CONFERENCE PROGRAMME

Wednesday 23 March 2022

8:00	9:00	**Registration**			
9:00	9:30	**Opening ceremony** **Room: Salon de Actos**			
9:30	10:30	**Keynote** **DIH4CPS project: Official launch of the portal** **Room: Salon de Actos**			
10:30	11:00	**Coffee Break**			
11:00	13:00	**Track 1: Ontologies and algorithms for Enterprise Interoperability** **Room: Aula 2.7**	**Track 2: SMART Manufacturing** **Room: Aula 2.8**	**Track 3: Digital Twins Analysis & Applications** **Room: Aula 2.11**	**Track 4: Data Analytics at the micro- and macro level** **Room: Aula 2.12**
		An Ontology of Industrial Work Varieties A. De Nicola, M.L. Villani	*Interoperability as a Supporting Principle of Industry 4.0 for Smart Manufacturing Scheduling: A research note* J.C. Serrano Ruiz, J. Mula, R. Poler	*Digital Twin concept in last mile delivery and passenger transport* M. Schnieder, C. Hinde, A. West	*Interoperability in Measuring the Degree of Maturity of Smart Cities* L.M. Pérez, R. Oltra-Badenes, J.V. Oltra Gutierez, H. Gil-Gómez
		A conceptual framework to support the selection of algorithms for replenishment, production, and delivery planning problems E. Guzman, B. Andres, R. Poler	*An interoperable IoT-based application to online reconfiguration manufacturing systems: deployment in a real pilot* F. Alarcón, M.A. Mateo Casali, F. Fraile, D. Cubero	*Analysing the decisions involved in building a Digital Twin* H. Carlin, B. Young, P. Goodall, A. West	*Normalized City Analytics Based On A Semantic Interoperability Process* T. Pereira, R. Machado, N. Soares, M. Pinto, C.E. Salgado, A. Lima
		Interoperable Algorithms as Microservices for Zero Defects Manufacturing: A Containerization Strategy and Workload Distribution Model Proposal M.A. Mateo Casali, F. Fraile, F. Alarcón, D. Cubero	*Human-Robot Interaction: Predicting research agenda by Long Short-Term Memory* J. Borregan Alvarado, I. Alvarez-Meaza, E. Cilleruelo-Carrasco, R.M. Rio-Belver	*Digital Twin Application in Agri-food Supply Chain* T.Y. Melesse, V. Di Pasqualea, S. Riemma	*Application of a Visual and Data Analytics Platform for Industry 4.0 enabled by the Interoperable Data Spine: A Real-world Paradigm for Anomaly Detection in the Furniture Domain* A. Nizamis, R.A. Deshmukh, T. Vafeiadis, F. Gigante-Valencia, M.J. Núñez, A. Schneider, D. Ioannidis, D. Tzovaras
		An Interoperability Approach for Blockchain-based Supply Chain Management A. Belhi, H. Gasmi, A. Hammi, A. Bouras, B. Aouni, I. Khalil	*Improving supply chain and manufacturing process in wind turbine tower industry through digital twins* M.-L. Muñoz-Díaz, A. Escudero-Santana, A. Lorenzo-Espejo, J. Muñuzuri	*Complementing DT with Enterprise Social Networks: A MCDA-based methodology for co-creation* R. Rodriguez- Rodriguez, R.D. Leon, J.J. Alfaro-Saiz, M.-J. Verdecho	
13:00	14:00	**Lunch**			
14:00	15:00	**Keynote speaker 1: Dr. Michael Grieves** **"Digital Twins, Types, and their Interoperability Requirements and Challenges"** **Room: Salon de Actos**			

