Comprehensive Software Engineering for Space

Software and Technology Development


COMPANY

Comprehensive software and technology development on par with you

Software, algorithms, and digital technologies enable new products and services and are drivers of digital transformation in all companies. Together with our customers, our team develops customized digital solutions on par, straightforwardly, reliably, and fairly.

Ateleris GmbH was founded in 2016 as a spin-off of the University of Applied Sciences Northwestern Switzerland FHNW and is still closely connected to applied research and development. We are a technology service provider with many years of experience in realizing software and engineering projects for businesses, industry, and public institutions at home and abroad. We support our customers throughout the technology lifecycle, from needs assessment and feasibility evaluations to implementation and operation.

Our specialty is the transfer of technologies, methods, and know-how from computer science to other areas, which enables us to develop solutions for a wide range of customer needs: We build software for applications for space and research, intelligent IoT data applications for industrial customers or data science solutions for companies. We also support our customers in consulting mandates and with embedded development teams.


PSI & Park Innovaare
Brugg AG
Fachhochschule Nordwestschweiz
Ateleris GmbH
TECHNOPARK Aargau
Technology Cluster







We work with the **best team** on the **most exciting projects**.

We work **purpose-driven**, **on par with our customers**, **reliable**, and **fair**.







Comprehensive Software Engineering

Ground & Space Segments

Technology Transfer

Applied Research & Development

Complex Projects

Agile Processes & UXD

Comprehensive Project Lifecycle

Partnerships & Collaborations

Purpose-Driven

Project responsibility (GC, sub-contractor), consulting mandates, special resources

Decision Intelligence & Optimization

APIs & Web Platforms, Databases

Instrument Flight Software, EGSE, Data Handling and Processing, etc.

Machine Learning & Data Science, Algorithms

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Core Competencies

Engineering & System Design

- Requirements Engineering (functional & non-functional)
- Architecture Design (Software, Cloud, Data Processing)
- Hardware-Software Co-Design
- Interface & API Design
- UX & Interaction Design (including prototyping)

Web Platforms & Cloud

- Custom Web Applications & Dashboards
- Backend Systems, APIs, Microservices
- Secure, Scalable Data Platforms
- System Integration & Middleware
- Cloud-Native Deployment (Docker, Kubernetes, CI/CD)

Specialty Software

- Edge Computing (e.g., ML on drones, CubeSats)
- IoT Applications & Sensor Networks
- High-Performance Computing (HPC) Workflows
- Scientific & Research Software
- Space Systems (e.g., Instrument Software, Telemetry Pipelines)

Data & Intelligence

- Data Engineering & Data Modeling
- Machine Learning & AI Integration
- Decision Support Systems & Optimization
- Technology Consulting & Data Strategy
- Proof of Concepts (POC) for Data-Driven Solutions

GUROBI OPTIMIZATION

Official GUROBI Partner Switzerland

Collaboration & Delivery

- End-to-End Project Delivery (Prime or Sub-contractor)
- Embedded Teams for Co-Development
- R&D Consulting & Technology Transfer

Project Lifecycle – From Vision to Operation

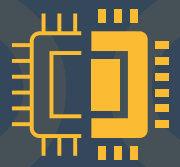
Vision Scoping

- Understanding business challenges
- Stakeholder interviews & opportunity mapping
- Technology feasibility assessments

Shaping

- Requirement & Design studies
- Mockups and early prototypes
- Feasibility POCs and user validation

Development



- Lean agile project execution
- Software & hardware co-engineering
- Integration engineering
- Continuous integration, verification & optimization

Realization

Operation & Continuous Improvement

- Platform setup & cloud orchestration
- Monitoring, updates & lifecycle management
- Ongoing user support & performance tuning
- Iterative feedback loops
- Feature expansion
- Technology transfer to client teams

Why Choose Us?

Diverse and Tight-Knit Team
Fresh perspectives meet seamless collaboration – short paths, open communication, and mutual support spark real innovation.

Cross-Industry Experience
From energy and industry to space and robotics – we bring deep, cross-sector know-how to tackle complex challenges.

Swiss Engineering with Integrity
We live engineering: honest, critical, pragmatic. We speak clearly and build solutions that deliver.

3..., 2..., 1..., GO
Lean processes and a flexible setup mean we can launch in days, not weeks – no overhead, just action.

Flexible & Scalable Solutions
Our teams grow with your project – whether it's fullstack or machine learning, the right people are ready to jump in.

