CARE 4BIO

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Business Process Digital Twins

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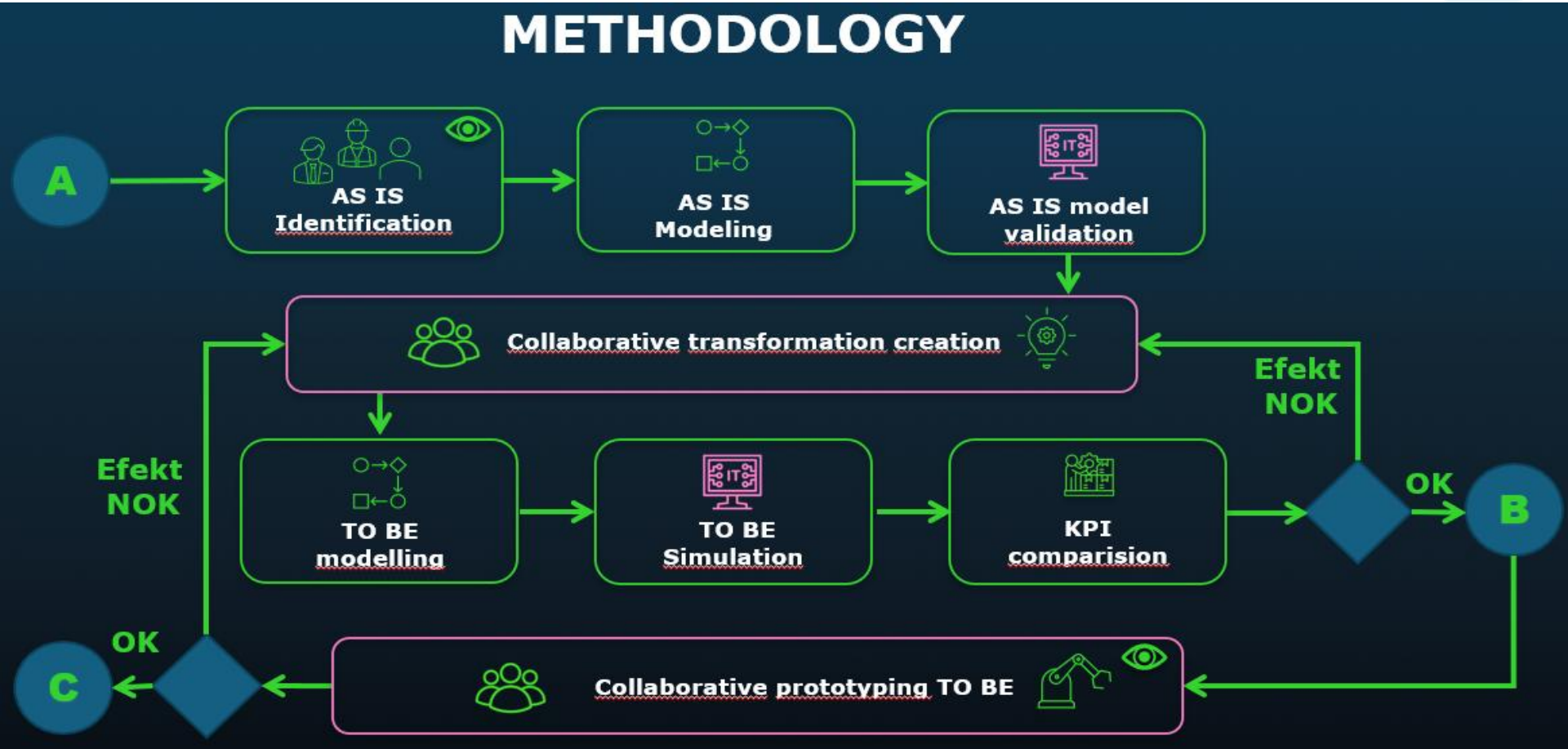
Field of expertise

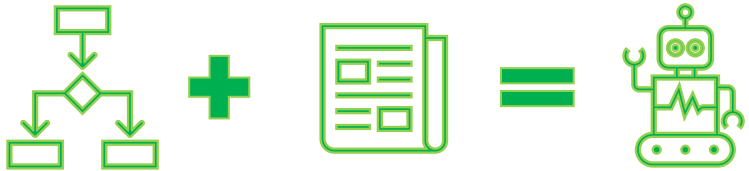
We have experience in creating digital twins of business processes in any sector. Our business process modeling methodology enables precise representation of current processes (AS IS) and their target state (TO BE), which is crucial for designing and implementing comprehensive solutions.
By leveraging digital twins, we can simulate and test various operational scenarios, allowing for the identification of optimal implementation strategies. Key performance indicator (KPI) analysis enables the assessment of the created solutions' impact on the researched area.
Additionally, these digital twins support the development of:

- Digital Product Passports (DPPs) throughout the product lifecycle, e.g., in terms of supply chain transparency, data security, and regulatory compliance.
- Circular business models
- IoT/AIDC solutions
- AI solutions supporting data processing
- Technology implementations - validation of tools and methods


METHODOLOGY
A
AS IS Identification
AS IS Modeling
AS IS model validation
Collaborative transformation creation
Efekt NOK
Efekt NOK
TO BE modelling
TO BE Simulation
KPI comparision
OK
B
OK
C
Collaborative prototyping TO BE

Our Contribution to the Consortium

- Identification and analysis of business models (AS IS - current state and TO BE - target state) at the strategic, managerial and operational level.
- Creation, integration and change management of solutions developed within the project.
- Process simulations – digital process models enabling testing various implementation scenarios, identifying potential challenges and optimizing solutions before deployment.
- Measurable KPI's – defining and analysis of key performance indicators to assess efficiency (e.g. time, workload, cost), compare scenarios, and track the impact of potential implementations.
- Pre-implementation analysis – evaluation of implementation effects on efficiency, compliance, and system interoperability.



Process standarization + Data Standardization = Successful AI Implementation

CHALLENGE (Problem)	OPPORTUNITY (EU direction)	WHAT WE DELIVER (L-PIT value)
Fragmented & low-quality data across value chains	Interoperable, standardised data ecosystems	Trusted data layer + data architecture + data quality rules
Lack of end-to-end process visibility & ownership	Digitalised, coordinated workflows	AS-IS / TO-BE process models + roles & responsibilities
High risk of pilots failing due to complexity	Evidence-based living labs & scaling pathways	Digital Process Twins + simulation + KPI-based decision support
AI adoption not scalable without operational readiness	Reliable AI for sustainability & competitiveness	Processes + Data = AI-ready implementation (from governance to deployment)