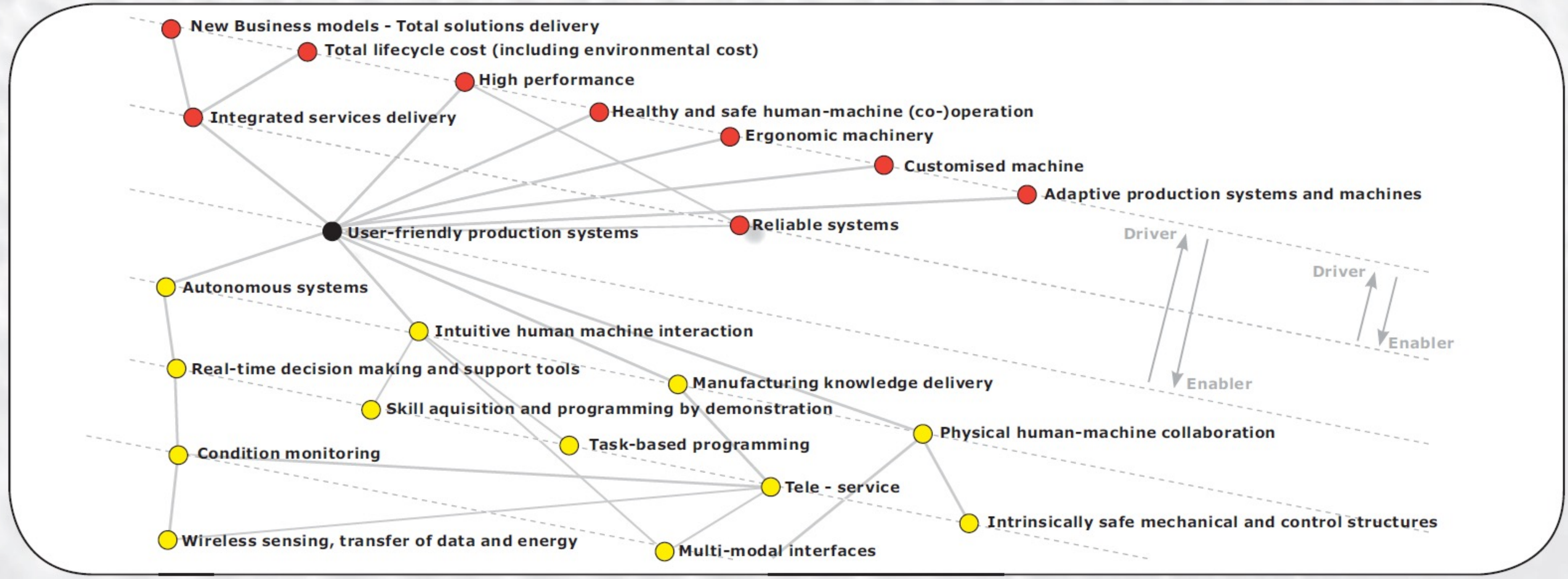# EFFRA – European Factories of the Future Research Association

Leading the way forward in European Industrial innovation

@KGA Kick-Off, 10 November 2023

EFFRA
EUROPEAN FACTORIES OF THE FUTURE
RESEARCH ASSOCIATION

MADE IN EUROPE

A personal (nostalgic) note.....

Made in Europe Partnership story line

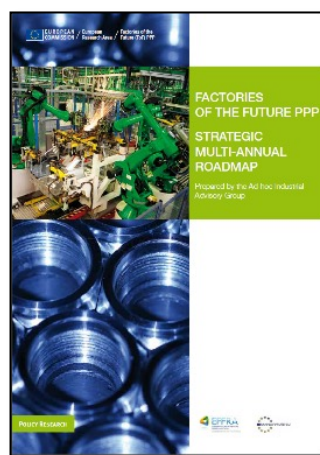| 2009/2010	2013	2014	2016	2020	Present
FP7	FOF 2020	Factories 4.0 and Beyond			