End-to-End & Software-Defined
From space to ground: We design and implement software-defined solutions that follow your data every step of the way.

Domain Expertise & Compliance
Deep domain know-how – developing software that adheres to ECSS and CCSDS standards, ensuring reliability, interoperability, and mission success.

Client-Focused & Purpose-Driven
We build what matters – for your users, business, and the real world. Aligned with your goals, we challenge assumptions to make every feature count


EXPERIENCE

Model-based Analysis of Ordering Costs and Price Structures

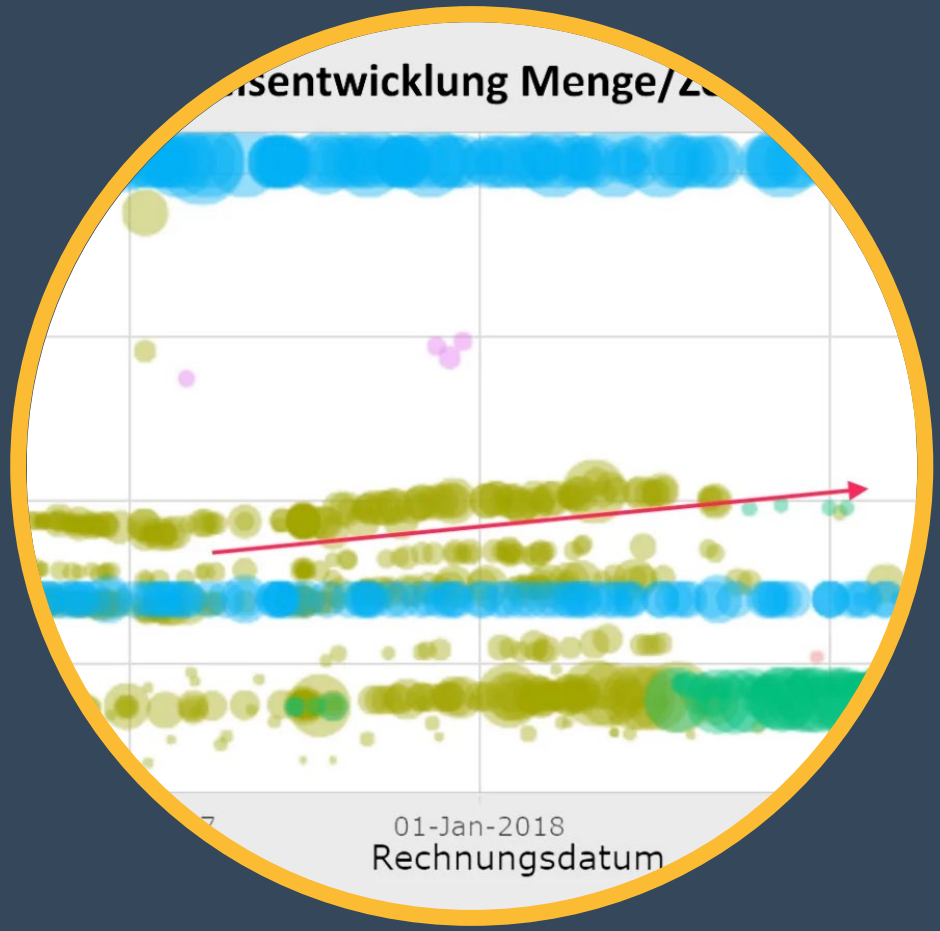
Data-driven Decision Making

Modeling of price and quantity structures through data science algorithms

Interactive visualization of procurement data using an analysis dashboard

Technologies

- Shiny/R and Plotly
- Regression analysis, data processing
- Digital procurement / business intelligence



Click here to learn more.

Energy Monitoring for Minergie

Design, development and operation of the new energy monitoring platform for Minergie Switzerland.

Implementation of data analysis modules for computing key performance indicators and comparing projected and measured values.

Technologies

- Java and Spring Boot
- Angular
- PostgreSQL
- OAuth, REST API
- Docker, Kubernetes

Finding the Perfect Match

System searches for suitable candidates from over 500k possible people.

