



EUROPEAN TOOLING PLATFORM

TOOLING Main Challenges

2014-2020

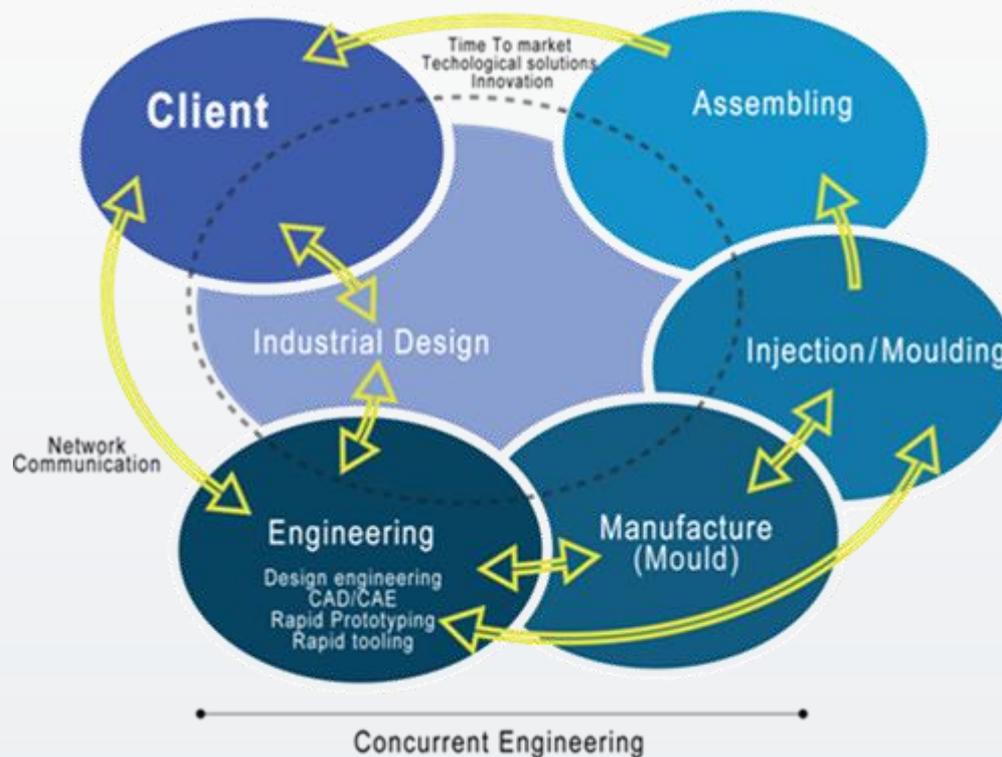
(Horizon 2020)