MADE IN EUROPE — SRIA

MiE General objectives

Manufacturing competitiveness

Leadership & manufacturing excellence, generating new products and new markets

European Green Deal

Circular and climate-neutral manufacturing

An Economy that Works for People and SMEs

Attractive value added manufacturing jobs

A Europe Fit for the Digital Age

Digital transformation of manufacturing industry, trusted and robust

MiE Specific Objectives

- **Excellent, responsive and smart factories & supply chains**

- **Circular products & Climate-neutral manufacturing**

- **New integrated business, product-service and production approaches; new use models**

- **Human-centered and human-driven manufacturing innovation**

MiE Key Technologies and Enablers

- **Advanced smart material and product processing technologies, and process chains**

- **Smart mechatronic systems, devices and components**

- **Intelligent and autonomous handling, robotics, assembly and logistic technologies**

- **De-manufacturing, recycling technologies, and life-cycle analysis approaches**

- **Simulation and modelling (digital twins) covering the material processing level up to manufacturing system, and factory and value network level from design until recycling.**

- **Robust and secure industrial real-time communication technologies, and distributed control architectures and standardized equipment protocols**

- **Data analytics, artificial intelligence, machine learning and deployment of digital platforms for data management and sharing**

- **New business and new organisational approaches, including links with regulatory aspects such as safety, data ownership, and liability**

- **Skilled workforce**

- **Standards**

Projects overview

Acronym search | "Knowledge graphs" | Search

Toggle all information ▲

TEAMING.AI | Human-AI Teaming Platform for Maintaining and Evolving AI Systems in Manufacturing

01-01-2021 - 31-12-2023

🌱: 1

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On a Generalized Framework for Time-Aware Knowledge Graphs
Result title On a Generalized Framework for Time-Aware **Knowledge Graphs**

iDev40 | Integrated Development 4.0

01-05-2018 - 30-04-2021

👁: 1

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Transferrable Framework Based on Knowledge Graphs for Generating Explainable Results in Domain-Specific, Intelligent Information Retrieval
Result title Transferrable Framework Based on **Knowledge Graphs** for Generating Explainable Results in Domain-Specific, Intelligent Information Retrieval

ASSISTANT | leArning and robuSt deciSIon SupporT systems for agile mANufacTuring environments

01-11-2020 - 31-10-2023

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Knowledge Graphs in Digital Twins for AI in Production Result title
Knowledge Graphs in Digital Twins for AI in Production

Results / 📖 Publication / **ASSISTANT-842344**

Knowledge Graphs in Digital Twins for AI in Production

▼ 🖊 **Summary**

This is a publication. If there is no link to the publication on this page, you can try the pre-formatted search via the sear

Authors: Pieter Lietaert, Bart Meyers, Johan Van Noten, Joren Sips & Klaas Gadeyne

Journal publisher: Springer

Published year: 2021

DOI identifier: 10.1007/978-3-030-85874-2_26

Made in Europe and inclusive productivity: doing better (creating more added value) with less

- **Excellent productive** and **flexible** Manufacturing **automation** for **open strategic autonomy**
- **Sustainable value network resilience** and competitiveness through robust and flexible production technologies
- Recovering and preserving the European leadership in **strategic and high value-added products**
- **Circular, connected** manufacturing **ecosystems**
- The next level of circular economy through **scalable, highly productive and zero-defect re-manufacturing technologies**
- **Manufacturing with new/ limited raw materials** availability
- Solutions for **energy-efficiency** for realising net-zero discrete manufacturing processes and value chains

- **Quick response service deployment** for **maintaining optimal manufacturing operations** using **trusted AI** and **digital twins**
- **Life-cycle management of manufacturing solutions** and associated services for flexible, **productive and sustainable** manufacturing industry
- **Data spaces and cloud/edge solutions** for **responsive and robust** manufacturing
- **Digitally enabled compliance and integration** of innovative manufacturing solutions
- **Understanding the transformation of the factory work and organisation**
- **Physical and cognitive augmentation of human capabilities** for **inclusive and socially sustainable** manufacturing
- **Digitally enabled upskilling, qualification and job transformation**
- **Bio-intelligent** Manufacturing

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THANK YOU

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