European Joining Platform

to Manufuture

Joining Sub-Platform Strategic Research Agenda (SRA) – results of the Industrial Survey and the new SRA 2018-2020

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Joining Research Agenda 2020



- Member Survey Introduced
- Timeline of Priorities Developed
- TRL Identified
- Research Priorities Identified

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Progress – Research Priorities

Member survey:

- Aim: Rank research topics by priority & understand the TRL of each
- **244** responses obtained
- Need to keep up to date and maintain!
- As a results SRA updated
- Results presented at EFFRA and to the EC

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Where the Joining Sub-Platform fits within the components of the European agendas

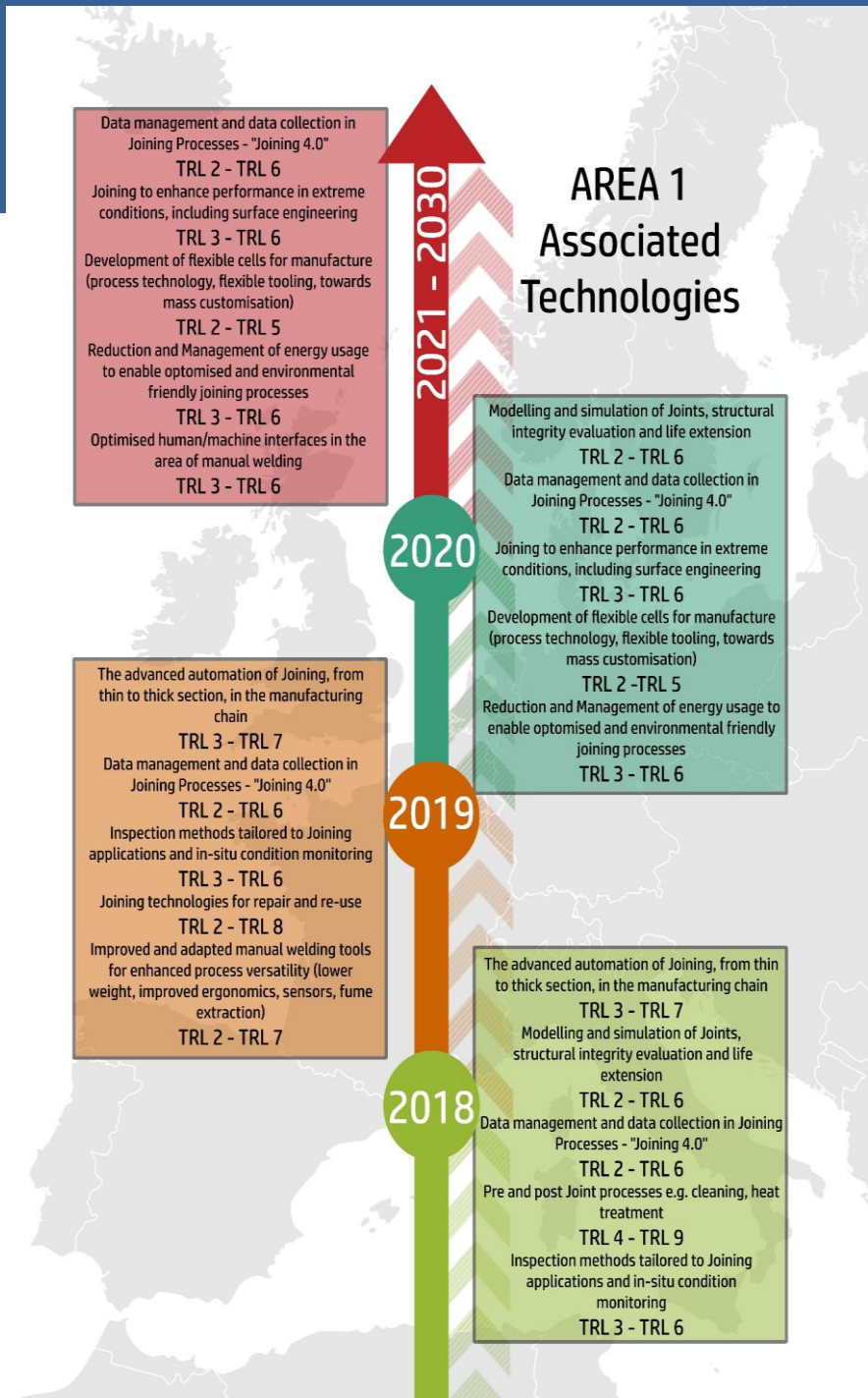


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TRL's for Area 1 – Associated Technologies

