European Research Partner Profile

Dr. Obrad Aničić

Professor of Applied Studies | Researcher in Artificial Intelligence for Manufacturing

Serbia

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1. Research Profile

Dr. Obrad Aničić is a Professor of Applied Studies and researcher in Manufacturing Engineering at the Academy of Applied Technical Studies Belgrade – Polytechnic Department, Serbia.

His research activities focus on the application of Artificial Intelligence in manufacturing, intelligent production systems, CNC machining optimisation, predictive modelling, and advanced manufacturing technologies.

His expertise combines academic research with industrial applications through the development of AI-based solutions for process optimisation, intelligent decision-making, adaptive control, and autonomous manufacturing systems.

His research interests are strongly aligned with Industry 4.0 and Industry 5.0 concepts, focusing on the digital transformation of production processes and the development of intelligent, adaptive, and sustainable manufacturing systems.

2. Core Research Expertise

Artificial Intelligence for Manufacturing

Expertise in:

- Artificial Neural Networks
- Machine Learning methods
- Predictive modelling
- Computational intelligence
- Intelligent decision-support systems
- Data-driven optimisation of manufacturing processes

Advanced Manufacturing and CNC Technologies

Research experience in:

- CNC machining processes
- Machining parameter optimisation
- Cutting process modelling
- Process monitoring
- Quality improvement
- Adaptive optimisation of manufacturing operations

Intelligent and Autonomous Production Systems

Research activities include:

- AI-based process control
- Sensor-based monitoring systems
- Adaptive manufacturing systems
- Autonomous decision-making approaches
- Integration of digital technologies into production environments

3. Current Innovation Concept

Neuro-Adaptive System for Autonomous Control and Optimisation of CNC Machining Processes

The developed concept represents an intelligent manufacturing solution integrating:

- Multi-sensor process monitoring
- Artificial Intelligence models
- Neural network-based prediction
- Process data analysis
- Adaptive optimisation of machining parameters
- Intelligent decision-making
- Closed-loop CNC process control

The objective is the development of autonomous CNC machining systems capable of monitoring process conditions, predicting behaviour, and adapting machining parameters in real time.

4. Potential Contribution to European Projects

Dr. Aničić is interested in participation in European research projects related to:

- Artificial Intelligence in Manufacturing
- Advanced Manufacturing Technologies
- Smart Manufacturing
- Industry 4.0 / Industry 5.0
- Robotics and Autonomous Systems
- Digital Twin technologies
- Industrial Data Analytics
- Sustainable Manufacturing

Potential roles:

- Research partner
- Technology development partner
- AI and manufacturing expert
- Experimental validation partner
- Industrial application contributor

5. Institutional Background

Academy of Applied Technical Studies Belgrade – Polytechnic Department, Serbia

Potential contribution:

- CNC machining expertise
- Manufacturing technologies
- Experimental research
- AI-based optimisation of production processes
- Validation of intelligent manufacturing solutions

Institute Mihajlo Pupin, Belgrade, Serbia

Potential complementary expertise:

- Robotics
- Automation systems
- Intelligent control
- Industrial digitalisation
- Industry 5.0 technologies

6. Research Achievements

Scientific indicators:

- Scientific publications: 59
- International journal publications: 17
- Scopus indexed publications: 19
- Scopus citations: 257
- Scopus h-index: 9
- Google Scholar citations: 355
- Google Scholar h-index: 10

Additional achievements:

- Development of technical solutions
- Patent development activities
- Scientific publications and international conferences
- Cooperation between academia and industry

7. Collaboration Interests

Dr. Aničić is interested in cooperation within:

- Horizon Europe
- Eureka / Eurostars
- COST Actions
- Marie Skłodowska-Curie Actions
- International research and innovation projects

Areas of cooperation:

- AI-based manufacturing solutions
- Intelligent production systems
- CNC process optimisation
- Robotics and automation
- Autonomous manufacturing
- Digital transformation of industry

8. International Cooperation Objectives

Seeking cooperation with:

- European research institutes
- Universities
- Technology centres
- Industrial SMEs
- Manufacturing companies

Possible joint activities:

- Horizon Europe consortium participation
- Research and innovation projects
- Pilot demonstrations
- Experimental validation
- Technology transfer
- Joint scientific publications