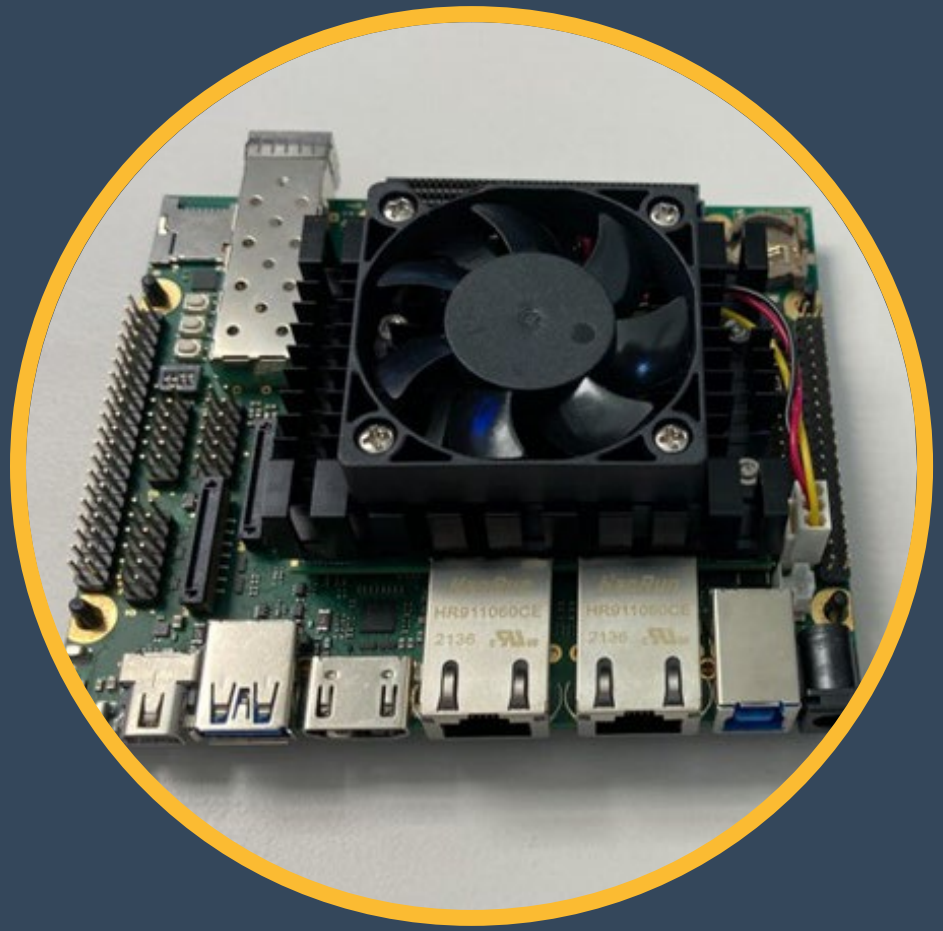
System recognizes dependencies between people in the pool and can derive matching suggestions.

System can estimate and predict missing attributes.

Technologies

- .NET/C#
- ML.NET
- MongoDB
- Docker in AWS Elastic Beanstalk

Click here to learn more.



Embedded ML Image Processing

Development of a ML image processing pipeline in embedded hardware

ML object recognition and segmentation directly on drones or mini-satellites (CubeSats)

Training of models

Technologies

- PyTorch for model generation
- DagsHub for data version control
- Xylinx SoC FPGA with VitisAI for Embedded ML
- Object Detection
- Semantic Segmentation

STIX Data Processing and Archiving

Development of ground-based data processing pipeline in Python.