Associated Technologies

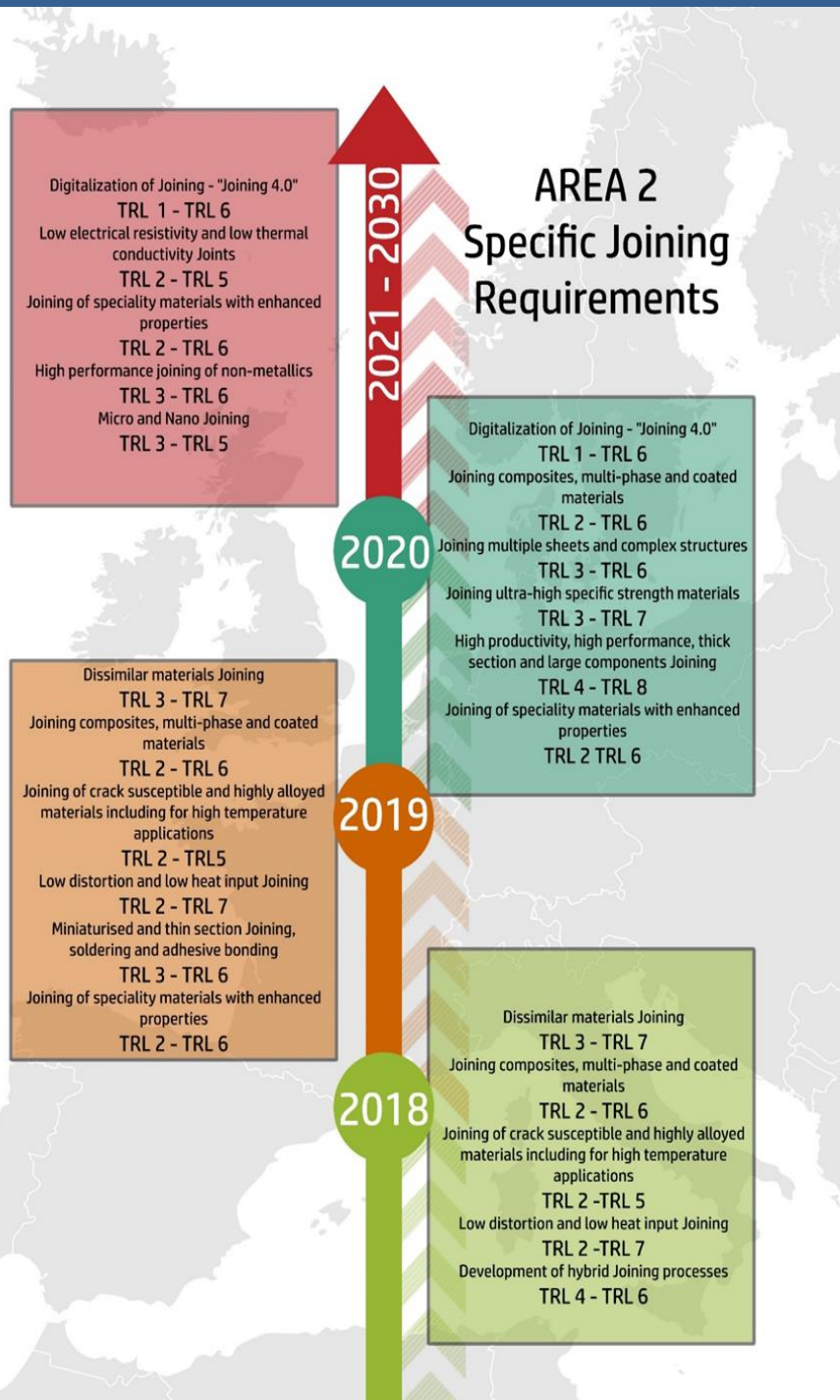
AREA 1	2018	2019	2020	2021-2030
Data management and data collection in Joining Processes - "Joining 4.0" TRL 2 - TRL 6				
Joining to enhance performance in extreme conditions, including surface engineering TRL 3 - TRL 6				
Development of flexible cells for manufacture (process technology, flexible tooling, towards mass customisation) TRL 2 - TRL 5				
Reduction and Management of energy usage to enable optomised and environmental friendly joining processes TRL 3 - TRL 6				
The advanced automation of Joining, from thin to thick section, in the manufacturing chain TRL 3 - TRL 7				



