Project Idea	**Knowledge capture and Human-AI co-learning** **AI agents for human-machine teamwork** **Trustworthiness, ethics, and inclusive interaction** **Industrial validation and transfer to SMEs**
Organization name, **town and country**	Ferdinand-Steinbeis-Institut Heilbronn, Germany
Addressed topic(s)	HORIZON-CL4-2027-02-DIGITAL-EMERGING-52-two-stage

Ferdinand-Steinbeis-Institut

- **Applied AI research with industrial impact**: bridging cutting-edge methods and real-world value creation in the German Mittelstand.
- **Hybrid & domain-specific AI**: combining deep learning, knowledge graphs, industrial ontologies, and optimization to enable reliable, knowledge-driven decision-making.
- **AI agents & intelligent industrial systems**: agentic workflows, cognitive operations research, and resource-efficient Edge AI for complex production environments.
- **Data spaces & sovereign data sharing**: enabling secure, decentralized collaboration across supply chains while protecting sensitive business data.
- **Trustworthy AI by design**: institutionalized Ethics Commission, explainability, uncertainty quantification, and human-in-the-loop safeguards.
- **Real-world validation up to TRL 8**: coordinating living labs and industrial testbeds to demonstrate solutions under operational conditions.
- **Scalable technology transfer**: delivering practical blueprints, transfer handbooks, and measurable business impact for SMEs.
- **Consortium partner from research to deployment**: expertise spanning AI methodology, data governance, ethical assurance, industrial validation, and dissemination.

Project Idea

- **Project Idea:**
  - **Turn industrial know-how into intelligence:** Transform expert knowledge into reusable, knowledge-grounded AI.
  - **Enable human-AI co-learning:** Support collaborative planning, troubleshooting, and workforce upskilling through adaptive, human-supervised AI agents.
  - **Validate for real-world impact:** Demonstrate trustworthy, inclusive solutions in manufacturing and enable wider industrial adoption.
- **Why FSTI?**
  - **Strong methodological foundation:** FSTI combines applied AI research, knowledge representation, agentic systems, and industrial decision support.
  - **Applied AI expertise:** Hybrid AI, knowledge representation, and agentic systems.
  - **Strong industry links:** Bridging research and real-world industrial validation.
  - **Trustworthy by design:** Institutionalized Ethics Commission and transfer-oriented research.

Competences / type of partners sought

- **Manufacturing end-users:** Industrial SMEs and advanced manufacturing companies providing real-world use cases and pilot sites.
- **Robotics & automation:** Partners developing collaborative robots, industrial automation, and shop-floor integration.
- **Safety of AI & Cybersecurity**: Expertise in safe and secure deployment of AI applications, particularly in terms of cybersecurity.
- **Human-AI interaction:** Experts in HMI/UX, adaptive interfaces, and XR-based collaboration.
- **Human factors & SSH:** Expertise in ergonomics, inclusive design, gender-sensitive AI, workforce skills, and organisational change (can be complementary to FSTI‘s ethics comission)
- **Validation & exploitation:** Partners supporting industrial demonstrators, workforce training, and commercial deployment.

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