



# IS20

18th International Scientific  
Conference on Industrial Systems  
**Industrial Innovation in Digital Age**

**CONFERENCE  
PROGRAM**

Novi Sad  
October 7-9, 2020

Wednesday

09:00 – 10:00

Opening ceremony,  
Welcome Address

I-16 (First floor)  
(University Rectorate)

**Bojan Lalić**  
*General Chair*

Tribute lecture to founder of School for Industrial Engineering and Management and founder of the conference "Industrial Systems" - Academician Dragutin Zelenović

**Iztok Palčič**  
*Keynote Speaker*

Industry 4.0 Readiness Index

Wednesday

10:15 – 11:45

**Production Systems I**

Session chair: Aleksandar Rikalović

I-16 (First floor)  
(University Rectorate)

**Lozica Ivanović**, Blaža Stojanović, Milan Rackov, Marko Penčić, Maja Čavić, Slavica Miladinović

Design and Development of Medical Devices

**Bojana Bajić**, Nikola Suzić, Nenad Simeunović, Slobodan Morača, Aleksandar Rikalović

Towards Real-time Data Analytics Application for Industry 4.0

**Đerđ Horvat**, Uglješa Marjanović, Marko Pavlović, Slavko Rakić

The Path towards Industry 4.0: Methodology for Serbian Manufacturing Industry

Darko Čapko, Slavica Medić, **Nedeljko Stojaković**, Tatjana Grbić

Optimization of the number of active servers and break schedule: A case study

**Tanja Todorović**, Nenad Medić, Zoran Anišić, Nemanja Tasić, Danijela Čirić, Bojan Lalić

Industry 4.0 enablers: Implementation of organisational concepts as a support for technological improvements of manufacturing companies

Wednesday

10:15 – 11:45

**Engineering Management I**

Session chair: Jelena Spajić

I-16 (First floor)  
(University Rectorate)

**Bojana Sokolović**, Ivana Katić, Andrea Ivanišević, Alpar Lošonc

Creating organizational sustainability – oriented innovative capabilities

Alpar Lošonc, **Andrea Ivanišević**, Mladen Radišić, Ivana Katić

Collective aspects of capability-based innovating firm

**Bojan Jovanovski**, Radmil Polenakovikj, Ivana Stankovska, Trajče Velkovski, Bojan Jovanoski

Innovativeness of micro and small enterprises – Are their innovation drivers different?

**Jelena Raut**, Slavica Mitrović Veljković, Boban Melović, Eda Ribarić Čučković, Đorđe Čelić

Analysis of the influential elements of the entrepreneurial ecosystem

**Petar Vrgović**, Branislav Stevanov, Predrag Vidicki

Responsible research and innovation in Industrial systems – an overview and implications for companies who strive to work for and with society

# Wednesday, October 7, 2020

Wednesday

12:00 – 13:30

## Information Management and Communication Systems I

Session chair: Sonja Ristić

I-16 (First floor)  
(University Rectorate)

**Rogério Dionísio**, Teodora Lolić, Pedro Torres

**Radio Interference Analysis of Industrial Wireless Networks: from Legacy Systems to New Standards**

**Danilo Nikolić**, Dušanka Dakić, Aleksandra Kolak,  
Dajana Narandžić, Anja Janković

**Integration of game-based software tools into higher education**

Darko Stefanovic, **Sara Havzi**, Ivana Spasojevic,  
Teodora Lolić, Sonja Ristic

**Software Tools to Support Visualising Systematic Literature Review**

**Julija Švonja**, Sara Havzi, Ivana Spasojević

**E-learning Platforms in Higher Education – An Overview of Leading Software and Evidence from University of Novi Sad**

**Teodora Lolić**, Rogerio Dionisio, Darko Stefanović,  
Dušanka Dakić, Sara Havzi

**Learning Environment Digital Transformation: Systematic Literature Review**

**Miroslav Stefanović**, Đorđe Pržulj, Sonja Ristić

**Overview of Application of Blockchain Technology in e-Government**

Robert Ramač, **Nebojša Taušan**, Sávio Freire,  
Nicolli Rios, Manoel Mendonça,  
Rodrigo Spinola, Vladimir Mandić

