ATELERIS

Software Technology for Data Handling & Exploitation

Swiss SKA Days 2022, USI, Lugano, 03.10.2022


COMPANY


esa
Future European Space Deep-Tech Innovation Centre ESDI
PSI & Park Innovaare
TECHNOPARK Aargau
Ateleris GmbH
Brugg AG
University of Applied Sciences
Northwestern Switzerland FHNW
Technology Cluster

Services

Development of software, algorithms and data solutions

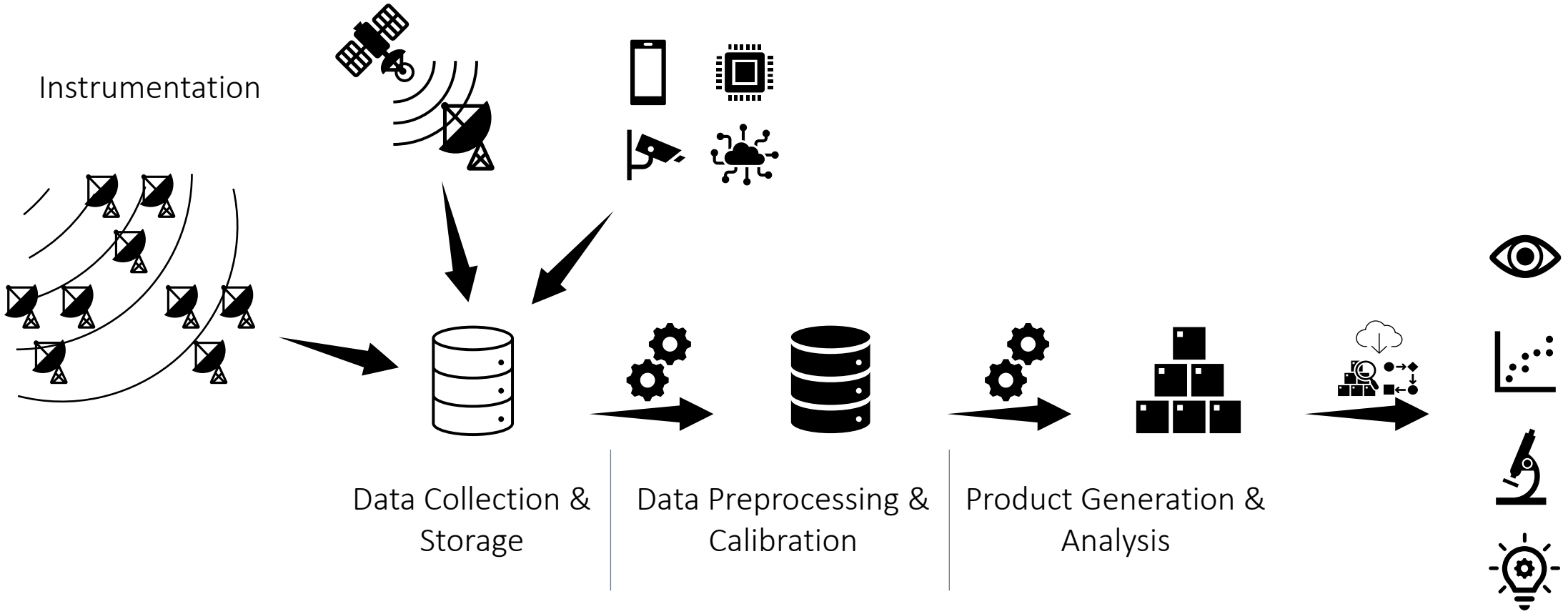
Consulting and training

Operations

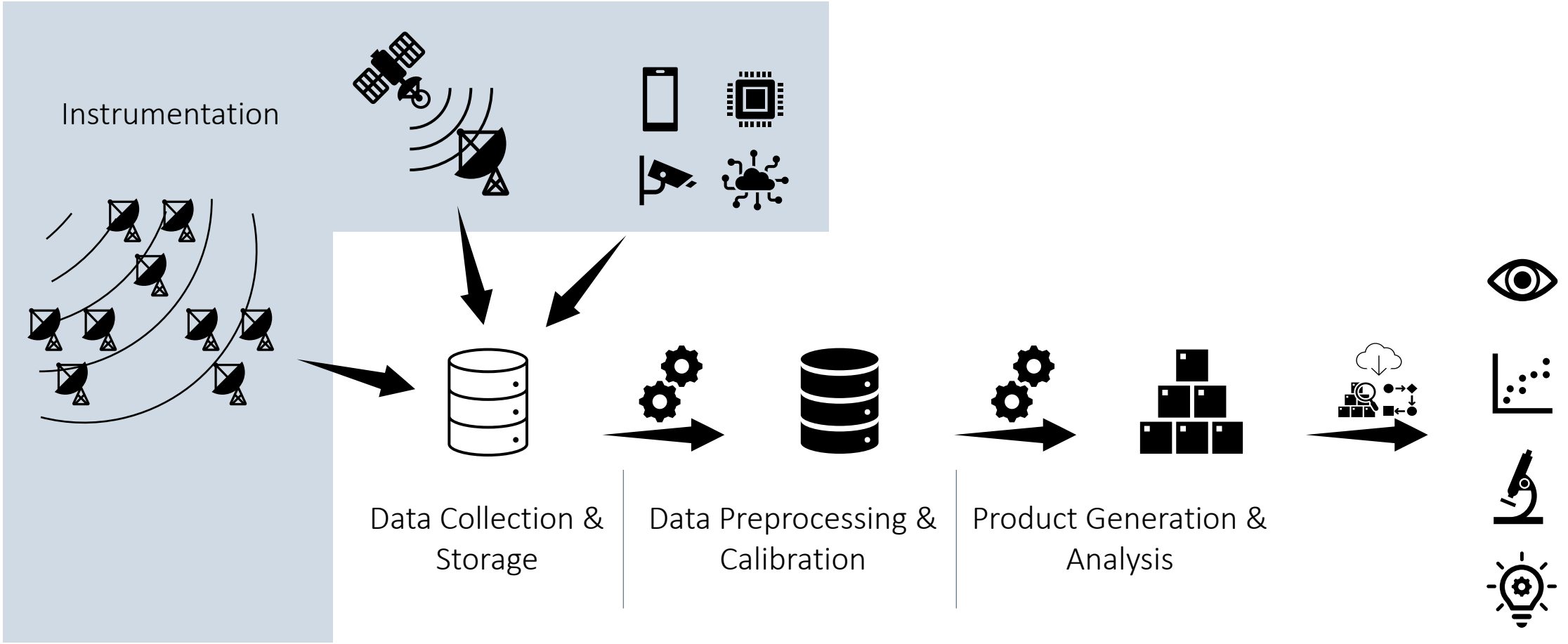
Tech Domains

- Machine learning and data science
- Specialty software (e.g., embedded)
- APIs and web-platforms
- Optimization

