

List of initial supporters to the adhesion process to EU-MATHS-IN and their background in Industrial Mathematics:

1. University of Ljubljana, Faculty of Mechanical Engineering, represented by dean Prof. Mitjan Kalin

- **Background in Industrial Mathematics:**

The group of mathematicians at UL FME consists of 7 mathematicians with PhD and one PhD candidate. All are involved in research activities in applied mathematics related to mechanical engineering, data science, logistics, mathematical optimization etc.

- **Success Stories in Industrial Mathematics:**

- High performance solver for binary quadratic problems, Austrian-Slovenian research project, 2017-2019
- Extension of first and second order algorithms for selected classes of optimization problems in order to solve computationally complex industrial problems, Hungarian-Slovenian research project, 2018-2020
- Biomedical data fusion with non-negative matrix tri-factorization. Slovenian research project, 2018-2020
- AI4Energy – industrial project for one Slovenian SME, 2019-2021
- H2020: EUROfusion-ITER-Phys-WP Code Development Project (2014-2018)

2. University of Ljubljana, Faculty of Electrical Engineering, represented by dean Prof. Gregor Dolinar

- **Background in Industrial Mathematics:**

The group of mathematicians at UL FEE consists of 7 mathematicians with PhD and one PhD candidate. All are involved in research activities in applied mathematics related to mechanical engineering, data science, logistics, mathematical optimization etc.

- **Success Stories in Industrial Mathematics:**

- 3rD-LIFE (FP7): 3D Virtual Environment for Social Interaction of Elderly People (2011-2012, AAL): The general objective of the project is to improve the quality of life of ageing people, providing them with a virtual tool for interacting with other users and taking part in virtual activities.
- Future Internet Social and Technological Alignment Research: IoT and sensor application for Diabetes patients EC (FI-PPP Grant nr. 604691).
- Telemedicine solution with optimal user experience for elderly people, funded by the Telekom Slovenia and the Ministry of Education, Science and Sport.
- P2-0246 (C): Algorithms and optimization methods in telecommunications, funded by Slovenian Research Agency.

3. University of Ljubljana, Faculty of Mathematics and Physics, represented by dean Prof. Anton Ramšak

- **Background in Industrial Mathematics:**

The faculty is divided into the Department of Physics and the Department of Mathematics. While the research groups from the Department of Physics have good expertise in using HPC and maintain four clusters with several hundred cores purchased from research project funds, this part is not so strong at the Department of Mathematics. The Department of Mathematics recognised the need to introduce industrial mathematics to research and teaching activities, especially to students and academic staff related to study programs applied mathematics and financial mathematics.

- **Success Stories in Industrial Mathematics:**

4. **University of Ljubljana, Faculty of Maritime Studies and Transport**, represented by dean Assoc. Prof. Peter Vidmar

- **Background in Industrial Mathematics:**

The group of applied mathematics at UL FPP consists of 1 mathematician with PhD. Our main R&D is in the area of fluid mechanics and fluid structure interaction related to the marine problems (analysis of forces on vessels, port infrastructure, wave energy converters and wind offshore turbines).

- **Success Stories in Industrial Mathematics:**

5. **University of Maribor, Faculty of Natural sciences and Mathematics**, represented by dean Assoc. Prof. Mitja Slavinec

- **Background in Industrial Mathematics:**

The faculty has a Department of Mathematics and Computer Science with 26 members. Several have experience in collaboration with insurances and banks. The department has collaborated in several projects with local power grid and smart home industry. Many have experience in data sciences, (warehouse) logistics, frequency assignment etc.

- **Success Stories in Industrial Mathematics:**

- Risk assesment and monitoring with implementing a strategy of digital transformation, a project for Slovenian Railways, 2015-2018
- Forecasting of solar power production, a project for a SME, 2017-2018
- Process evaluation and efficiency-absed client modelling, a project for a SME, 2016-2017
- Graph models and algorithms applied to parameterizing base stations of fourth generation, 2013-2016
- Collaboration with Centre of excellency on Biosensors, Instrumentation and Process Control on robust optimization for proton beam cancer treatment, 2010-2013

6. **University of Primorska, Faculty of Mathematics, natural Sciences and Information Technologies**, represented by dean Assoc. Prof. Ademir Hujdurović

- **Background in Industrial Mathematics:**

The group of mathematicians at UP FAMNIT involved in research activities in applied mathematics consists of 8 mathematicians with PhD and two PhD candidates. All are involved in research activities in applied mathematics related to cryptography, data science, logistics, optimization etc.

- **Success Stories in Industrial Mathematics:**

- Mathematical modelling and encryption: from theoretical concepts to real-life applications, (ARRS programme) 2019-
- Computer Tools Development for Binding Site Prediction in Pharmaceutical Discovery, 2017-

7. University of Primorska, Andrej Marušič Institute, represented by dean Assoc. Prof. Vito Vitrih

- **Background in Industrial Mathematics:**

The group of mathematicians at UP IAM involved in research activities in applied mathematics consist of 9 mathematicians with PhD and two PhD candidates. All are involved in research activities related to cryptography, data science, logistics, optimization etc.

- **Success Stories in Industrial Mathematics:**

- Air quality monitoring in the area of the Port of Koper, 2008 -
- SUPAIR - Study of existing sea currents in the port of Koper and the Bay of Koper, 2019
- SUMOFIN - Monitoring the effectiveness of health service funding model (ARRS), 2010-2012
- LIDAR - Processing of large amounts of geometric LIDAR data (ARRS), 2010-2013
- SAFEPORT - Management of industrial and environmental risks in the port (INTERREG (Cross-border Cooperation Slovenia – Italy), 2011-2013
- CAREWOOD- Cascade Recovered Wood (EU FP7, ERA-NET plus), 2014-2017

8. DATABITLAB, Data Analytics and Bussiness Counsulting Laboratory, represented by CEO Anja Goričan

- **Background in Industrial Mathematics:**

The startup company with a team of three mathematicians – data scientists has found its early projects in analytics for the power grid industry.

- **Success Stories in Industrial Mathematics:**

- Data analysis methodology for diagnostics and analytics centre of a transmission operator, 2019-2020
- Forecasting daily electrical power consumption, a project for electricity reatiler, 2019
- Forecasting of distributed renewable power production, a subcontracting project 2018-2019