**Technical Debt Payment Practices and Rationales Behind Payment Avoidance in the Serbian IT Industry**

Wednesday

12:00 – 13:30

## Engineering Management II

Session chair: Nenad Simeunović

I-16 (First floor)  
(University Rectorate)

Benjamin Dorn, **Julian Germani**, Michael Geywitz,  
Manuel Remlinger, Felix Schuessler, Juergen Seitz

**Analysis of the Prediction Quality of Technology Developments based on Gartner Hype Cycles for Emerging Technologies**

**Boris Agarski**, Đorđe Vukelić, Milana Ilić Mićunović,  
Igor Budak

**Evaluation of Impacts on Worker from Fixture Production with Life Cycle Assessment**

Francesco Facchini, Salvatore Digiesi, **Andrea Lucchese**,  
Giovanni Mummolo

**A Model for the evaluation of the information processing rate of smart operators**

**Christoph Szedlak**, Holger Reinemann, Bert Leyendecker

**Deduction of Digital Transformation Strategies from Maturity Models**

**Milena Rajić**, Rado Maksimović, Peđa Milosavljević,  
Dragan Pavlović

**Energy Flow Model in Industrial Environment**

**Gorana Milinčić Stančić**, Đorđe Ćosić,  
Ljiljana Popović, Tanja Novaković

**The influence of COVID 19 pandemic on cogeneration biogas plant operation - Business impact analysis**

Wednesday

14:30 – 16:00

## Mechatronics, Robotics and Automation

Session chair: Slobodan Dudić

I-16 (First floor)  
(University Rectorate)

Vule Reljić, Želimir Trišić,  
Dragan Šešlija, **Ivana Milenković**

**Improving the Reliability of Pneumatic Control Systems by Using Remotely-controlled One-Way Flow Control Valve**

Vule Reljić, **Petar Knežević**,  
Dragan Šešlija, Slobodan Dudić

**Improving the Energy Efficiency of Pneumatic Control Systems by Using Remotely-controlled Pressure Regulator**

Srđan Tegeltija, Gordana Ostojić, **Ivana Šenk**,  
Laslo Tarjan, Stevan Stankovski

**IoT-based delivery system in state of emergency**

**Nataša Radaković**, Ivana Šenk

**Deep Autoencoder Based Leakage Detection in Water Distribution SCADA Systems**

Dimitar Chakarov, Ivanka Veneva,  
Pavel Venev, Georgi Katsarov, **Mihail Tsveov**

**A pneumatically driven exoskeleton for upper limb rehabilitation: design and experiments**

Marko Penčić, **Maja Čavić**, Dijana Čavić, Milan Rackov,  
Zhenli Lu, Marko Orošnjak, Velibor Karanović

**A Novel 2 DOFs Eyebrows Mechanism for Expressing Non-verbal Robot Communication**

Wednesday

14:30 – 16:00

## Engineering Management III

Session chair: Mladen Radišić

I-16 (First floor)  
(University Rectorate)

**Miroslav Ferenčak**, Dušan Dobromirov, Mladen Radišić

**Illiquid markets during the COVID – 19: Blessing or a Curse?**

**Marko Vuković**, Đorđe Ćosić

**Impact of coronavirus COVID-19 crisis on insurance industry of Serbia**

**Srđan Janković**

**Bank controlling in Montenegro: effects of the pandemic crisis on the Montenegrin economy, banking sector and the profitability of banks**