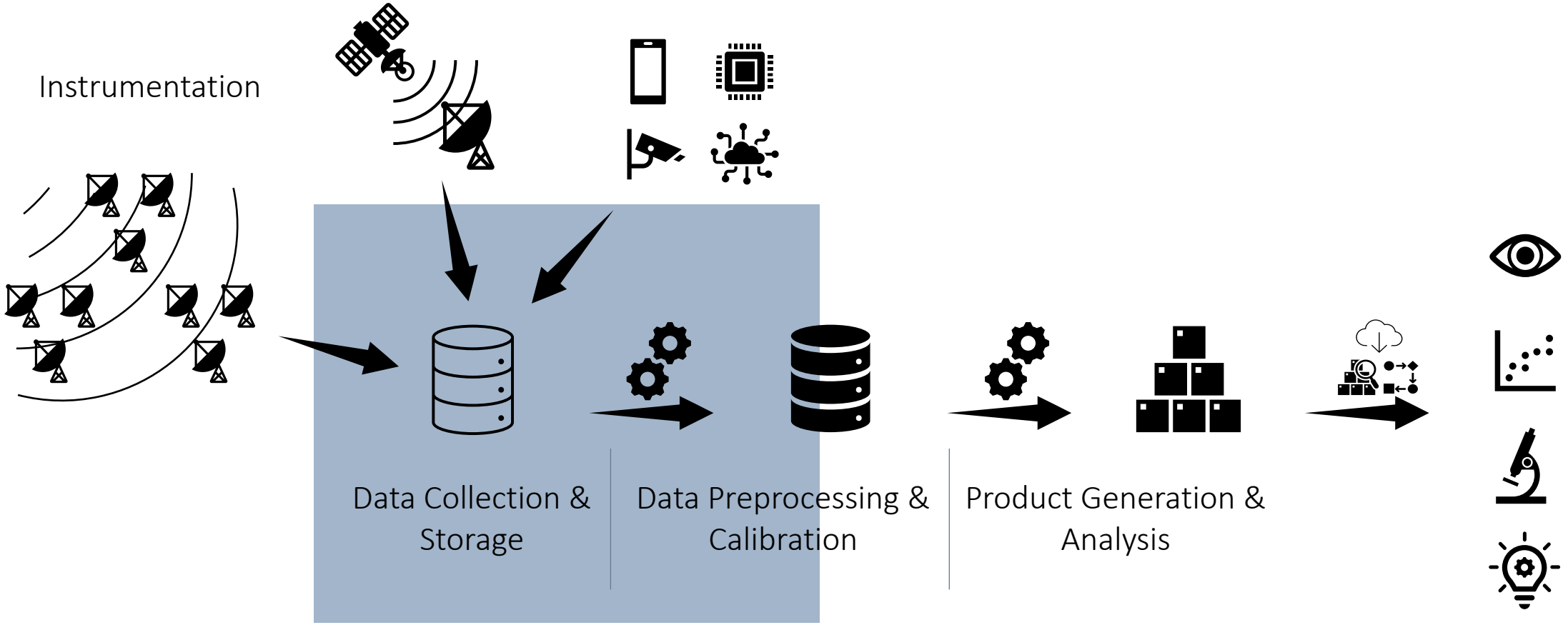
Data Handling and Exploitation



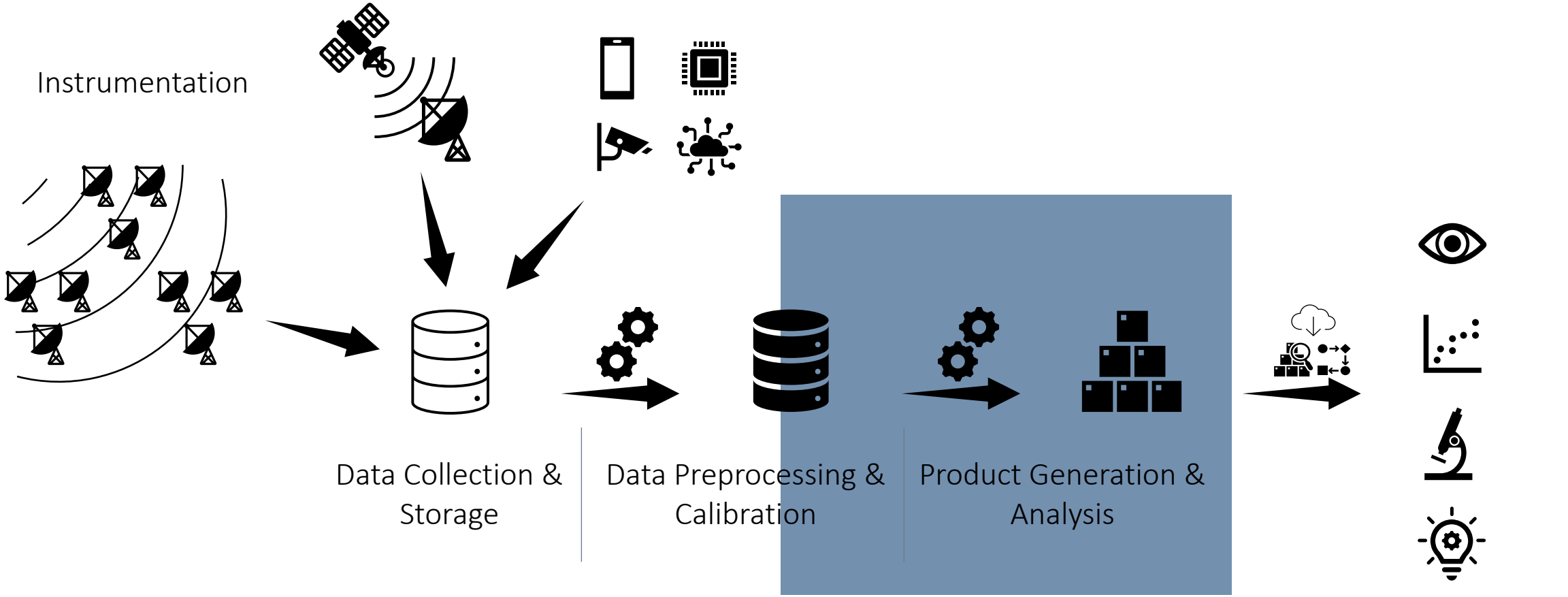
Data Handling and Exploitation



