



SRIP Factories of the Future

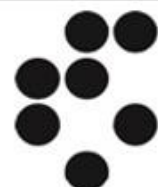
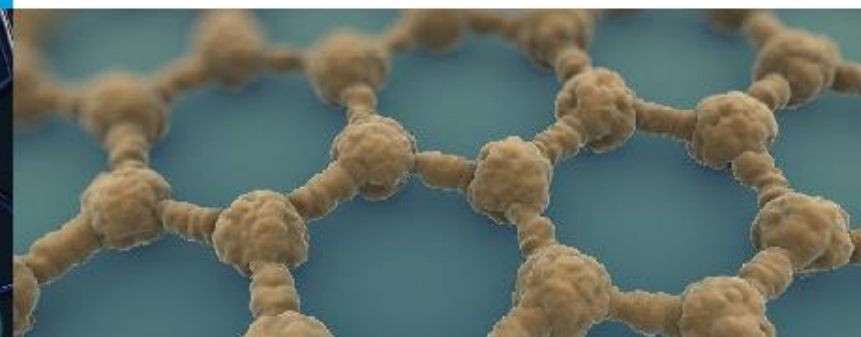
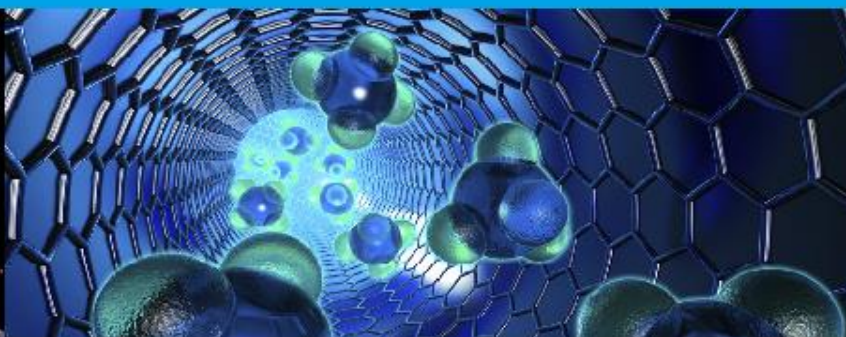
Smart Mechatronic Tools value chain

Alen Draganović | TECOS | 21 September 2026



SRIP

Strategic Research Innovation Partnership
FACTORIES OF THE FUTURE



Institut
"Jožef Stefan"
Ljubljana, Slovenija

Gospodarska
zbornica
Slovenije



kcstv
kompetenčni center za
sodobno tehnologijo vodstva

TECOS

Smart Mechatronic Tools: profile and member value

Led by TECOS, the Slovenian Tool and Die Development Centre

VISION AND OBJECTIVES

A bottom-up initiative developed under TECOS since 1994

Increase cooperation among Slovenian toolmakers and prepare the sector for the challenges of Industry 4.0.

Advanced industrial tools are becoming complex mechatronic systems that monitor process parameters, regulate operation and communicate with machines and external devices. A smart machine cannot reach its full potential without a smart tool.

CHALLENGES

- Cost competition and limits for very large tools
- Uneven adoption of digitalisation and automation
- Fragmented cooperation and individual approaches
- Investment constraints and delivery pressure

STRENGTHS

- Technical expertise, quality and a long tradition
- Flexible response and high-precision machining
- Specialist technologies and global OEM recognition
- Potential to diversify into new products and markets