**Veselin Perović**, Bogdan Kuzmanović, Ranko Bojanić,  
Ivana Popović, Dalibor Jeličić

**The role of controlling in risk reduction in integrated reporting**

Jelena Demko-Rihter, Jelena Tadić, **Denis Kušter**

**Analysis of Critical Profitability Factors of Serbian Information and Communication Sector**

Ranko Bojanić, **Dalibor Jeličić**, Veselin Perović,  
Branislav Nerandžić

**The role of logistic controlling in process performance measurement in industrial systems**

# Wednesday, October 7, 2020

Wednesday

16:15 – 17:45

## Quality, Effectiveness and Logistics

Session chair: Nebojša Brkljač

I-16 (First floor)  
(University Rectorate)

**Stana Vasić**, Marina Žižakov, Milan Delić,  
Dusko Čučković, Ilija Čosić

Nebojša Brkljač, Dragoljub Šević, Stevan Milisavljević,  
Marina Žižakov, **Stana Vasić**

**Christoph Szedlak**, Marcus Branke, Jane Worlitz,  
Bert Leyendecker, Ralf Woll

**Marko Pavlović**, Nenad Medić,  
Jelena Čulibrk, Bojan Lalić

Oliver Schmiedbauer, Hans Thomas Maier, **Florian Kaiser**,  
Hubert Biedermann

**Trajče Velkovski**, Jasmina Chaloska, Vladimir Mučenski,  
Bojan Jovanoski, Bojan Jovanovski

Vijoleta Vrhovac, **Goran Vujasinović**, Stevan Milisavljević,  
Nebojša Brkljač, Slavica Mitrović

**Quality management and innovation performance:  
A short literature review**

**Applying the Concepts of Circular Economy and Sustainable Supply  
Chains within the Industry 4.0 - Literature Review**

**The Impact of Digitalization on Quality Management in Health  
Systems: New Challenges and Opportunities**

**Effect of ISO 14001 on adoption of green technologies in emerging  
economies**

**Maintenance- and Strategic Physical Asset Management:  
Morphologies of two Connate Concepts**

**Identification of safety indicators in the manufacturing industry in  
Republic of North Macedonia**

**Challenges in the functioning of supply chains in the context of the  
epidemic caused by Covid 19 virus**

Wednesday

16:15 – 17:45

## Engineering Management IV

Session chair: Jelena Demko Rihter

I-16 (First floor)  
(University Rectorate)

Aleksandar Vekić, Jelena Borocki,  
Kristina Đorđić, **Olivera Cikota**

**Aleksandar Vekić**, Jelena Femić,  
Milica Tišma, Marko Vrška

**Vladimir Đaković**, Mirjana Sujić Stamenić, Nebojša Ralević,  
Slobodan Radišić, Jozef Kabok

Aleksandra Pavlović, **Milica Njegovan**, Andrea Ivanišević,  
Mladen Radišić, Alpar Lošonc

**Zhigang Zhang, Yang Xu**

**Đurađ Grubišić**

**Ana Nešić**, Ivana Katić

**European Startup Ecosystem as a Star of Economic Development**

**Startup opportunities in south-east Europe region**

**Foreign Direct Investment and Investment Environment:  
A Systematic Approach**

**Foreign Direct Investments in Serbian power sector: A discussion on  
investments and impact on economic growth**

**Evolution of a complex system and construction of International  
Ecosystem for Innovation and Entrepreneurship under the  
background of BRI**

**The Role of Chinese Investments in Central and Eastern Europe  
within BRI**

**Trust in the modern organization: Success factor in open innovation**



Thursday

09:00 – 10:30

## Production Systems II

Session chair: Milovan Lazarević

I-16 (First floor)

(University Rectorate)