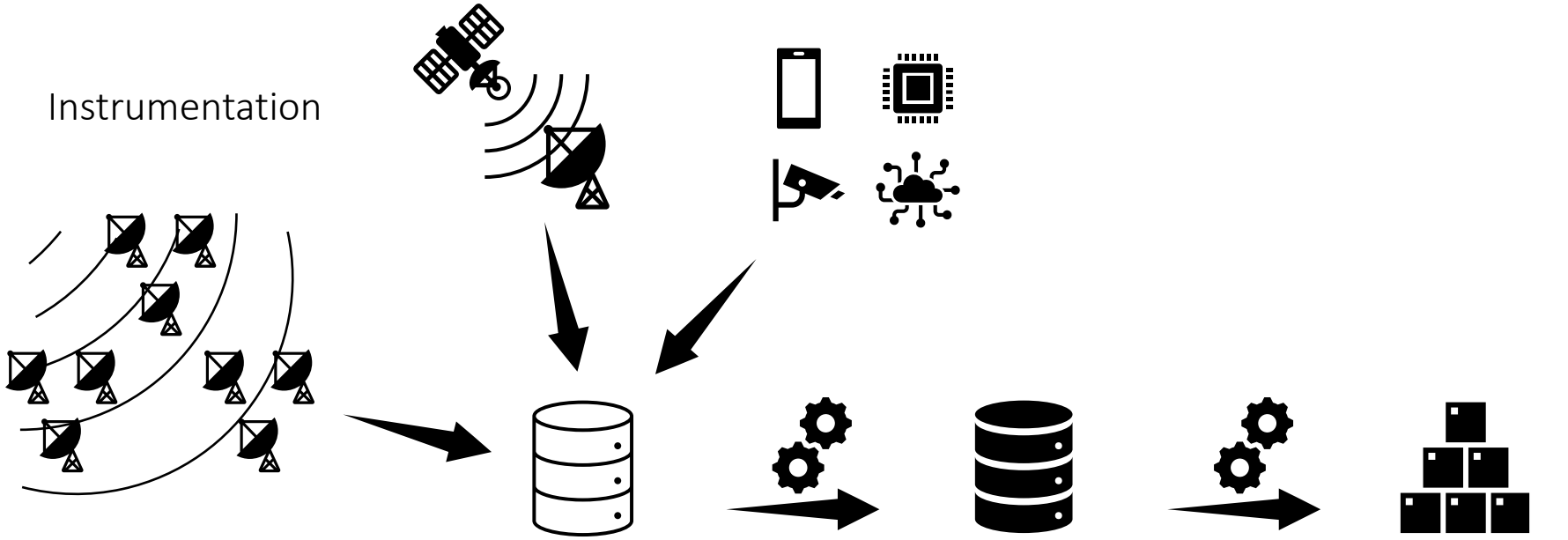
Data Handling and Exploitation



Data Handling and Exploitation

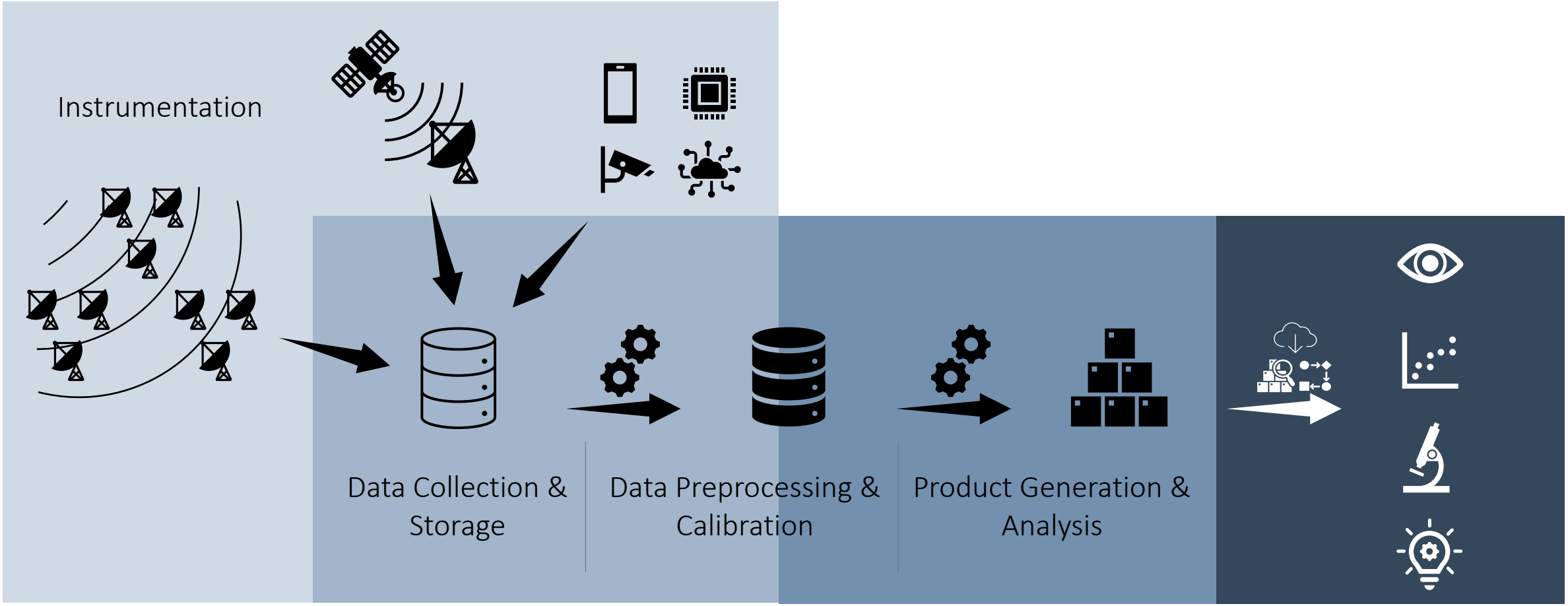