MEMBERSHIP VALUE

Services

Training and access to prototyping environments

Networks

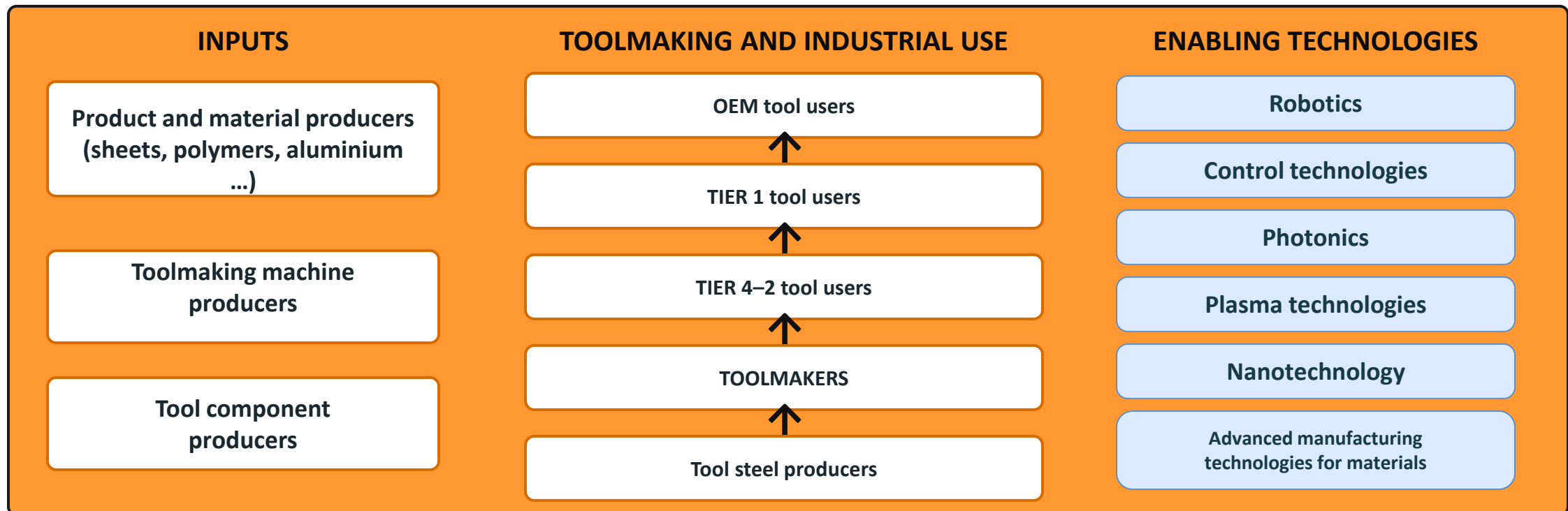
S3, Vanguard and more than 200 international partners

Projects

Information on calls and funding, consortium building, project management and proposal preparation

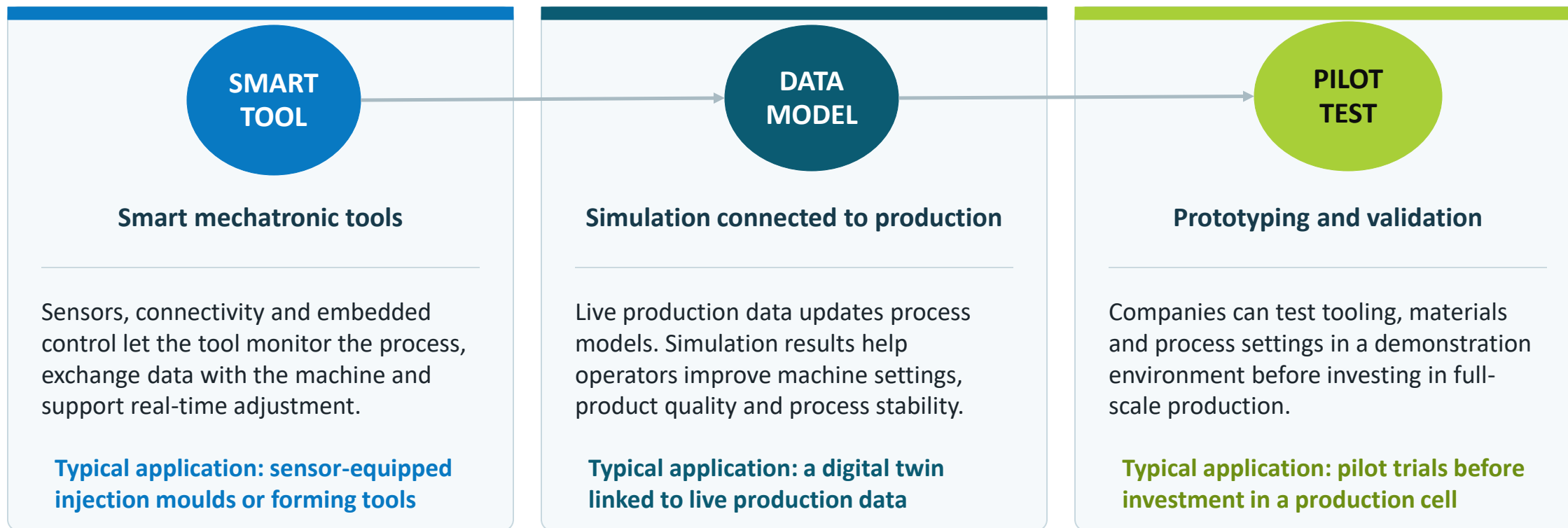
Tooling vertical value chain

- Our value chain covers the complete tooling ecosystem. It starts with tool steels, materials, tool components and toolmaking
- Toolmakers integrate these inputs, and the tools then move through Tier suppliers to OEM users.
- Across the chain we connect expertise in robotics, control technologies, photonics, plasma technologies, nanotechnology and advanced manufacturing.