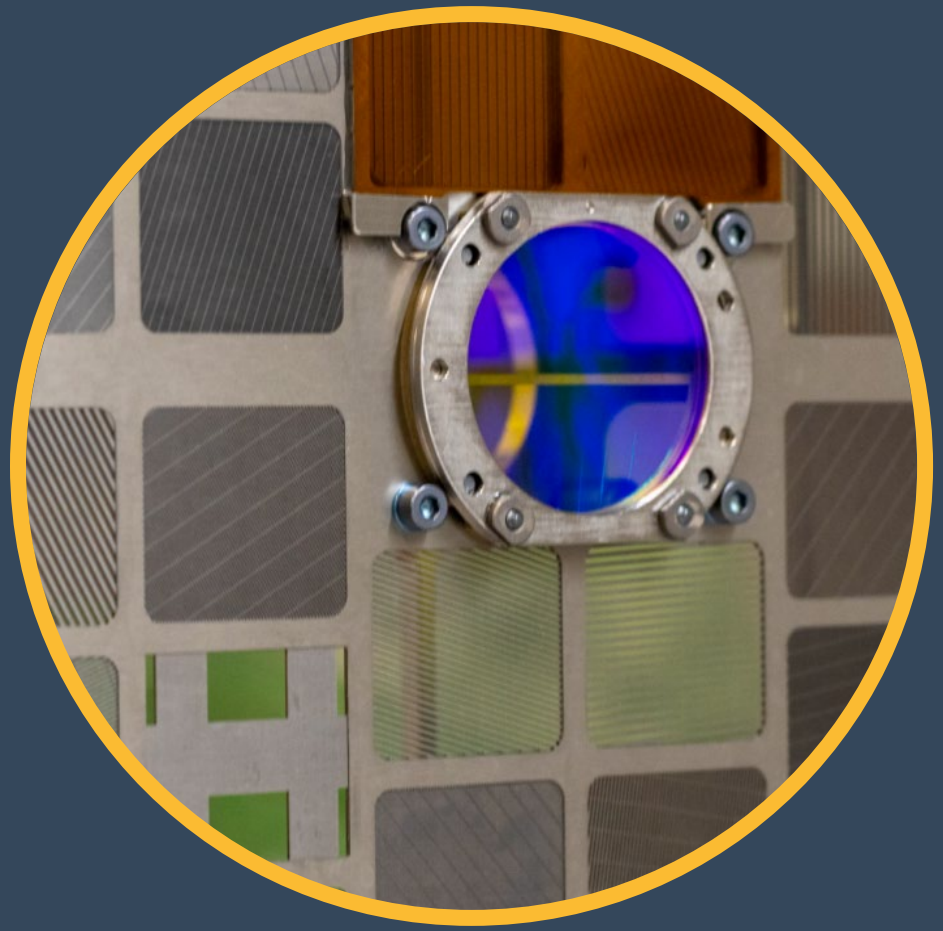
Transformation of telemetry data to housekeeping, quicklook, and science data.

Support to operations in flight.

Technologies

- Python
- Telemetry parsing
- Data analysis and image reconstruction

Click here to learn more.



Click here to learn more.

STIX Flight Software Development

Flight software development and maintenance for solar instrument STIX.

Software verification and testing with EGSE.

Optimization of onboard data processing.

Support to operations in flight.

Technologies

- Embedded C/C++
- Real-Time Executive for Multiprocessor Systems (RTEMS)

