
Building blocks, tools and systems for the FoF

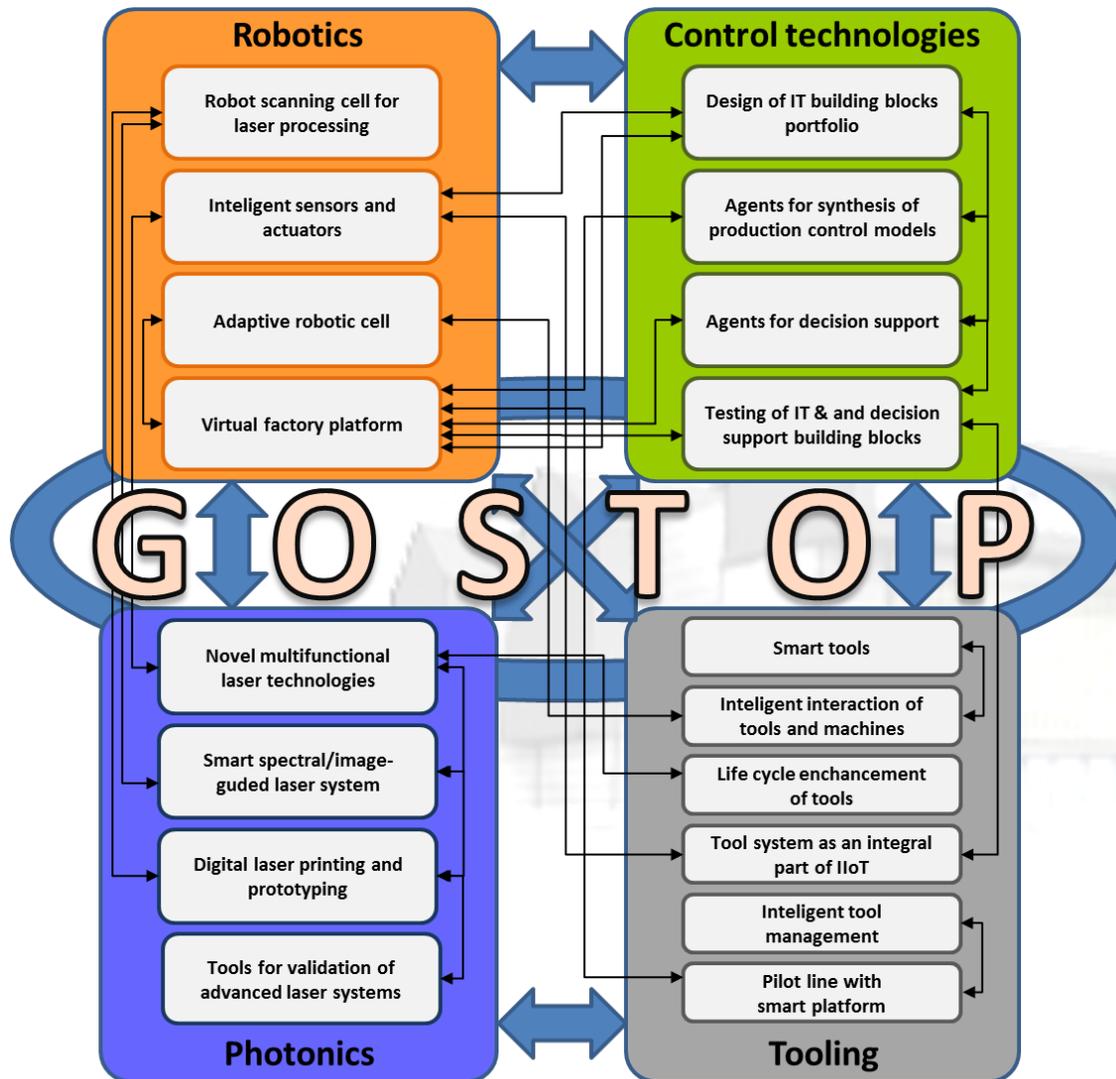
GOSTOP

Igor Kovač



The investment is co-financed by the European Union from the European Regional Development Fund and the Republic of Slovenia.