		WS: Modelling realism in digital twins: issues and solutions for interoperable manufacture Room: Aula 2.8	WS: System Interoperability in robotic applications for internal logistic Room: Aula 2.11	WS: Enterprise Interoperability for Industrial Data Spaces (EI4IDS) Room: Aula 2.12	WS: Health and health-related data: the foundation for eHealth Room: Aula 2.7
15:00	16:30	*The use of digital twins to overcome semantic barriers in hyperconnected ecosystems for industry* F.-W. Jäkel, P. Gering, T. Knothe *Supporting Vendor Neutrality through an Interoperable System of Systems Approach* G. Bhullar, R. Davies	*Robotics Platforms for Internal Logistics: A Technical Architecture Proposal* F. Fraile, R. Poler *IoT and robot control interoperability in human-robot collaboration environments* M.M. Plaza Cano, F. Blanes Noguera, A. Delgado Romero, E. Conesa Guerrero, P. Balbastre Betoret	*Aligning the Dutch Logistics Data Spaces Infrastructure to the International Data Spaces: A State-of-the-Art Discussion Paper* J.P.S. Piest, P. De Alencar Silva, F.A. Bukhsh *Harmonization Profile Assessment for Controlled and Trusted Data Sharing Between Autonomous Data Sharing Domains* A. Stoter, B. Rietveld, V. Jansen, H. Bastiaansen	*A Methodology for Trustworthy IoT in Healthcare-Related Environments* L. Michel, C. Lopes, R. Melo, C. Agostinho *Seamless Wearable Data Collection in a Mobile Environment* F. Seixas-Lopes, C. Lopes, C. Agostinho, M. Marques
16:30	17:00	**Coffee Break**			
17:00	19:00	*Predicting the unpredictable through realism in interoperable digital twins* R. Williamson, H. Carlin, S. Hayward, P. Goodall, K. van Lopik, B. Young, A. West *Digital Twin for Smart Cities: An Enabler for Large-Scale Enterprise Interoperability* M. Kaba Traoré, Y. Ducq	*Mobile robotics experimentation in industrial environment* F. Gigante-Valencia, M.J. Núñez, J.L. Sanchez, J. Molina, J.I. Cantero Ramis *PlugBot Architecture for Modular Manufacturing* G. Weichhart, M. Ikeda, M. Propst, R. Froschauer	*Semantic Discovery and Selection of Data Connectors in International Data Spaces* D.R. Firdausy, P. de Alencar Silva, M. van Sinderen, M.-E. Iacob *Towards a Digital Twin for Simulation of Organizational and Semantic Interoperability in IDS Ecosystems* P. de Alencar Silva, R. Fadaie, M. van Sinderen	*Smarterization of Medical Device using a CPS approach* F. Januário, C. Lopes, C. Agostinho, M. Marques, V. Gomes *Healthier and Independent Living of the Elderly: Interoperability in a Cross-Project Pilot* C. Agostinho, M. Marques, R. Goncalves, A. Pimenta, K. Tsiouris, F. Kalatzis, C. Nikitas, E. Iliadou, M. Occhipinti, I. Kouris, D. Koutsouris, I. Basdekis, K. Koloutsou, L. Gallo, G. De Pietro
19:00	20:00	*SPARE TIME*			
20:00	22:00	**City tour and Welcome Cocktail**			