**Bojan Jovanoski**, Robert Minovski, Marjan Todorov,  
Trajče Velkovski, Bojan Jovanovski

**Integration of value stream mapping & discrete event simulation:  
A case study from Lean**

**Ivona Jovanović**, Ivan Tomašević,  
Dragana Stojanović, Barbara Simeunović,  
Dragoslav Slović

**Lean approach to lead time reduction in MTO manufacturing:  
A case study**

**Ivan Tomašević**, Dragana Stojanović,  
Barbara Simeunović, Ivona Jovanović,  
Dragoslav Slović

**The Outcomes of Lean Implementation in High-Mix/Low-Volume  
industry – Literature Review**

**Andrea Lucchese**, Antonella Marino,  
Giorgio Mossa, Giovanni Mummolo

**Evaluation of the complexity of cognitive-oriented tasks in planned  
maintenance procedures**

Milenko Sekulić, Vlastimir Pejić, Marin Gostimirović,  
**Dragan Rodić**, Anđelko Aleksić

**Optimization of cutting parameters for surface roughness in the ball-  
end milling process using genetic algorithm**

Vidosav Majstorović, **Dragan Đuričin**,  
Radivoje Mitrović

**Shaping the Future of Serbia's Economy and Manufacturing: Industry  
4.0 and Related Issues**

Thursday

09:00 – 10:30

## Engineering Management V

Session chair: Andrea Ivanišević

I-16 (First floor)

(University Rectorate)

**Jelena Milićević**, Nemanja Sremčev, Ilija Ćosić,  
Milovan Lazarević, Jovan Mandić

**Online university education and technologies in support  
of traditional education**

**Jelena Ćurčić**, Anja Jakšić,  
Ksenija Mitrović, Jelena Spajić,  
Branislav Bogojević

**Distance learning in higher education during the COVID-19 pandemic**

**Julija Švonja**

**The validity of adopting the Knowledge Management Strategy as a  
development policy of the University of Novi Sad**

Ljubica Duđak, Leposava Grubić Nešić,  
**Bojana Jokanović**

**Individual and organizational knowledge as the main levers of busi-  
ness in the knowledge economy**

Tatjana Savić-Šikoparija, Ljubica Duđak,  
**Tamara Bojanić**

**The impact of the type of education on attitudes regards corporate  
responsibility towards employees**

# Thursday, October 8, 2020

Thursday

10:45 – 12:15

## Engineering Management VI

Session chair: Danijela Gračanin

I-16 (First floor)

(University Rectorate)

**Bojana Milić**, Jelena Spajić,  
Dunja Bošković, Danijela Lalić

Iva Šidanin, **Milica Njegovan**

Biljana Ratković Njegovan, **Sonja Bunčić**, Iva Šidanin

Ljubica Duđak, **Marija Pantelić**, Tatjana Savić-Šikoparija

**Nikola Zivlak**, Shiyuan Zhang, Yueqi Shi

**Martin Riester**, Fazel Ansari,  
Michael Foerster, Kurt Matyas

**Aljoša Aleksić**, Milan Delić,  
Nemanja Tasić, Bojan Lalić

**Social Media Advertising During the Pandemic: Online Retailers in Serbia**

**The power of media message in advertising of medical preparations**

**Media and sport: mutual benefit**

**Characteristics of organizational culture that supports CSR**

**Digital Marketing in China - Weibo and Fan Economy**

**A Procedural Model for Utilizing Case-Based Reasoning in After-Sales Management**

**Predicting customer changes in mass customised construction industry**

Thursday

10:45 – 12:15

## Information Management and Communication Systems II

Session chair: Milan Mirković

I-16 (First floor)

(University Rectorate)

Marko Arsenović, Srđan Sladojević, **Katarina Gavrilov**,  
Andraš Anderla, Miroslava Sladojević

Marko Arsenović, Srđan Sladojević, **Stefan Orčić**,  
Andraš Anderla, Miroslava Sladojević

**Andrea Gutai**, Dunja Sekulić, Ivana Spasojević

**Nikola Luburić**, Goran Sladić,  
Milan Stojkov, Nikola Dalčeković

**Uglješa Marjanović**, Davide Taibi, Pedro Cabral,  
Laimute Urbisene, Agim Kasaj, Susana Marques

Manuel Leon-Urrutia, Davide Taibi, Vera Pospelova,  
Sergio Splendore, Laimute Urbisene, **Uglješa Marjanović**