FoF Program: GOSTOP



List of partners

Partner No. ¹	Name of the partner organization	Short name of the partner organization (code) ²
1. (coordinator)	Institute "Jožef Stefan"	IJS
2.	University of Ljubljana, Faculty of Electrical Engineering	FE
3.	University of Ljubljana, Faculty of Mechanical Engineering	FS
4.	University of Ljubljana, Faculty of Computer and Information Science	FRI
5.	University of Maribor, Faculty of Electrical Engineering and Computer Science	FERI
6.	Slovenian Tool and Die Development Centre	TECOS
7.	Kolektor Group d.o.o.	KOLEKTOR
8.	INEA d.o.o.	INEA
9.	METRONIK d.o.o.	METRONIK
10.	HIDRIA ROTOMATIKA d.o.o.	HIDRIA
11.	YASKAWA Slovenija d.o.o.	YASKAWA
12.	PODKRIŽNIK d.o.o.	PODKRIZNIK
13.	NELA, research centre d.o.o.	NELA
14.	COSYLAB d.d.	COSYLAB
15.	L-TEK d.o.o.	L-TEK
16.	ŠPICA INTERNATIONAL d.o.o.	SPICA
17.	OPTOTEK d.o.o.	OPTOTEK
18.	LPKF d.o.o.	LPKF
19.	FOTONA d.o.o.	FOTONA

Value of the Program: app. 9,4 Mio EUR

Co-financing: app. 5,95 Mio EUR

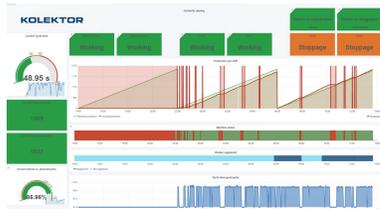
Duration: 1.11.2016 – 30.06.2020

Highlights – Control Technologies

MES Plugin for
Analyse and
Optimization of
Production



Sinapro.IIoT



KOLEKTOR

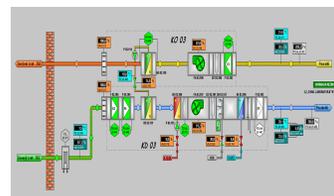
Marko.mandelj@kolektor.com

Data Gateway
between
Remote
Device and
Control
Centre



Igor.steiner@inea.si

Smart Sensor
Design
Plattform



METRONIK

Aljaz.stare@metronik.si

IoT Sensors
Based on
Visual-voice
Technology



SPICA

Ales.habic@spica.com

A Tool for
Analysing the
Effects on the
Final Quality
of Products



 Institut
"Jožef Stefan"
Ljubljana, Slovenija

Miha.glavan@ijs.si

Multi - Agent
System for
Controlling an
Industrial
Compressed
Air System



Univerza v Ljubljani
Fakulteta za strojništvo



Rok.vrabcic@fs.uni-lj.si

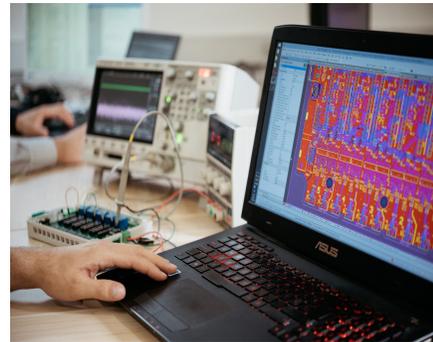
Highlights – Tooling

Smart Tools for Pressure Die Casting and Plastic Injection Moulding



Dragan.kusic@tecos.si

Integrated Interface for Acoustic Control of Injection Moulding and Die Casting Processes



Dragan.kusic@tecos.si

Advanced hard coatings

Without coating



TiAlN/TiN



AlCrN



Pins after production (similar number of manufactured pieces)



Miha.cekada@ijs.si

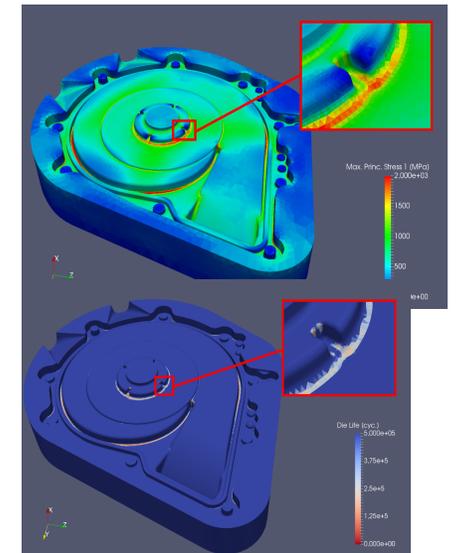
IIoT Smart MES – Tool Management



KOLEKTOR

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Software for Predicting the Lifetime of the Die Casting Tools