This matters because a smart tool requires mechanical, digital and materials knowledge at the same time. No single company can provide all of it alone.

Three connected areas link smart tools, production data and industrial validation.



Industrial value: fewer costly production trials and a safer route to full-scale implementation

Joint activities and internationalisation

- | | | |
|---|----------------------------------|--|
| 1 | Vanguard Initiative | Leadership of the 3D Printing and Maintenance pilot group |
| 2 | S3 initiative | Leadership of the SME Integration into Industry 4.0 initiative |
| 3 | ISTMA | Slovenia's representative in the global tooling organisation |
| 4 | High Impact Action | Leadership of the HIA project and five SME voucher pilots |
| 5 | International cooperation | Consortium building and international project partnerships |



Shared priorities become European partnerships, pilots and funded projects.

Concrete achievements: intelligent tools and Industry 4.0

INTELLIGENT TOOL CONTROL

Joint development of a system for intelligent tool control



Embedded sensors provide process data. Connectivity and control logic allow the tool to exchange data with production equipment.

INDUSTRIAL MODERNISATION

LEVEL-UP

Digital monitoring, retrofit and repair extend the useful life of large industrial equipment.



ISOKON: Older extrusion line upgraded with sensors, connectivity and modern control

BETTER FACTORY

Manufacturing SMEs worked with technology and creative partners to develop customised products and digital production solutions.

€200,000 available to selected multidisciplinary partnerships

HIGH IMPACT ACTION (HIA)

SME pilots introduced efficient, reconfigurable, connected and modular production cells.

5 vouchers, €250,000 total

Direct support for practical Industry 4.0 implementation.

SMARTY

Prepared SMEs and regional support systems for Industry 4.0 adoption.

CIRCI

Matched industrial side streams so one company's waste can become another company's input.

CoSiMa

Linked simulation, mould sensors and machines for real-time polymer-process optimisation.

Community building and outreach



Strategic Research Innovation Partnership
Factories of the Future

Toolmaking Day

Knowledge exchange and networking for toolmakers and industrial partners

Industry 4.0 and Robotics Month at BTC

Public demonstrations, expert talks and B2B meetings

100+

Events, Meetings, B2B
Conferences, Round tables,
Seminars, Delegation visits and
Joint trade-fair appearances



TECOS - Slovenian Tool and Die Development Centre

TECOS today operates on three dimensional assets:

1. R&D, 2. International Business Cluster and 3. VET Institution for injection moulder professional qualification.

TECOS

Injection Moulding



Extrusion Compounding



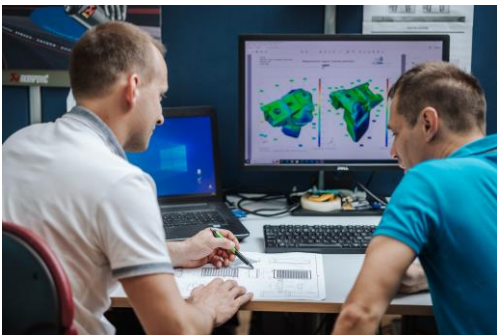
Pre-industrial validation



Machining & sensorics



3D scanning, reverse engineering & GD&T



Additive Manufacturing



Material characterization



R&D Portfolio

CIRCULAR ECONOMY & PROCESSING INNOVATIONS

TECOS



<https://rise-project.eu/>



<https://tecoss.si/en/portfolio/3dop/>



INCIRCULAR

<https://tecoss.si/en/portfolio/incircular/>

INDUSTRY 4.0



EVROPSKA UNIJA
PRISPEVA K VARNOSTI IN
VARNOSTI VARNOSTI

EUROPEAN
DEFENCE
FUND



Horizon 2020
Programme

Erasmus+

NEUMANN

Novel Energy and propulsion systems for Air dominance

www.defence-industry-space.ec.europa.eu



ADVANCED MANUFACTURING
TECHNIQUES TO YET
THE CASE OF
PLASTICS SECTOR



Co-funded by
the European Union

SMART CIRCUIT

<https://www.interreg-central.eu/projects/smart-circuit/>



Level-Up

www.levelup-project.eu



CoSiMa

www.eu-skladi.si



www.betterfactory.eu



Successful I3 participation

3DoP
INCIRCULAR
RISE I3
SICAPERMA

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Thank you for your attention!