**Nikola Dalčeković**, Goran Sladić,  
Nikola Luburić, Milan Stojkov

**Application of deep learning for automated arrhythmia detection using ECG signals**

**Detection of COVID-19 cases by utilizing deep learning algorithms on CT images**

**Metal Artefact Reduction from CT images using Matlab**

**Scaling the Security Development Lifecycle: From Startup IoT to Smart City Solutions**

**Digital transformation missing ingredients: Data Literacy**

**Data Literacy: An essential skill for the industry**

**Automating multidimensional security compliance for cloud-based industry 4.0**

Thursday

12:15 – 12:45

## Keynote Lecture

**Prof. Dr. Feng Gengzhong**  
Dean of the School of Management  
Xi'an Jiaotong University  
*Keynote Speaker*

**Future of management science and industrial engineering**

Thursday

13:30 – 15:00

## Engineering Management VII

Session chair: Branislav Stevanov

I-16 (First floor)

(University Rectorate)

Danijela Ćirić, **Marijana Topo**, Danijela Gračanin,  
Angela Fajsi, Miroslav Vujičić

**Angela Fajsi**, Slobodan Morača,  
Marko Milosavljević

**Mirjana Jakanović**, Obrad Spaić,  
Aleksandra Koprivica

**Danijela Ćirić**, Milan Delić, Nenad Medić,  
Tanja Todorović, Jelena Ćurčić

**Tamara Bojanić**, Branislav Nerandžić,  
Branislav Stevanov, Danijela Gračanin

Marko Gudelj, Sanja Cvijanović, **Marina Žižakov**,  
Zdravko Tešić, Bogdan Kuzmanović

Anja Janković, **Federico Adrodegari**,  
Nicola Saccani, Nenad Simeunović

**Project Management skill set challenges in Industry 4.0**

**Project management challenges in implementing agile methods in manufacturing SMEs**

**The influence of the project mature organization factors on the agile transformation**

**Exploring the relationship between project management risks and market conditions**

**Fundamentals of the Integrated Business Risk Management Model in Business Processes**

**Business process management improvement and a new model for performance management**

**Reshaping big data management for servitization: a new framework for industrial companies**

Thursday

13:30 – 15:00

## Information Management and Communication Systems III

Session chair: Andraš Anderla

I-16 (First floor)

(University Rectorate)

**Miroslav Zarić**, Željko Vuković,  
Darko Jocić, Teodora Mitrović

**Kornelije Rabuzin**, Nikola Modrušan,  
Snježana Križanić, Robert Kelemen

**Marko Bojkić**, Đorđe Pržulj, Miroslav Stefanović

**Igor Kalin**, Milan Mirković, Aleksandra Kolak

**Aleksandra Kolak**, Milan Mirković,  
Danilo Nikolić, Igor Kalin

Darko Stefanović, **Dušanka Dakić**, Aleksandar Ivić

**Andrej Katin**, Valentina Lenarduzzi,  
Davide Taibi, Vladimir Mandić

**Process Driven Information System and Smart City Technologies Opportunities for Computer Aided Dispatch for Fire Service**

**Process Mining in Public Procurement in Croatia**

**Possible application of service-oriented architecture in domain of land administration system**

**Fake news detection on social networks – a brief overview of methods and approaches**

**Multimodal techniques and methods in affective computing – a brief overview**

**Business Process Management and E-government Systems**

**On the Technical Debt Prioritization and Cost Estimation with SonarQube tool**



# Thursday, October 8, 2020

Thursday

15:00 – 15:30

Closing ceremony

I-16 (First floor)  
(University Rectorate)

**Bojan Lalić**  
*General Chair*

Closing Remarks