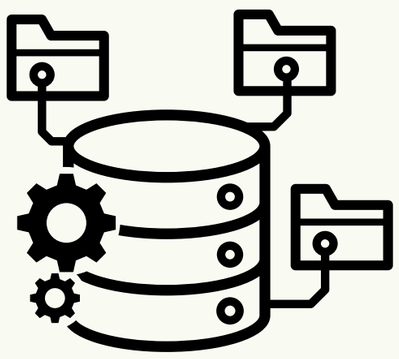
# Virtual-Datasets - FAIR data management curation service

### Data management based on FAIR - Delivery of a multicentric dataset



**Challenge**: The need of anonymized, datasets based on real medical records, essential for conducting projects or analyses focused on improving patient health.

**Our strength**: CETIC collaborates with the INAH technological platform, which enables secure and ethical access to health data for scientific and statistical research purposes. Users, upon approval of their project, gain access to multicenter datasets consisting of high-quality data from multiple hospitals in Wallonia, facilitating advanced analyses while adhering to high standards of data processing

# Virtual-Datasets - Datasets integration and accessing

### Multicenter statistical analysis - providing statistical information on cohorts of patients

**Challenge**: Simplified access to multicenter statistical analyses to facilitate in-depth clinical studies.

**Our strength**: CETIC collaborates with the INAH technological platform, which enables secure and ethical access to health data for scientific and statistical research purposes. Users, upon approval of their project, gain access to statistical information on patient cohorts.

# Virtual-Datasets - Synthetic dataset generation for testing

### ICU Digital Twin

**Challenge** : In order to test and refine solutions that deal with data, it can be useful to generate test medical data that accurately reflects reality.

**Our strength** : We can generate realistic test datasets in sufficient quantity to ensure the effectiveness of your trials, tailored to your specific needs, using a tool for describing and generating realistic data, with the addition of a random component

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# Virtual-Cybersecurity and Privacy- Cybersecurity Testing

## Cyber-Physical Systems Cybersecurity Testing

## Vulnerability Scanning and Penetration Testing

**Challenge**: Ensuring that computer applications, especially those related to critical domains like healthcare, have a sufficient level of security is complex.

**Our strength**: Automating security testing helps minimize risks associated with developed components and services. This service focuses on automated penetration testing and functional security testing, not only on computer assets but also on connected devices.

# Virtual-Cybersecurity and Privacy- Privacy enhancing technologies development

## Privacy enhancing technologies development and testing

**Challenge** : In the context of developing medical software, it may be necessary to operate within hospital environments, with the constraint of strictly limiting the exchanged information.

**Our strength**: Acting as a trusted third party, between a hospital and a technology provider, establishing a secure software execution environment that enables the sharing of data processing models without compromising the confidentiality of both the analysis model and the analyzed data

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# Virtual-AI model evaluation/assessment - AI methods benchmarking

## Backend development platforms - Data & AI OPS

Unifying your data
Streamlining your success

**Challenge**: Collecting data from various diverse sources (devices, interconnected services, etc.) is a complex step typically outside the core business of medtech companies, which aim to focus on analyzing the data.

**Our strength** : Providing you with tools that automate the collection of data from various sources, making the storage and analysis of medical data more efficient

# TEF:Virtual-Algorithm development - Process optimisation

## SimSteri

OscaR
OPERATIONAL RESEARCH IN SCALA

**Challenge** : Suboptimal planning or logistic processes can hinder the smooth operation or growth of your business or its clients.

**Our strength** : Solutions for the creation of large-scale optimization, planning, and medical diagnostic algorithms, utilizing a powerful optimization engine.

## Augmenting dispatching and management software with routing optimization algorithms

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# Quality Development

## Hardware & Software Design

**Challenge** : Digital technology is becoming a key factor in new medical solutions. It is essential that hardware and software are designed according to best practices so that the provided solutions are robust, scalable, and easy to maintain over time.

**Our strength** : Assisting you in implementing AI-based products with a solid, scalable, and secure architecture tailored to your needs.

## Evaluation of AI Software Quality


**Challenge** : Assessment of the architectural quality of AI software.

**Our strength** : High-level assessment based on the Archicheck methodology and in accordance with ISO25000 software quality standards, identifying strengths and weaknesses in the architecture of your solution and providing recommendations and avenues for further analysis

## Escrow for AI-based Software

**Challenge** : The client may request from a software solution provider that a copy of the source code be held by a neutral third party. In the case of AI solutions, training data may also be involved. Security and confidentiality are obviously important.

**Our strength** : CETIC routinely offers a secure procedure for retaining the source code of software and can extend this to AI-based software by managing and preserving the datasets used, thus demonstrating the ability to reproduce the protected software.

# Needs / Requirements Analysis

## Support in Requirement Gathering and Technological Planning

**Challenge** : Difficulties in identifying the needs of users, clients, and other stakeholders, particularly regarding the development of AI-based products, to ensure a focus on the right challenges

**Our strength**: Guiding you in gathering requirements, analyzing needs, and technological planning to steer future development by applying co-creation and co-innovation techniques with the assistance of a network of specialized stakeholders.

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