Thursday 24 March 2022

9:00	9:30	**Registration**			
9:30	10:30	**Keynote speaker 2: Rahul Tomar "Virtual Meeting Room – Realtime Collaborative and Immersive Tool for All Stakeholders" Room: Salon de Actos**			
10:30	11:00	**Coffee Break**			
11:00	13:00	**Track 5: Production Planning Methods & Techniques Room: Aula 2.8**	**Track 6: Prediction systems for facing uncertainty Room: Aula 2.11**	**Track 7: Multi-stakeholders collaboration Room: Aula 2.12**	**Track 8: Business process models Room: Aula 2.7**
		Modeling Automation for Manufacturing Processes to Support Production Monitoring J. Franco, J. Ferreira, R. Goncalves *Collaborative Platform for Experimentation on Production Planning Models* M.A. Rodriguez, A. Esteso, A. Boza, A. Ortiz *A Deep Reinforcement Learning Approach for Smart Coordination between Production Planning and Scheduling* P. Gómez Gasquet, A. Boza, D. Perez Perales, A. Esteso *Setting the Foundations for a Description Language for Semi-Autonomous Generation of Flight Training Scenarios* G. Kontos, O. Lehmann	*Interoperability Challenges for a Corporate Interactive Situation Awareness System* T. Knothe, P. Gering, J.-A. Scholz *Identifying uncertainty in large scaled Industry 4.0 software projects through model-based requirements engineering* A.M. Nowak-Meitinger, R. Jochem, J. Mayer, S.K. Marde *A machine-learning based system for the prediction of the lead times of sequential processes* A. Lorenzo-Espejo, A. Escudero-Santana, M.-L. Muñoz-Díaz, J. Guadix *Predictive study of changes in business process models* A. Ahmad, M. Bouneffa, H. Basson, C. Cherif, M.K. Abdi, M. Maiza	*Defining performance indicator for a multi-stakeholder scenario: an ECOGRAI adaptation* M. Mohammadianghovaghloo, W. Quadrini, S. Terzi, C. Sassanelli *Developing performance indicators to measure DIH collaboration: applying ECOGRAI method on the D-BEST reference model* H. Haidar, C. Sassanelli, A. Ortiz, G. Doumeingts, C. Costa *A multi-partnership enterprise social network-based model to foster inter-organizational knowledge and innovation* R.-D. Leon, R. Rodriguez Rodriguez, J.J. Alfaro-Saiz	*Business context-based quality measures for data exchange standards usage specification* E. Jelisic, N. Ivezic, B. Kulvatunyou, S. Nieman, Z. Marjanovic *New ways of using standards for semantic interoperability towards integration of data and models in industry* Y. Keraron, J.-C. Leclerc, C. Fauconnet, N. Chauvat, M. Zelm *Enterprise E-Profiles for Construction of A Collaborative Network in Cyberspace* M. Matsuda, T. Nishi *Combining a domain ontology and MDD technologies to create and validate business process models* N. Silega, M. Noguera, Y. Rogozov, V.S. Lapshin, A.A. Dyadin *A new polyglot ArchiMate Hypermodel extended to graph related technologies* N. Figay, D. Tchoffa, P. Ghodous, A. El Mhamedi, K.S. Apedome
13:00	14:00	**Lunch**			