Data Handling and Exploitation

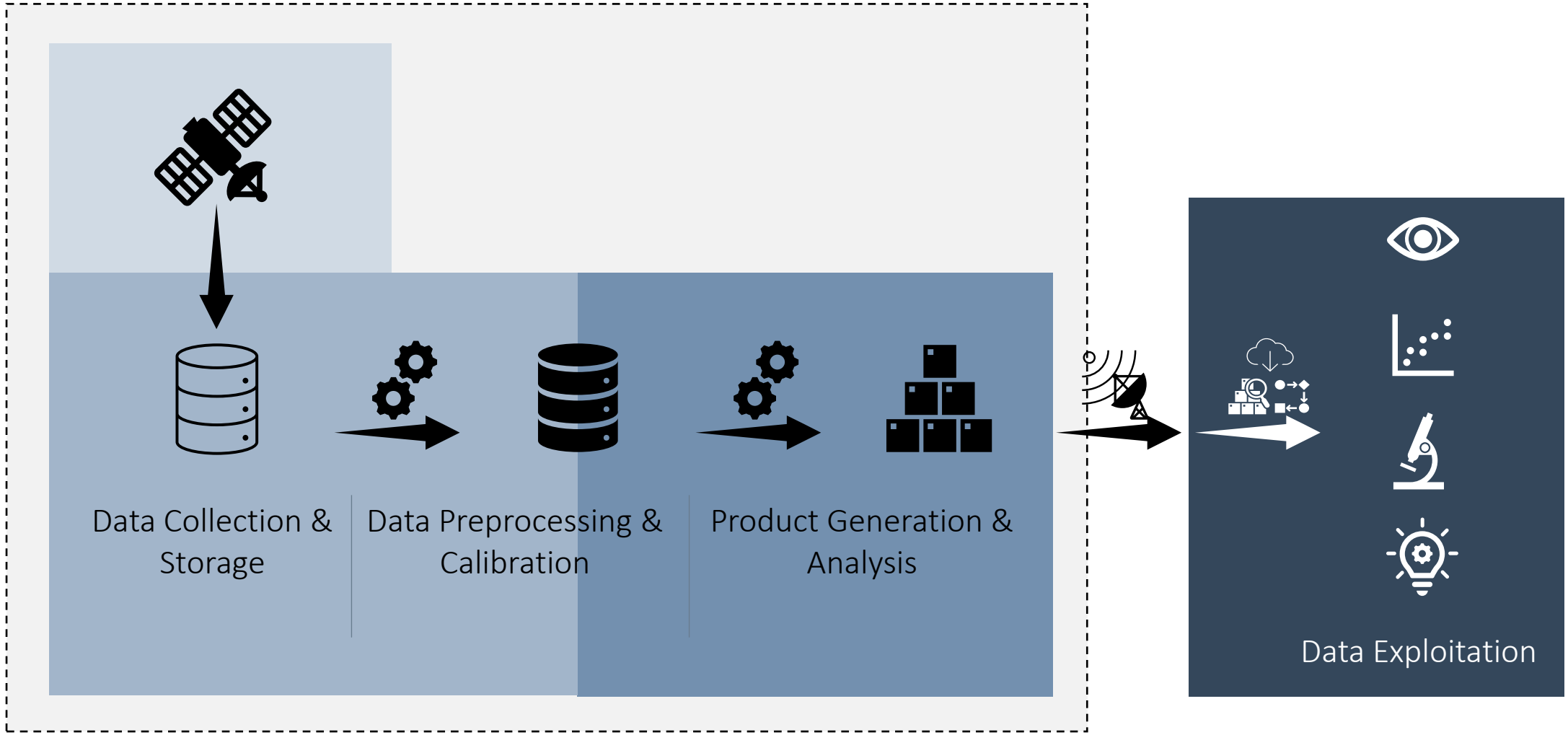


Data Exploitation

Data Handling and Exploitation

