAR point cloud Deep Reinforcement Learning Based Networked Control with Network Delays for Signal Temporal Logic Specifications Safety and Security Nikolaos Papakonstantinou Arndt Lüder Security and Safety Integration for the Nuclear Instrumentation and Control Systems CrossTest: a cross-domain physical testbed environment for cybersecurity performance evaluations	Evgeny Yudin Junya Ikemoto V47.02 Joonas Linnosmaa Markus Karch
6:00 - 16:20 6:20 - 16:40 6:40 - 17:00 9 6:00 - 16:20 6:20 - 16:40 6:40 - 17:00	ETFA22-000197 ETFA22-000007 ETFA22-000013	CloudVision: DNN-based visual localization of autonomous robots using prebuilt LiDAR point cloud Deep Reinforcement Learning Based Networked Control with Network Delays for Signal Temporal Logic Specifications Safety and Security Nikolaos Papakonstantinou Arndt Lüder Security and Safety Integration for the Nuclear Instrumentation and Control Systems	Evgeny Yudin Junya Ikemoto V47.02 Joonas Linnosmaa
6:20 - 16:40 6:40 - 17:00 6:00 - 16:20 6:20 - 16:40	ETFA22-000197 ETFA22-000007 ETFA22-000013 ETFA22-000040	CloudVision: DNN-based visual localization of autonomous robots using prebuilt LiDAR point cloud Deep Reinforcement Learning Based Networked Control with Network Delays for Signal Temporal Logic Specifications Safety and Security Nikolaos Papakonstantinou Arndt Lüder Security and Safety Integration for the Nuclear Instrumentation and Control Systems CrossTest: a cross-domain physical testbed environment for cybersecurity performance evaluations Decision Tree Models of Continuous Systems	Evgeny Yudin Junya Ikemoto V47.02 Joonas Linnosmaa Markus Karch Swantje Plambeck
6:20 - 16:40 6:40 - 17:00 6:00 - 16:20 6:20 - 16:40	ETFA22-000197 ETFA22-000007 ETFA22-000013 ETFA22-000040	CloudVision: DNN-based visual localization of autonomous robots using prebuilt LiDAR point cloud Deep Reinforcement Learning Based Networked Control with Network Delays for Signal Temporal Logic Specifications Safety and Security Nikolaos Papakonstantinou Arndt Lüder Security and Safety Integration for the Nuclear Instrumentation and Control Systems CrossTest: a cross-domain physical testbed environment for cybersecurity performance evaluations	Evgeny Yudin Junya Ikemoto V47.02 Joonas Linnosmaa Markus Karch
5:20 - 16:40 5:40 - 17:00 5:00 - 16:20 5:20 - 16:40 6:40 - 17:00	ETFA22-000197 ETFA22-000007 ETFA22-000013 ETFA22-000040 ETFA22-000102	CloudVision: DNN-based visual localization of autonomous robots using prebuilt LiDAR point cloud Deep Reinforcement Learning Based Networked Control with Network Delays for Signal Temporal Logic Specifications Safety and Security Nikolaos Papakonstantinou Arndt Lüder Security and Safety Integration for the Nuclear Instrumentation and Control Systems CrossTest: a cross-domain physical testbed environment for cybersecurity performance evaluations Decision Tree Models of Continuous Systems Real-time networks Luca Leonardi Gaetano Patti	Evgeny Yudin Junya Ikemoto V47.02 Joonas Linnosmaa Markus Karch Swantje Plambeck V47.03
6:20 - 16:40 6:40 - 17:00 6:00 - 16:20 6:20 - 16:40	ETFA22-000197 ETFA22-000007 ETFA22-000013 ETFA22-000040	CloudVision: DNN-based visual localization of autonomous robots using prebuilt LiDAR point cloud Deep Reinforcement Learning Based Networked Control with Network Delays for Signal Temporal Logic Specifications Safety and Security Nikolaos Papakonstantinou Arndt Lüder Security and Safety Integration for the Nuclear Instrumentation and Control Systems CrossTest: a cross-domain physical testbed environment for cybersecurity performance evaluations Decision Tree Models of Continuous Systems Real-time networks	Evgeny Yudin Junya Ikemoto V47.02 Joonas Linnosmaa Markus Karch Swantje Plambeck
6:20 - 16:40 6:40 - 17:00 9 6:00 - 16:20 6:20 - 16:40 6:40 - 17:00	ETFA22-000197 ETFA22-00007 ETFA22-000013 ETFA22-000040 ETFA22-000102 ETFA22-000173	CloudVision: DNN-based visual localization of autonomous robots using prebuilt LiDAR point cloud Deep Reinforcement Learning Based Networked Control with Network Delays for Signal Temporal Logic Specifications Safety and Security Nikolaos Papakonstantinou Arndt Lüder Security and Safety Integration for the Nuclear Instrumentation and Control Systems CrossTest: a cross-domain physical testbed environment for cybersecurity performance evaluations Decision Tree Models of Continuous Systems Real-time networks Luca Leonardi Gaetano Patti Schedulability Analysis of WSAN Applications: Outperformance of a Model Checking Approach	Evgeny Yudin Junya Ikemoto V47.02 Joonas Linnosmaa Markus Karch Swantje Plambeck V47.03 Marjan Sirjani