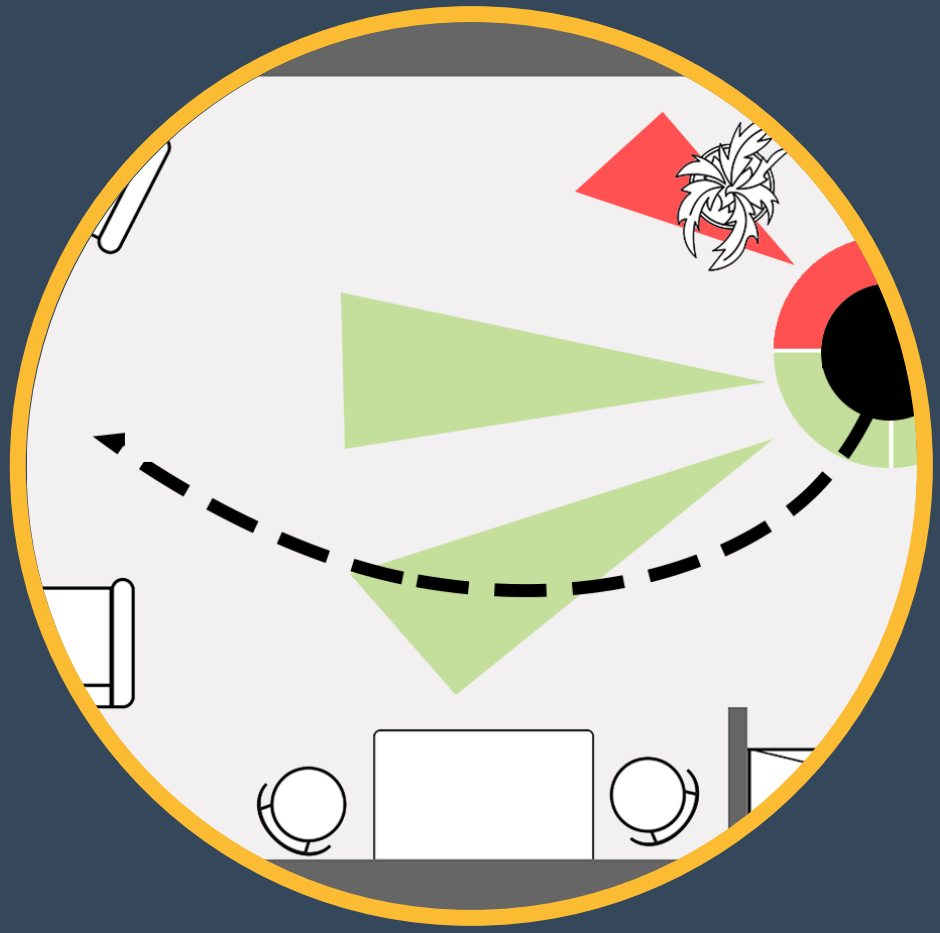
Navigation for a Robot

Development of «indoor» navigation algorithms for autonomous pathfinding of a care robot.

Automatic exploration and mapping of space, with detection of static and moving obstacles.

Technologies

- Development of algorithms
- Optimization, path finding, obstacle avoidance
- Mapping algorithm (sonar, LIDAR)
- Java development



Click here to learn more.

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Bang & Clean IoT-Plattform

Design, development and cloud operations of an IoT data acquisition solution for Bang & Clean AG‘s boiler cleaning devices.

Implementation of a web-based dashboard for visualization and analysis of process data.

Technologies

- ASP.NET 6.0 / C#
- React UI
- MQTT
- Kubernetes
- Azure Cloud

Automated Route Planning of Customer Deliveries

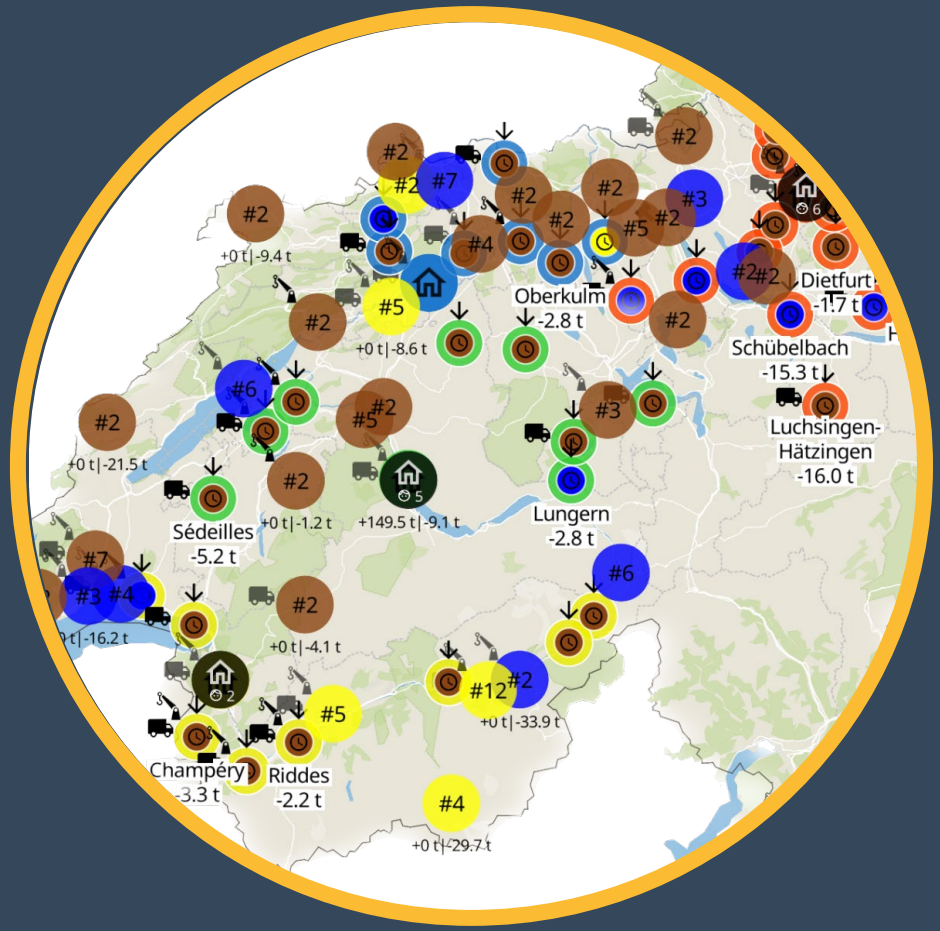
Cost and resource optimization

Support the dispatcher (e.g. by defining fixed routes due to extra time required for special deliveries)