Area 2 – Specific Joining Requirements

Specific Joining Requirements

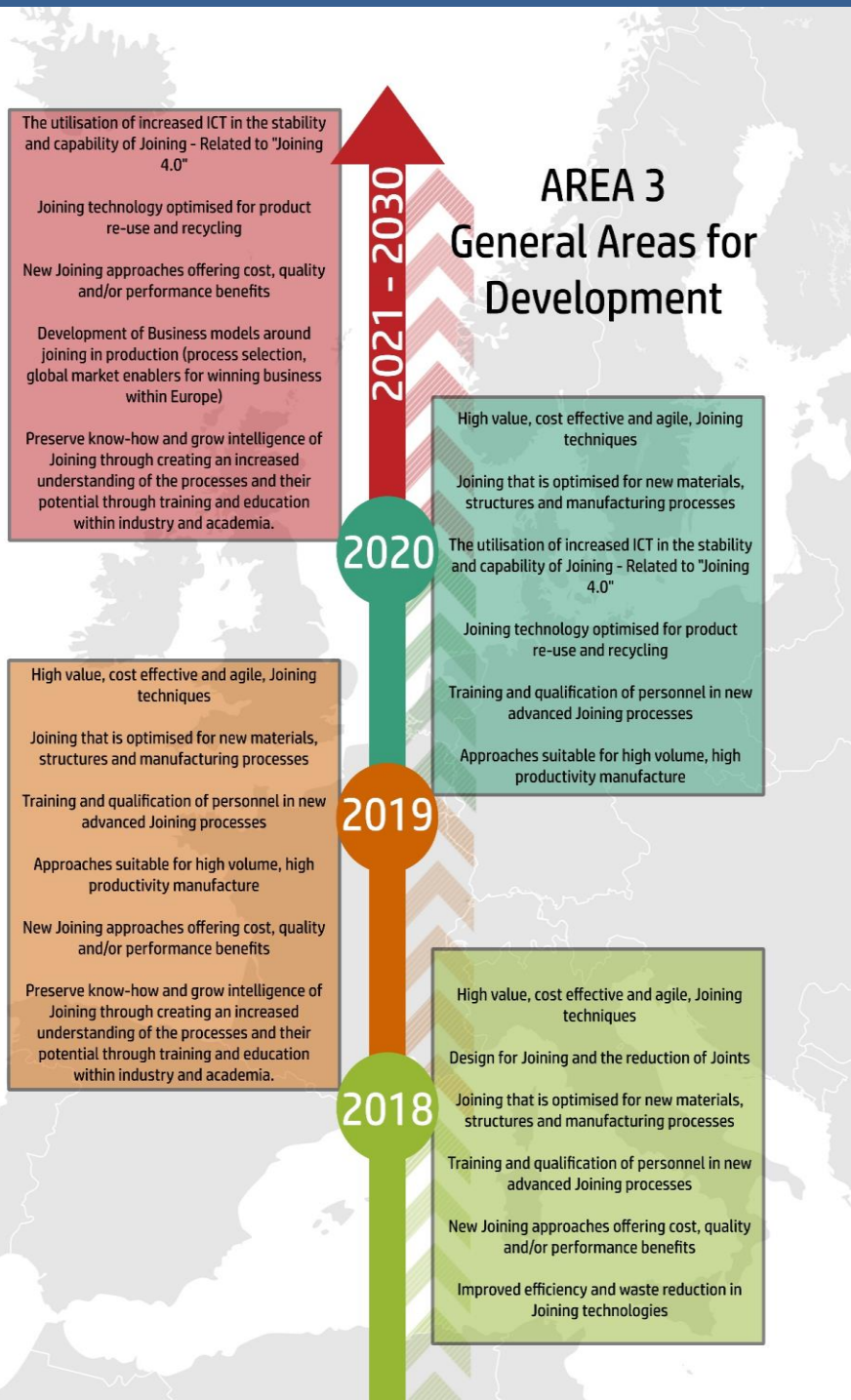
AREA 2	2018	2019	2020	2021-2030
Digitalization of Joining - "Joining 4.0" TRL 1 - TRL 6				
Joining of speciality materials with enhanced properties TRL 2 - TRL 6				
Dissimilar materials Joining TRL 3 - TRL 7				
Joining of crack susceptible and highly alloyed materials including for high temperature applications TRL 2 - TRL5				



Area 3 – General Areas for Development

General Areas for Development

AREA 3	2018	2019	2020	2021-2030
The utilisation of increased ICT in the stability and capability of Joining - Related to "Joining 4.0"				
Joining technology optimised for product re-use and recycling				
High value, cost effective and agile, Joining techniques				
Joining that is optimised for new materials, structures and manufacturing processes				
Training and qualification of personnel in new advanced Joining processes				



Proposed Call Topics

- **CSA – Coordination and supporting action - Support for the implementation in industry of new Joining technologies and further development in Europe**

- **Topic 1:**
  - **The advanced automation of Joining, from thin to thick section**
  - **Data management and data collection in Joining Processes - "Joining 4.0"**
  - **Inspection methods and sensors tailored to Joining applications and in-situ condition monitoring**
  - **Modelling**

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Proposed Call Topics

- **Topic 3:**
  - **Dissimilar materials Joining**
  - **Joining composites, multi-phase and coated materials**
  - **Joining that is optimised for new materials, structures and manufacturing processes**
  - **Modelling**

- **Topic 4:**
  - **“Digitalization of Joining – “Joining 4.0”, integrated in manufacturing chain”**
  - **“Data management and data collection in Joining Processes – “Joining 4.0”**

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Future Steps

- Prepare the Roadmap for 2030 and beyond
- Involvement of other Platforms
- Involvement of EFFRA and ManuFuture in the Roadmap
- Evaluate the Joining Priorities with the priorities of the EC in different areas, for example in training

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Joining Sub-Platform
Thank You!

Further information available at:

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