

# **Division For Manufacturing System Design**

Faculty of Mechanical Engineering (FME) Cracow University of Technology (www.pk.edu.pl) is one of seven faculties of CUT. Its activities are mainly focused on research and technology development in the field of applied mechanics, material engineering, machine design, thermal and process engineering, production engineering, computing sciences, power engineering and computer sciences. FME employs about 250 research and teaching staff. It offers the following fields of studies: power engineering, machine design and operation, automatics and robotics, management and production engineering, computer sciences, biomedical engineering and industrial design. Currently there is more than 4000 of students at FME and 250 teaching staff.

Division For Manufacturing System Design is one of ten organization units of FME. The research works focuses on:

 computer integrated design of products, manufacturing processes and systems including the optimisation of machining and assembly systems using different criteria, as for example the energy costs in the concurrent engineering (CE) environment, the product development strategies, product development modelling, and PLM applications,

- Computer Aided Process Planning (CAPP), Computer Aided Assembly Process Planning (CAAPP) and CNC machine tool programming including the use of artificial application (AI) technologies like expert systems and neural networks, manufacturing knowledge modelling and storage, and manufacturing feature recognition
- Lean Manufacturing approaches to production organization including analysis of nowadays states and calculations of Lean Manufacturing indices.

IPE makes expertises for many companies in Poland, including Grupa Kęty S.A., Essel Propack Polska Sp. z o.o., AluTeam Polska Sp. z o.o., Schneider Polska Technika Samochodowa i Kontenerowa Sp. z o.o. and others.

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# We look for:

## FoF 02-2016:

Machinery and robot systems in dynamic shop floor environments using novel embedded cognitive functions. We offer expertise on the development of tools for the automatic generation of new process plans taking into the account the conditions of manufacturing systems and product manufacturing feature recognition based on commercial CAD models for the automation of design and manufacturing tasks.

### FoF 10-2017:

New technologies and life cycle management for reconfigurable and reusable customised products. We offer the expertise in life cycle management for reconfigurable and reusable customised products, automation of machining and assembly process planning using Artificial Intelligence (AI); the use of digital techniques for the modelling and subsequent simulation of manufacturing processes and systems.





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