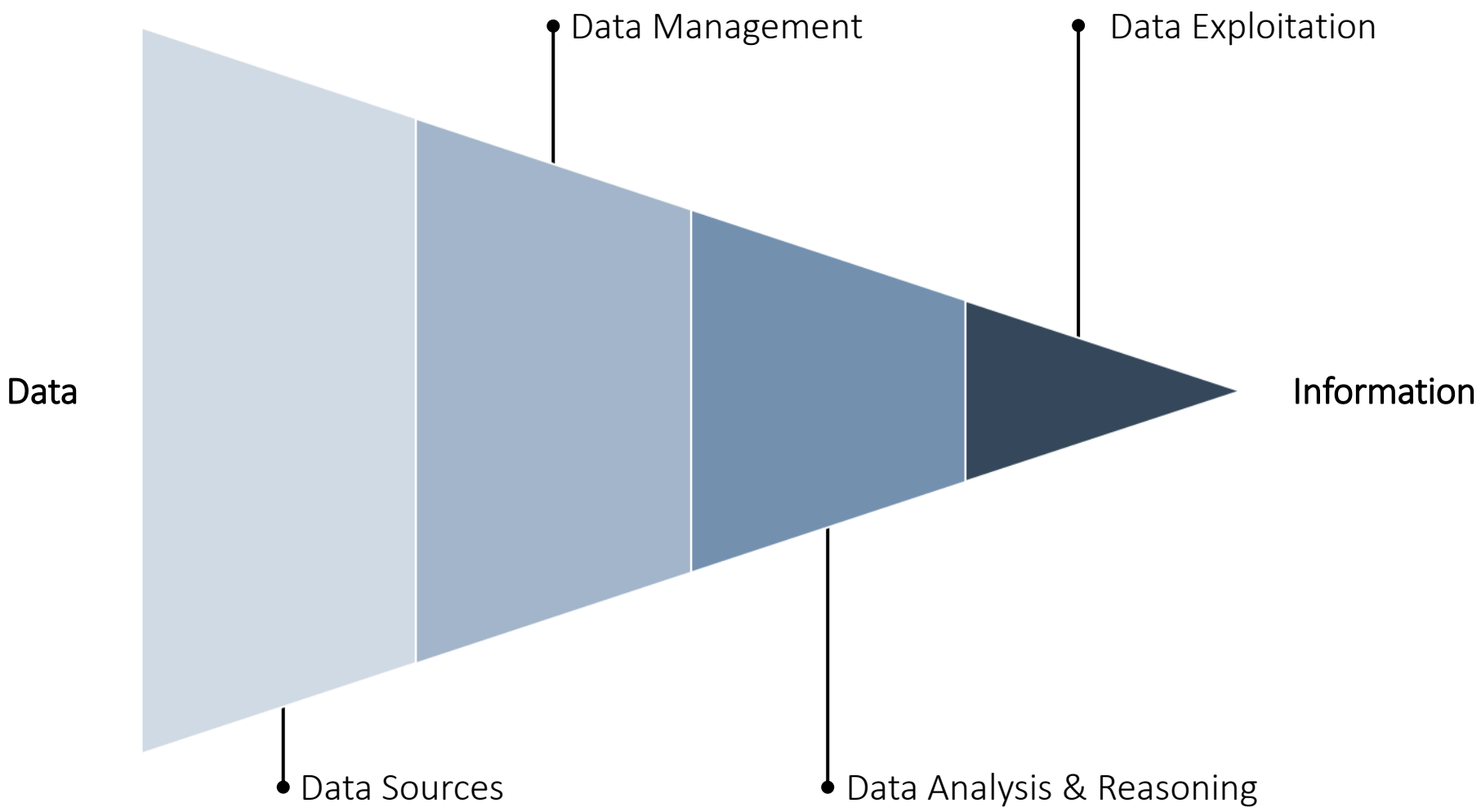


Edge Computing



On Device, close to data source

Refinement Process

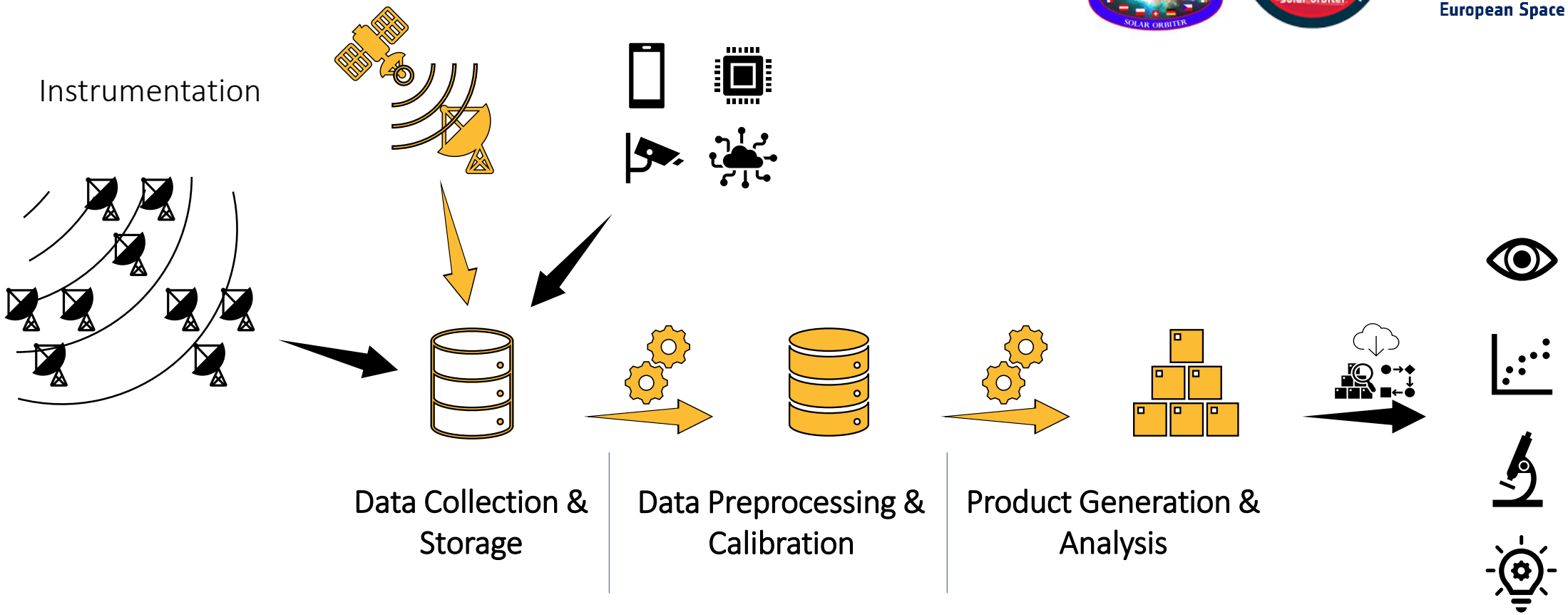



