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Building a Generative AI toolkit for leveraging knowledge processes: the GAIK project report

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Problem

GenAI has a huge potential to transform knowledge work, BUT

Most companies lack the technical expertise and capabilities to implement GenAI solutions effectively, especially SMEs

Business value from GenAI implementation is still limited

→ Generative AI-enhanced Knowledge Management (GAIK) project

The project focus:
How to make knowledge processes/tasks more effective by using Generative AI?

includes Research, Development and Innovation

Industry-driven and KM-focused specification of business needs and project scope

Our experience from AI needs analysis and advisory sessions within the Finnish AI Region (FAIR) EDIH project https://www.fairedih.fi
100+ companies
50+ GenAI implementation (Khan et al, 2025)

Our previous research:
Literature review
20+ companies interviewed (Kudryavtsev et al, 2024)

Requirements specification in the current project

Knowledge process	Generic use cases	Company-specific use cases	Expected value for business
Knowledge access	Intelligent access to organizational knowledge (document repositories, databases, wikis, CRMs)	• Search and recommendations for audio and video content library • Sales and customer onboarding assistant for a complex, customizable software product	Finding relevant information faster with less efforts
Knowledge synthesis	Auto-generation of business reports and documents	• Sales proposal generation • Purchase order processing • Incident reporting • Customer experience reporting	Reduced time and effort required to produce reports and documents, resulting in cost and time savings, and timely decisions.
Knowledge capture	From speech, images and texts to structured documents	• Creating construction site diaries from speech, images and text • Building inspections report preparation • Creation of closed captions in various languages for instructional videos and podcasts	Quick and cost-effective information extraction from documents, voice recordings, and videos

