Interreg
Baltic Sea Region

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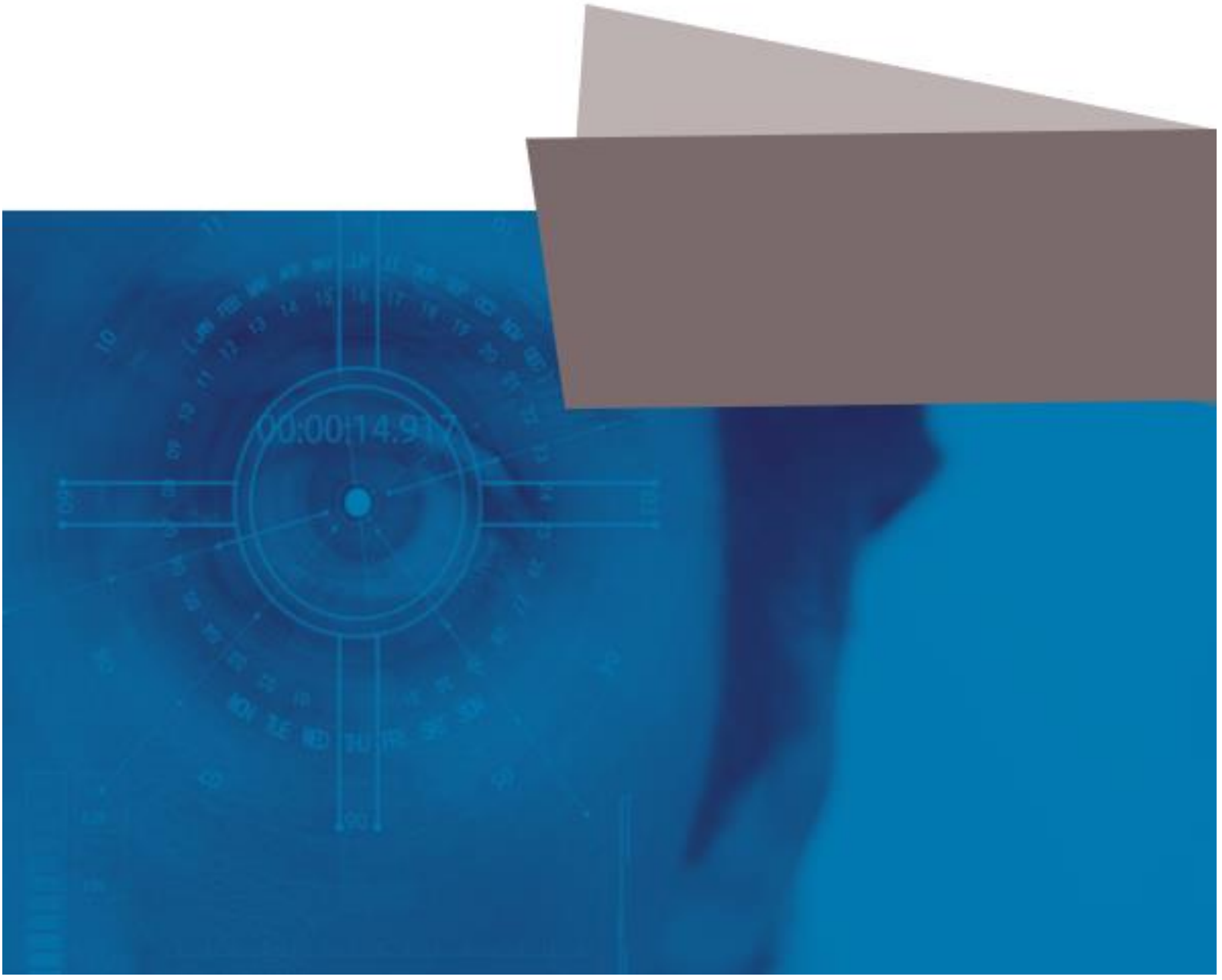
RESILIENT ECONOMIES AND COMMUNITIES
CAIDX

CAIDX TOOL #3

NEED IDENTIFICATION

For clinicians and researchers with a clinical need, where an AI tool might be the solution



Background

The Need Identification tool can be used by clinicians and researchers to help define a clinical need and its' intended solution, before initiating a development project. The tool helps to systematically and in-depth consider various aspects regarding the problem, intended solution and required resources. The Need Identification can also be used by hospital management as a basis for decision making, in comparing and prioritizing between various proposed AI projects.