RELEVANT WORK

STIX Data Processing Pipeline

Fachhochschule Nordwestschweiz
Hochschule für Technik

European Space Agency



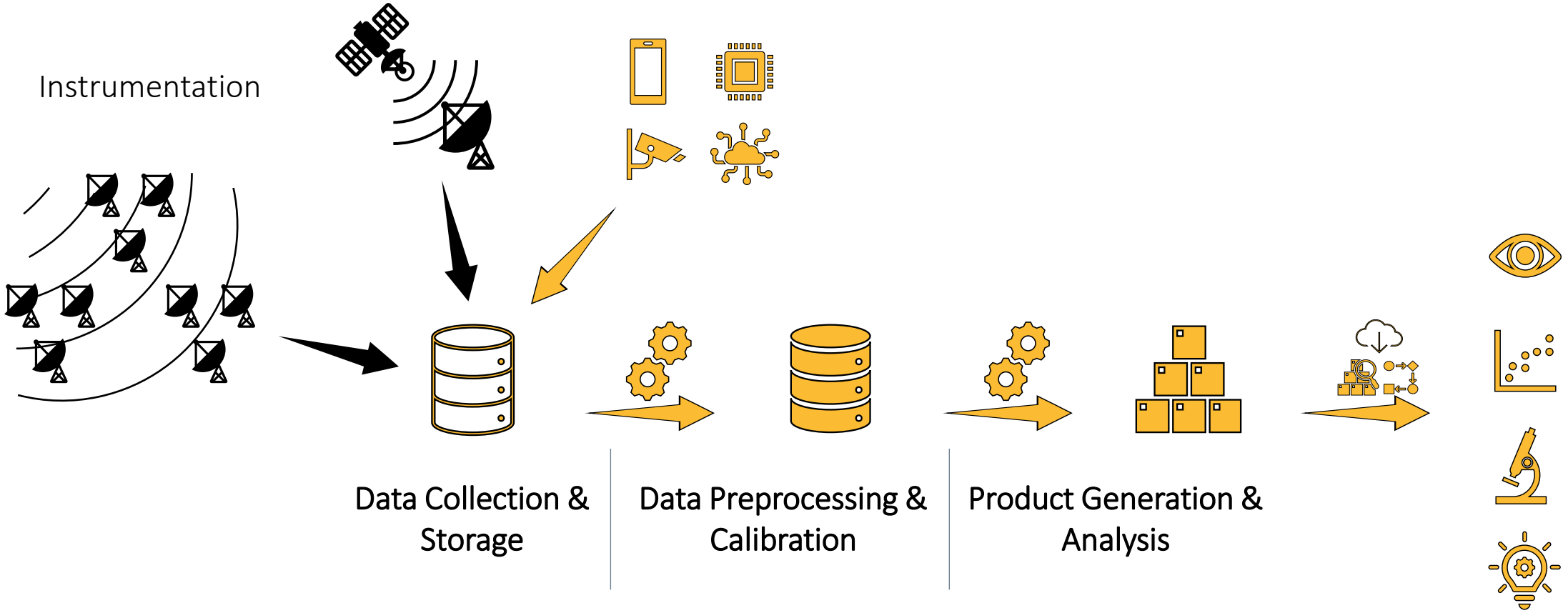
STIX Data Processing Pipeline

Development of ground segment data processing pipeline in Python.