JOAQUIM MENEZES

06th May 2014 - PORTO

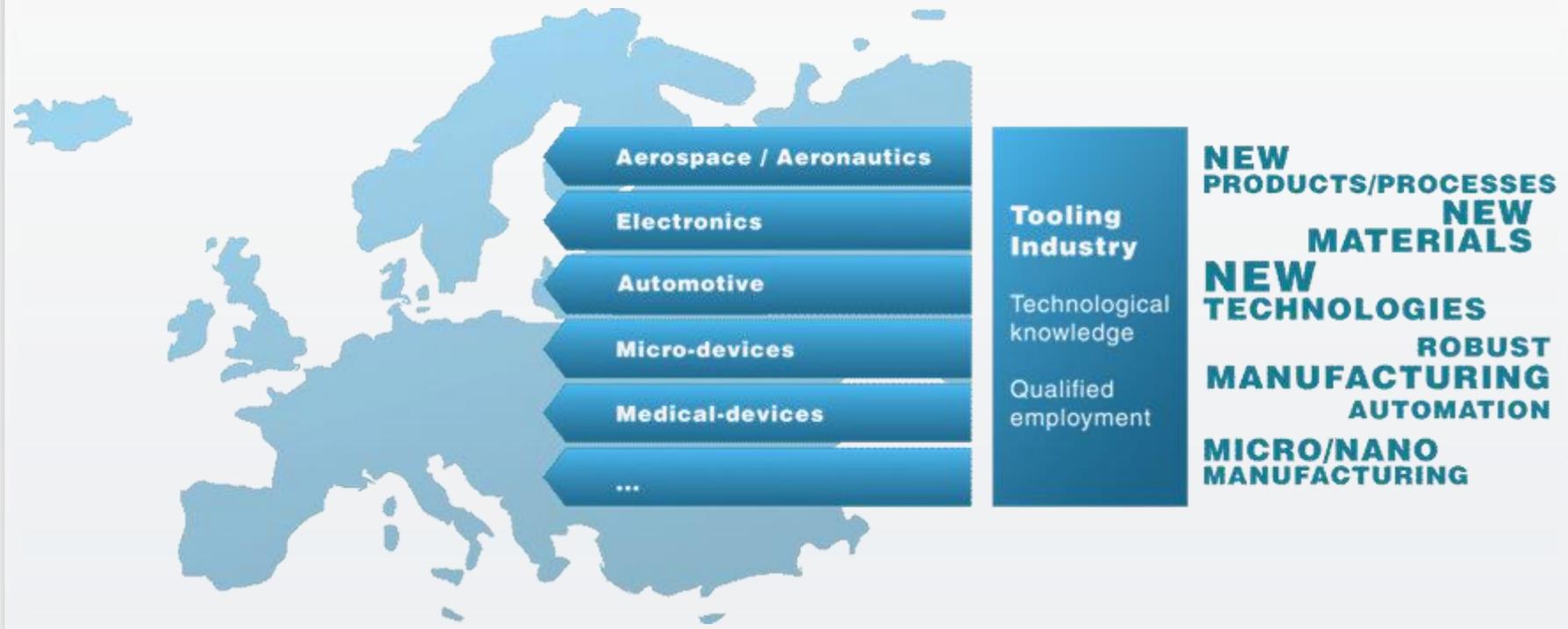
Tooling: INFRASTRUCTURAL INDUSTRY

A cross-sectoral industry embedding key knowledge, linking product development to production and innovation to industrialization and competitiveness



Tooling: MULTISECTORAL IMPACT

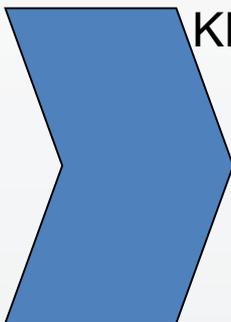
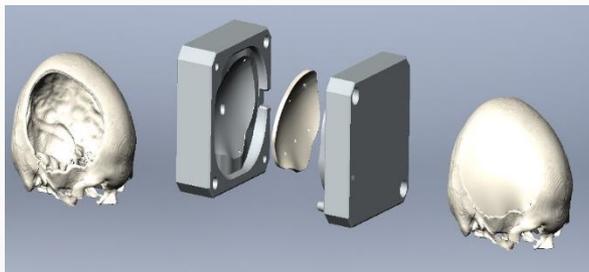
A multi-disciplinary industry assuming a key position in global value systems, instrumental to the deployment of product-service systems, providing “infrastructural” support to economy.



Tooling Industry is in the critical path of product development!