Manages hundreds of deliveries with around 70 vehicles every day

Technologies

- Evolution-based optimization
- Mathematic modeling
- Java



Virtual-Reality-based City and Traffic Planning

VR simulation platform to experience and test city planning and traffic concepts

Extensive comparison of different variants before start of construction

Technologies

- Virtual Reality (VR)
- Unity & .NET
- Hardware and Sensor development

Life Cycle Assessment (LCA) of Space Transportation

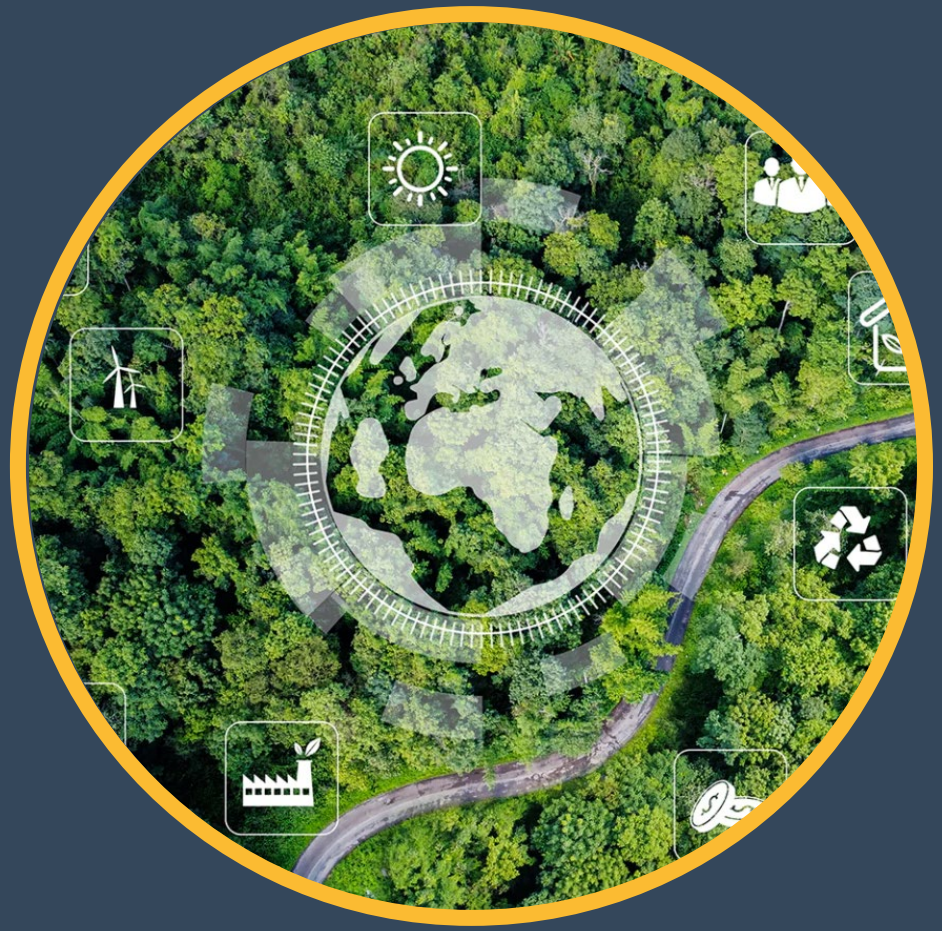
Assessment and comparison tool for Life Cycle Analysis (LCA) of space transportation

Acquisition and analysis of different transport configurations

Various indicators: global warming, energy usage, space debris etc.

Technologies

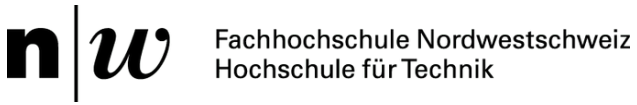
- Ecological Balancing
- Oauth2 / OIDC Authentication with Keycloak
- C#, .NET Core, Python, GraphQL
- React, TypeScript, SCSS, JSON, YAML



Other Projects Online

https://www.ateleris.ch/experience

Partners and Clients



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

Eidgenössisches Departement für
Wirtschaft, Bildung und Forschung WBF
Staatssekretariat für Wirtschaft SECO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