Real-time autonomous processing of raw telemetry data to housekeeping, quicklook, and science data products.

Support to operations in flight.

Threat Detection with Office 365 Logins



Threat Detection on Office 365 Logins

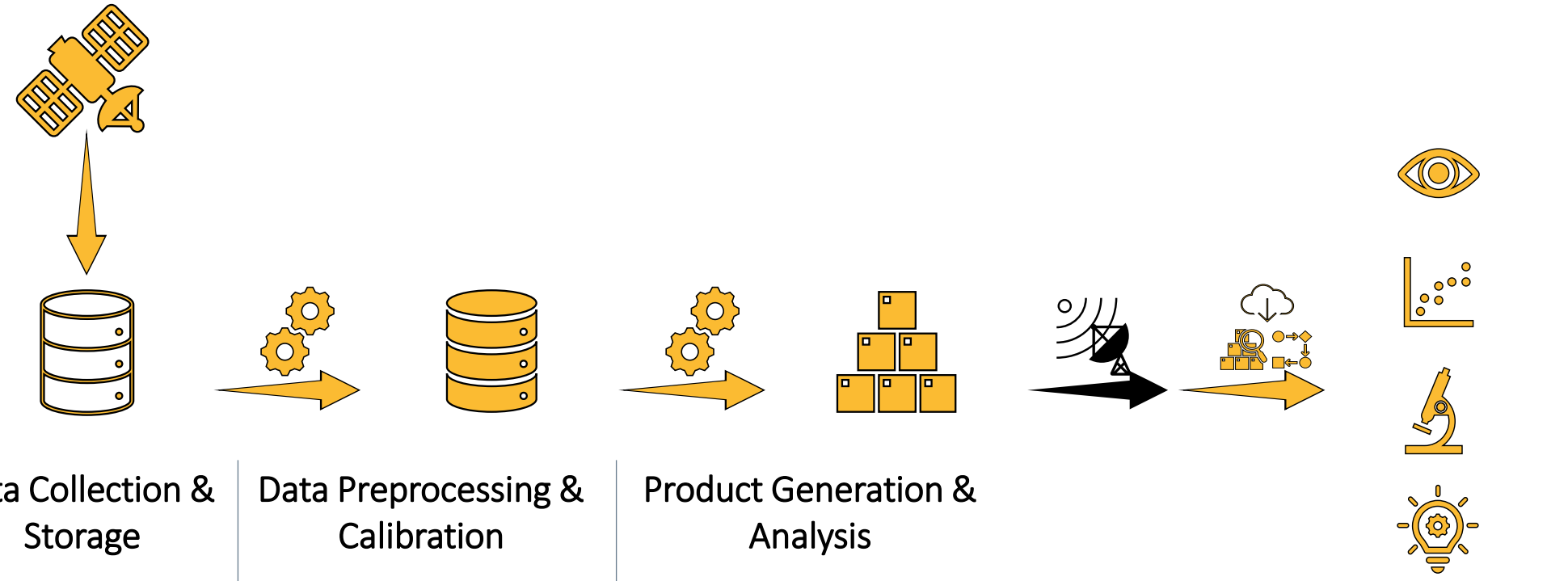
Development of real-time analysis algorithm to detect malicious login attempts on Office 365 accounts.

Low-level memory handling optimization and parallelization to support extracting and organizing terabytes of login data for the algorithm training.

Integration support to client to implement solution with their live system (Databricks Spark and Databricks Feature Store)

Achieved reducing false positives from ~70% to 10-20% and detecting a much-increased number of true positives.

Edge Computing: Study on Embedded Segmentation & Object Detection



Study on Embedded Segmentation & Object Detection

Development and integration of a software development model.

Offline training of machine learning model on aerial imagery.

Development of image processing pipeline for image correction on embedded device.

Integration of trained ML-model with embedded platform and hardware acceleration (FPGA-based).

Real-time object detection and segmentation on embedded system.

Tree image source: https://joaootavionf007.medium.com/orange-trees-detection-with-yolo-v5-in-uav-imagery-22ec29db922e


CONTACT

Ateleris GmbH
TECHNOPARK Aargau
Badenerstrasse 13
CH-5200 Brugg

info@ateleris.ch
+41 56 511 24 42

www.ateleris.ch

Laszlo Istvan Etesi
CEO

laszlo.etesi@ateleris.ch
+41 79 661 77 00