Tooling: MULTIDISCIPLINARITY

- * Product Development & Engineering
- * CAD/CAM/CAE
- * Rapid Manufacturing (PR/RT)
- * Communication
- * IT Security
- * Knowledge Management
- * Processes Reengineering
- * High Speed Milling
- * Micro-Manufacturing
- * Management & Planning
- * Quality, Environment, Health & Safety Work
- * Metrology
- * Jigs & Measurement Systems
- * Reverse Engineering
- * Plastics Injection
- * Die Casting Tools
- * PIM – Powder Injection Moulding
- * Bi-Injection
- * RIM-Reactive Injection Moulding
- * In-Mould Assembling
- * Gas injection;

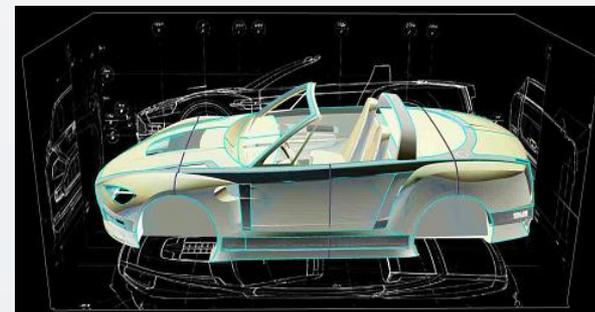


KNOW-HOW & CONTINUOUS TRAINING

TECHNOLOGY & INNOVATION

NETWORKING

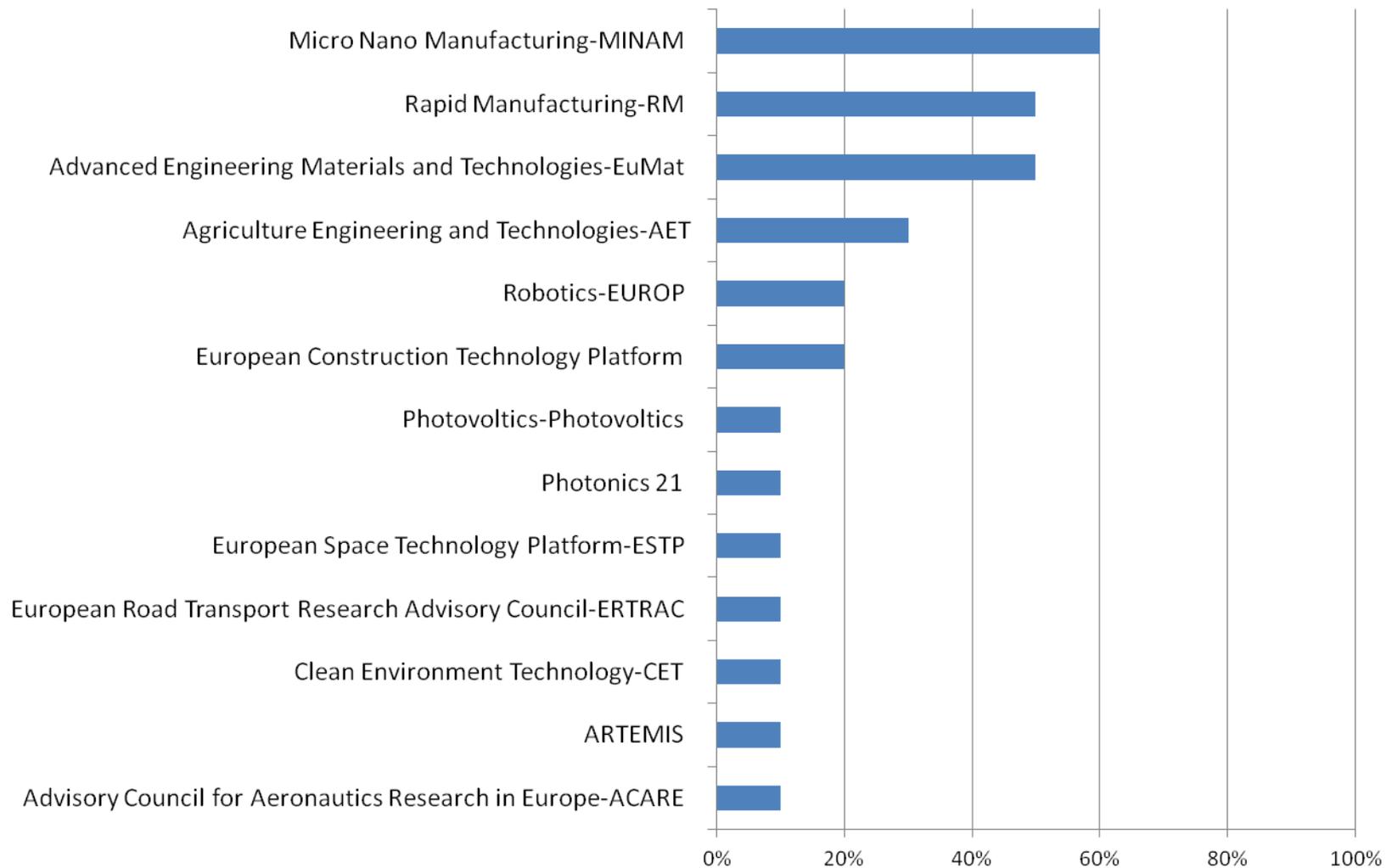
COMPETITIVENESS



Tooling: European Roadmap (2014-2020)

	Short Term	Medium Term	Long Term
Micro Manufacturing	20%	70%	10%
Micro Moulding	10%	80%	10%
Micro Assembling	10%	50%	40%
Micro Forming	20%	60%	20%
Distributed / Integrative Engineering	40%	40%	20%
In-Mould Technology	20%	70%	10%
Coatings and Surface Technologies	70%	20%	10%
Rapid Manufacturing and Prototyping	60%	20%	20%
Small Batches Production	60%	30%	10%
New Design and Engineering Techniques (Eco-Design)	40%	60%	0%
Advanced Automation, Remote Control and Production Cells	40%	50%	10%
Advanced Technologies for Micro Tools	30%	60%	10%
New Functional Materials	20%	70%	10%
Innovative Materials (Bio-Materials, Eco-Materials)	30%	30%	40%
Nano Technologies	0%	60%	40%
Production of structural composites parts	40%	40%	20%
Simulation Methods and Tools for Knowledge Services	60%	40%	0%
Environmental Friendly Fabrication Processes	56%	33%	11%