		WS: Industrial Data Services for Quality Control in Smart Manufacturing Room: Aula 2.12	WS: Artificial Intelligence beyond Efficiency Room: Aula 2.8	WS: The D-BEST model supporting SMEs digitisation in different technological domains Room: Aula 2.7	WS: Interoperability challenges and solutions within industrial networks Room: Aula 2.11
14:00	16:30	*Manufacturing Line Qualification and Reconfiguration* E. Nieto, A.M. Nowak-Meitinger, J. Mayer, M.A. Mateo Casali, A. Gomez, M. Ntemi, R. Trevino, G. Apostolou, I. Gialampoukidis, S. Vrochidis *Manufacturing Data Security, Trustiness and Traceability* J. Pérez-Soler, P. Garrigues, I. Fuidio, S. Wellsandt, G. Laventman, M.A. Khodamoradi, S. Gálvez-Settier, J.C. Perez-Cortes *A Reference Architecture for Data Quality in Smart Manufacturing* F. Fraile, A. Garcia, C. Rubattino, S. Verardi, M.G. Pistone *Toolkit conceptualization for the manufacturing process reconfiguration of a machining components enterprise* D. Cubero, B. Andres, F. Alarcón, M.A. Mateo Casali, F. Fraile	*Introducing Building Blocks for Industry 4.0, an analytics application for the federated EFPF platform* J.M. Gonzalez Castro, R.S. Prat, F. Bonada, F. Gigante Valencia *AI Ethics for Industry 5.0 – from principles to practice* A.C. Ciobanu, G. Meșniță *A practical experience of AI Solution used to improve varnishing process efficiency in furniture manufacturing* J. Del Agua Navarro, G. Modia Pozuelo *Industry 5.0 and Sociotechnical Theory: theoretical underpinnings* N. Fair *Relevance of Visualization and Interaction technologies for Industry 5.0* A. Garcia, M. Quartulli, I. Garcia Olaizola, I. Barandiaran *Teaming.AI: Enabling Human-AI Teaming Intelligence in Manufacturing* T. Hoch, B. Heinzl, G. Czech, M. Khan, P. Waibel, S. Bachhofner, E. Kiesling, B. Moser	*Digital Innovation Hubs proposing digital platforms to lead the SMEs digital transition* C. Sassanelli, S. Razzetti, W. Quadrini, S. Gusmeroli, S. Terzi *METHOdology for DIH: adding the Remote macro-class to the D-BEST reference model* S. Razzetti, S. Gusmeroli, S. Terzi, C. Sassanelli *L-BEST: adding Legal and Ethical services to manage Digital Innovation Hubs portfolios in the artificial intelligence domain* S. Razzetti, S. Gusmeroli, S. Terzi, C. Sassanelli *Using the D-BEST reference model to compare Italian and Polish Digital Innovation Hubs* W. Quadrini, S. Terzi, C. Sassanelli, B. Gladysz *The D-BEST based service portfolio configuration for incubator ecosystems* C. Costa, C. Sassanelli	*A Simulation Based Approach to Digital Twin's Interoperability Verification & Validation* M. Kaba Traoré, S. Gorecki, Y. Ducq *Model based configuration of platforms for managing cross-organisational (business) processes* T. Knothe, P. Gering, I. Glodde, U. Ahle, J. Böttger, N. Döberitz *Advancing Data Exchange Standards for Interoperable Enterprise Networks* N. Ivezic, E. Jelisic, M. Jankovic, D. Kehagias, B. Kulvatunyou *Challenges and opportunities of enterprises network design and services* F.-W. Jäkel
16:30	17:00	**Coffee Break**			
17:00	19:00	*Industrial Data Services for Quality Control in Industry 4.0* G. Apostolou, A.M. Nowak-Meitinger, J. Mayer, B. Andres, R. Trevino, D. Kozhuharova, I. Gialampoukidis, S. Vrochidis, Y. Kompatsiaris *Manufacturing Data Analytics for Manufacturing Quality Assurance* L. Lourenço, P. Figueiras, R. Costa, M. Ntemi, B. Mandler, A. Tsanousa, I. Gialampoukidis, A. Gomez, L. Urko, S. Vrochidis, S. Gálvez-Settier *Collaboration in the framework of the HUB4.0 MANUVAL DIH for innovation in embedded OPC-UA IoT systems* A. Delgado, F. Blanes, J. Simó	*On Exploring the Possibilities and the Limits of AI for an Interoperable and Empowering Industry 4.0* F. Lelli *Artificial Intelligence from Industry 5.0 perspective. Is the technology ready to meet the challenge?* I. García Olaizola, M. Quartulli, A. García, I. Barandiaran *Towards Zero-Defect Manufacturing: Machine Selection through Unsupervised Learning in the Printing Industry* S.T. Spantideas, A.E. Giannopoulos, N.C. Kapsalis, A. Angelopoulos, S. Voliotis, P. Trakadas *Towards Industry 5.0 – A Trustworthy AI Framework for Digital Manufacturing with Humans in Control* U. Wajid, A. Nizamis, V. Anaya *On Developing Human Centric Digital Tweens*		

			A.A. Enughwure, F. Lelli		
19:00	20:30	*SPARE TIME*			
20:30	23:00	**GALA DINER**			

Friday 25 March 2022

9:30	10:30	**Keynote speaker 3: Dr. Javier Orozco** **"Local Digital-Twins in the Digital Europe Programme"** **Room: Salon de Actos**
10:30	11:00	**Coffee Break**
11:00	13:00	*INDUSTRY SESSION* ***Room: Salón de Actos***
13:00	13:30	**CLOSING CEREMONY** **Room: Salon de Actos**
13:30	14:30	**Lunch**