1. **Describe the current state:**

2. **Describe the clinical problem that you want to solve (using AI):**

3. **Describe the AI solution; what work would be done by the AI solution?**

4. **What type of data needs to be analyzed (e.g., laboratory data, image data, genetic data)?**

5. **Estimate the effect of the AI-solution (e.g., financial savings, increase in quality of care, reduced waiting time, efficiency) and the size of the patient population:**

6. **What resources would be needed for the project? Have you secured sufficient funding? What is the expected time frame for the project?**

7. **What is the clinical maturity of the identified solution? (What is the existing evidence? Are data available for testing? Is the dataset annotated [missing, started, completed]?)**

8. **What is the "state of the art" on the market? (Are there any similar projects elsewhere? Have you identified a potential collaboration partner? Are there any AI-products already available within your field? If so, please describe their progress using Technology Readiness Level [TRL; see the end of the document for a description].)**

9. **Is your project open for external partners?**

- ☐ **Yes** (potentially subject to procurement)
- ☐ **No** (already involved with an external partner)
- ☐ **No** (internal development)

10. Does your department have ongoing research in the area? (If yes, specify the researcher in charge and whether there are any collaboration partners.)

- ☐ Yes
- ☐ No

11. Assess the potential risks with the suggested AI solution. Perform a risk analysis of IT and data security and classification of information:

12. Estimate how feasible it is that a solution can be implemented within 2-5 years:

Technology Readiness Level (TRL)

TRL 0 *First principles:* A stage for greenfield research.
TRL 1 *Goal-oriented Research:* Moving from basic principles to practical use.
TRL 2 *Proof of Principle (PoP) Development:* Active research and development (R&D) is initiated.
TRL 3 *Systems Development:* Sound software engineering.
TRL 4 *Proof of Concept (PoC) Development:* Demonstration in a real scenario.
TRL 5 *Machine Learning "Capability":* The R&D to product transition.
TRL 6 *Application Development:* Robustification of machine learning (ML) modules, specifically towards one or more use-cases.
TRL 7 *Integrations:* ML infrastructure, product platform, data pipelines, security protocols.
TRL 8 *Mission-ready:* The end of system development.
TRL 9 *Deployment:* Monitoring the current version, improving the next.

TRL description from: Lavin, A., Gilligan-Lee, C.M., Visnjic, A. *et al.* Technology readiness levels for machine learning systems. *Nat Commun* **13**, 6039 (2022). https://doi.org/10.1038/s41467-022-33128-9.

CAIDX
– CLINICAL AI-BASED DIAGNOSTICS

About the project

The project CAIDX establishes cooperation between artificial intelligence (AI) providers and healthcare institutions to help healthcare professionals integrate AI, and thus improve diagnostics and treatment.

Implementation: January 2023 - December 2025

Project partners

- Innovationsklinikken (Aalborg Universitetshospital) (Lead partner)
- Wroclaw Technology Park
- BioCon Valley
- Tartu Biotechnology Park
- Lower Silesian Centre of Oncology, Pulmonology and Hematology
- Region Skåne
- Innovation Skåne
- Rostock University Medical Centre
- AUH Innovation, Aarhus Universitetshospital
- Danish Life Science Cluster
- The wellbeing services county of Southwest Finland
- Business Turku

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Learn more about CAIDX
interreg-baltic.eu/project/caidx/