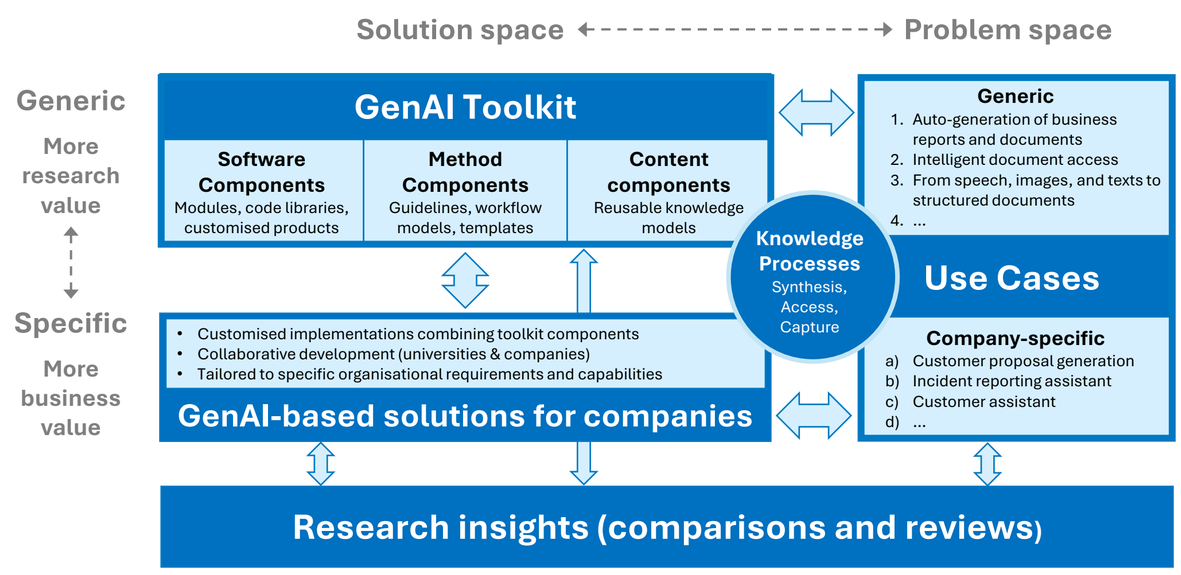
University-Industry cooperation

Project consortium (at the project start):
- 3 universities
- 5 companies

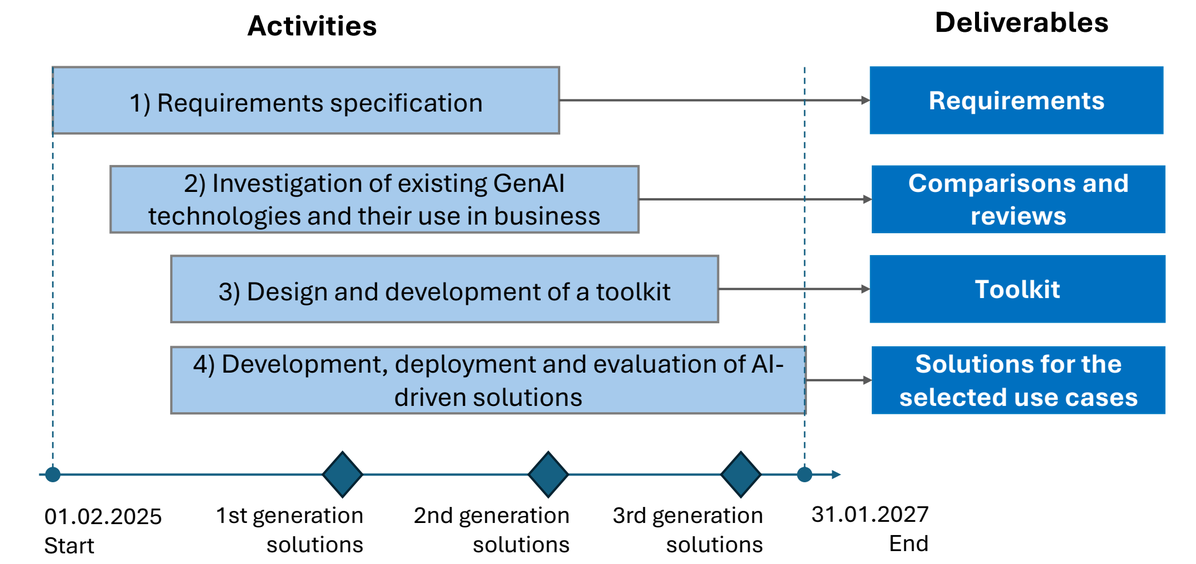
Partnership extension plans (near future):
- Network of user-companies
- Technology provider partners
- International academic partners

The role of companies:
- Describe needs, requirements, and challenges
- Participate in the co-development
- Test and validate the suggested solutions

Expected project results



Project activities and timeline



Research and Development agenda

The key project result = The GenAI toolkit, more specifically, the knowledge-focused GenAI development and implementation toolkit
It is an artefact, which includes IT- and business-level components
→ **Research methodology: Design science research,**
Active involvement of companies (practitioners, users)
→ **Action design research**

Design science research stream (Artefact development)
1. What are the requirements for the GenAI toolkit?
2. What is the scope of the GenAI toolkit?
3. What are the design principles and theoretical foundations for the GenAI toolkit?
4. What are the components and architecture of the GenAI toolkit?
5. How to implement the GenAI toolkit?

Business research stream
1. How does GenAI support KM and knowledge processes in organizations?
2. What does an organization need to consider to support using GenAI in knowledge management?
3. How to measure and evaluate the business value of GenAI implementation?
4. How to ensure the adoption of GenAI solutions during the automation of knowledge processes?
5. How to integrate GenAI solutions into existing business & knowledge processes of companies?

Technical research stream
1. How to compare and select GenAI technology frameworks and models for developing GenAI solutions?
2. How to evaluate the accuracy and robustness of GenAI solutions in a business context?
3. How to address variability of data (structured/unstructured, various modalities)?
4. What is the architecture of GenAI-based solutions?
5. How to ensure explainability and traceability of GenAI solutions?

Additional information

- Our related ECKM 2025 paper – ”Evaluating Generative AI Technology Choices and Software Frameworks for Developing AI Solutions in Business”
- For more details about the toolkit, see our paper for the EDOC-CBI 2025 conference ”Reuse and guidance for generative AI solution development and implementation: knowledge management perspective”
- Join our event on Sept 17

https://gaik.ai/