# EIT Manufacturing Innovation Meetup – Maintenance 4.0

Tuesday, 1st of June 2021, 10.00 – 12.00 h ~ Online event

The Centre for Research, Development and Technology Transfer, University of Zagreb, together with the Faculty of Mechanical Engineering and Naval Architecture, is organizing the second event this year on the topic of innovation in the manufacturing industry. This year, the EIT Manufacturing HUB continues to operate in Croatia, planning several useful activities for Croatian manufacturing companies and innovation community. This event will present the opportunities for Croatian companies offered through EIT Manufacturing, both locally and at the EU level. Also, through presentations by experts from academia and industry, participants will have the opportunity to learn about the concepts of Industry 4.0 and examples of applied artificial intelligence in maintenance.

This event is part of the EIT Manufacturing Innovation Meetup series.

The event will be held online via the Zoom platform.

Registration link: http://bit.ly/eitmmeetup02

**Agenda**

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| 10.00 – 10.20 | Registration, opening and networking | This event will start with the networking activity – an opportunity to meet other participants in 1:1 meetings |
| 10.20 – 10.30 | Presentation of EIT Manufacturing and EIT Manufacturing HUB Croatia | **Francesca Girardi**, RIS Operations Manager, EIT Manufacturing |
| 10.30 – 10.40 | EIT Manufacturing Innovation Challenge | **Assist. Prof. Miro Hegedić, PhD**, Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb |
| 10.40 – 11.00 | Knowledge-Based Maintenance | **Priv.-Doz. Dr.-Ing. Fazel Ansari,** TU Wien |
| 11.00 – 11.15 | Predictive Maintenance using Deep Learning | **Davor Kolar, PhD,** Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb |
| 11.15 – 11.30 | Maintenance 4.0 in Industry Application | **Tomislav Turk**, Maintenance Manager, Belupo d.o.o. & “Prediktta” consultancy owner |
| 11.30 – 11.55 | Panel discussion with speakers and opportunity for questions | |
| 11.55 – 12.00 | Event closing | |

**Francesca Girardi** *RIS Operations Manager at EIT Manufacturing*

EIT Manufacturing is a knowledge and innovation community (KIC) of the European Institute of Innovation and Technology (EIT). EIT Manufacturing's mission is to bring European manufacturing actors together in innovation ecosystems that add unique value to European products, processes and services and inspire the creation of globally competitive and sustainable manufacturing. EIT Manufacturing brings together more than 60 European leading partners from business, education and research. The diverse and multidisciplinary nature of the partnership provides the excellence and complementarity required to successfully address the current and emerging challenges of European manufacturing. The Regional Innovation Scheme (RIS) is the EIT Community's outreach scheme. This scheme enables the transfer of good practices and know-how from the EIT's unique approach to boosting innovation and to widen participation in activities across Europe. The objective of the EIT RIS is to contribute to boosting the ability to innovate of countries and regions in Europe that belong to the groups of so-called 'modest and moderate' innovators. Francesca Girardi will present activities and opportunities implemented and offered by the EIT Manufacturing community concerning education, innovation and business creation.

**Assist. prof. Miro Hegedić, PhD** *Head of the postgraduate studies in Industrial engineering and management at the Faculty of Mechanical Engineering and Naval Architecture*

As of this year, the Faculty of Mechanical Engineering and Naval Architecture is a partner in EIT Manufacturing HUB Croatia. Assistant Professor Hegedić will present the EIT Manufacturing Innovation Challenge, a project that aims to encourage open innovation in the manufacturing industry.

**Priv.-Doz. Dr.-Ing. Fazel Ansari** *Head of TU Wien's Research Group "Smart and Knowledge-Based Maintenance"*

Maintenance is an integral part of manufacturing enterprise, which contributes to increasing productivity, reducing product lifecycle costs and maximizing the customer satisfaction. For several decades, however, the well-founded industrial maintenance and reliability management strategies confront persistent dilemmas in strategic, tactical and operational levels such as decreased ability to react, increasing maintenance costs, reduced availability of facilities, low to middle level staff qualification and lack of insight into the impact of maintenance on profitability. In the era of Industry 4.0, AI-driven and

computational technologies, in particular predictive strategies, models and solutions aim to digitalize and intelligent maintenance processes and systems. This goal is partially achieved e.g. by means of intelligent condition monitoring and anomaly detection. Nevertheless, knowledge-based maintenance (KBM) in the context of Industry 4.0 requires both technological/data-driven and human-centric perspectives. This presentation provides more insights about KBM supported by evidences from research and industrial projects.

**Davor Kolar, PhD** *Head of Laboratory for Maintenance at Faculty of Mechanical Engineering and Naval Architecture.*

Davor Kolar is postdoctoral researcher that currently holds position of head of Laboratory for Maintenance at Faculty of Mechanical Engineering and Naval Architecture.
His research is related to the use of machine learning and artificial intelligence on industrial data and can be applied in the field of digitization and automation of maintenance processes. In his talk he will cover topics related to predictive maintenance and usage of deep learning in the maintenance.

**Tomislav Turk, dipl.ing., univ. spec. mech.** Maintenance manager Belupo d.d. and "Prediktta" consultancy owner

According to EN 13306 maintenance is a combination of all technical, administrative and managerial actions during the life cycle of an item intended to retain it in, or restore it to, a state in which it can perform the required function. Maintenance evaluates from corrective (reactive) maintenance through preventive, predictive, proactive to the self-maintenance and presently popularised Maintenance 4.0.
As it was described by the www.reliabilityweb.com: "Maintenance 4.0 is a machine-assisted digital version of all the things we have being doing for the past forty years as humans to ensure our assets deliver value for our organization. Maintenance 4.0 includes a holistic view of sources of data, ways to connect, ways to collect, ways to analyse and recommend actions to take to ensure asset function (reliability) and value (asset management) are digitally assisted." This presentation is about new trends in Maintenance within or related to Industry 4.0 - robots, tablets, online data collecting, augmentative maintenance etc.