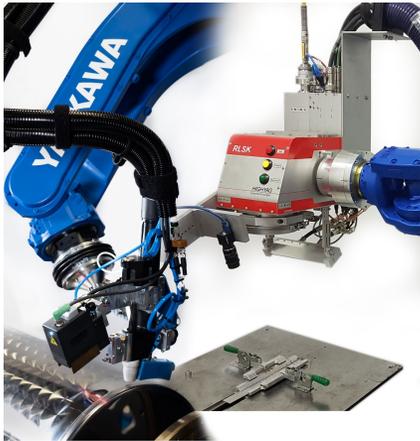


Hidria

Tadej.hohnjec@hidria.com

Highlights – Robotics

MOTOSense
Platform for
**Adaptive Control of
Robotic Machining**
using Laser
Triangulation



YASKAWA

Erih.arko@yaskawa.eu.com

**Intelligent
Integrated Drive
System**



Moment sensing and
predictable maintenance
included.



Simon.kulovec@podkrižnik.si

Adaptive Robotic Cell



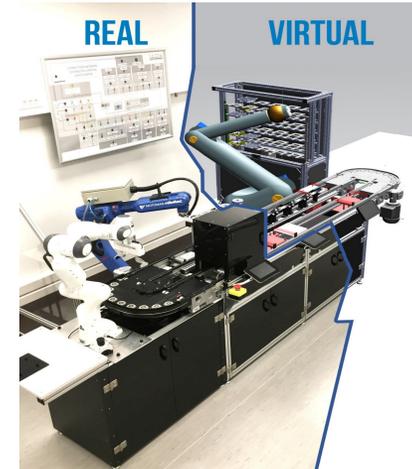
Automation of existing
measurements, ensuring adequate
product quality, optimality of the
manufacturing process.

Univerza v Ljubljani
Fakulteta *za elektrotehniko*



Marko.munih@fe.uni-lj.si

Demonstration of
the **Digital Agents**
for Automatic
**Optimization of the
Production Process**



Univerza v Ljubljani
Fakulteta *za strojništvo*



Hugo.zupan@fs.uni-lj.si

Modular
Software
Platform for
**Optical
Inspection of
Products**



KOLEKTOR

Jure.skvarc@kolektor.com

Highlights – Photonics

Alexandrite Laser with ILOOP Scanning System



Accurate and Effective
Medical Dermatological
Procedures.

Fotona
choose perfection

Nejc.lukac@fotona.com

Sub Nanosecond MOPA Laser System

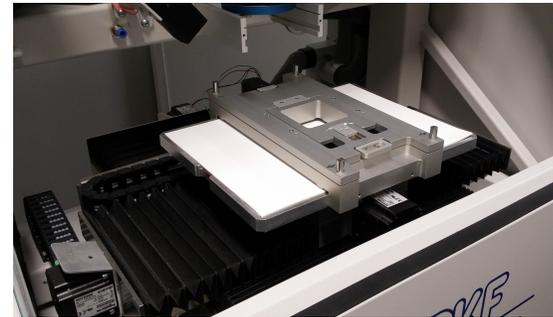


Removal of Pigment
Lesions and Skin
Rejuvenation.

Fotona
choose perfection

Dejan.skrabelj@fotona.com

Laser Transfer Printing Prototype



Printing Process of
Different High Viscose
Donor Pastes and Inks.

LPKF
Laser & Electronics

Bostjan.podobnik@lpkf.com

Smart YAG System



Upgrade in
Ophthalmologic Systems
for YAG Capsulotomy.

OPTOTEK
medical

**Institut
"Jožef Stefan"**
Ljubljana, Slovenija

Janez.strancar@ijs.si

Program GOSTOP: Exposed results

- The interconnection of key enabling technologies, recognized in Slovenia as breakthroughs (S4).
- Effective link between research institutions and industry in Slovenia.
- Establishing new partnerships in the form of research and commercial links.
- Synergy of excellent research competences, capacities and investments by the state (TRL 3-6).
- Expected continuity is needed but missed.

Program GOSTOP: Experiences

- **Benefits of large programs (TRL 3-6):**
 - interlinking of key enabling technologies in cooperation with **research institutions** and **industry** by “**push-pull**” system, with strong state participation.
- **Achieving promising results:**
 - involvement of the **whole chain from basic research** through development and experiments **to a product, service or technology**,
 - excellent **knowledge**, involvement of **talents**, experienced **staff** and updated **research equipment**.
- **Positive response from Slovenian industry to research work and their networking with research institutions.**

Thank You for your attention!

Ass. Prof. Dr. Igor Kovač