Tooling: Multi-Platforms Interaction

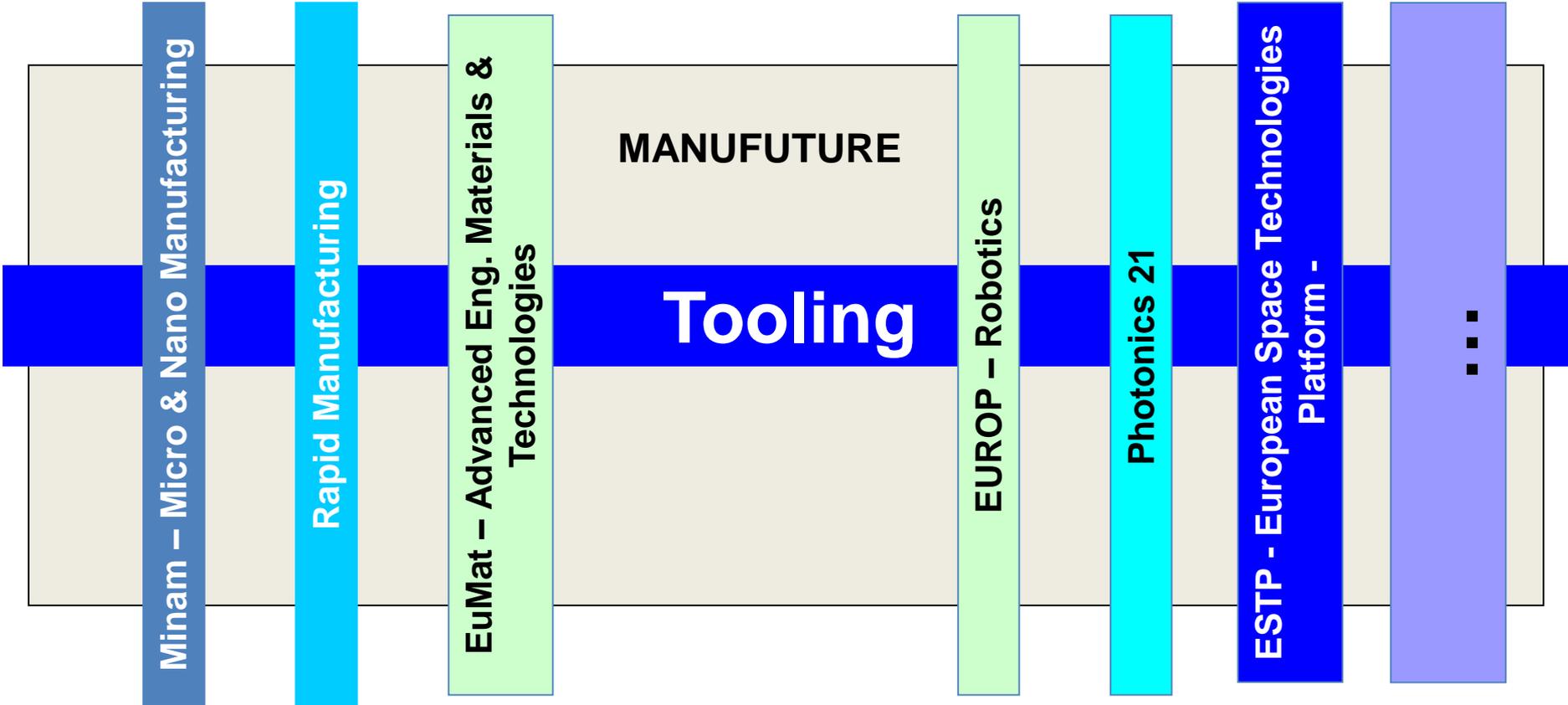


Tooling: Multi-Platforms Interaction (Cooperation Areas)

European Platforms	Areas of Articulation
Advanced Engineering Materials and Technologies-EuMat	Bio polymers For innovative materials and joint work with non plastic experts (hybrid materials)
Advisory Council for Aeronautics Research in Europe-ACARE	Functional materials Efficient production for Small Series New materials for Aeronautics
European Road Transport Research Advisory Council-ERTRAC	For the development of light cars and the necessary tools that have to be jointly developed
Micro Nano Manufacturing-MINAM	Design for micro production For the development of spart plastic products Micro assembling Micro forming Micro handling Micro injection moulding Micro manufacturing Production of micro Tools
Rapid Manufacturing-RM	Better surface finish Materials for RM New materials for RM Prototypes on the micro scale Small series
Robotics-EUROP	Helping operators in the moulding industry doing physically hard manual work by collaborative robots (cobots).

Tooling: EUROPEAN GOALS

PRODUCTS | EMPLOYMENT | INNOVATION | COMPETITIVENESS



Tooling: Main Challenges

- ❑ **Tooling Industry is an European Infra-structure** supporting Product Development;
- ❑ **INNOVATION** is the key point on TOOLING to support Global Markets / Clients;
- ❑ **Continuous TRAINING** is a must to maintain the leverage of knowledge within the most advanced fields (on materials and technologies applications);
- ❑ **QUALIFIED JOBS** are promoted continuously in the Tooling companies;
- ❑ **New ENTREPRENEURSHIPS** are rising from Tooling Front Edge main areas (*Micromanufacturing, Robotics, Handling, Virtual Design, Clean Tech, etc*);
- ❑ **TOOLING is a NETWORK INDUSTRY** (involving Industry & Academia)
- ❑ **RESEARCH / DEVELOPMENT / PILOT LINES**, are fundamental to reinforce the *European Tooling Competitiveness*;

Tooling: The Next European Event



23 through 27 June 2014
www.mouldsevent.com





Thank you!