RailXplore Arc Analyzer

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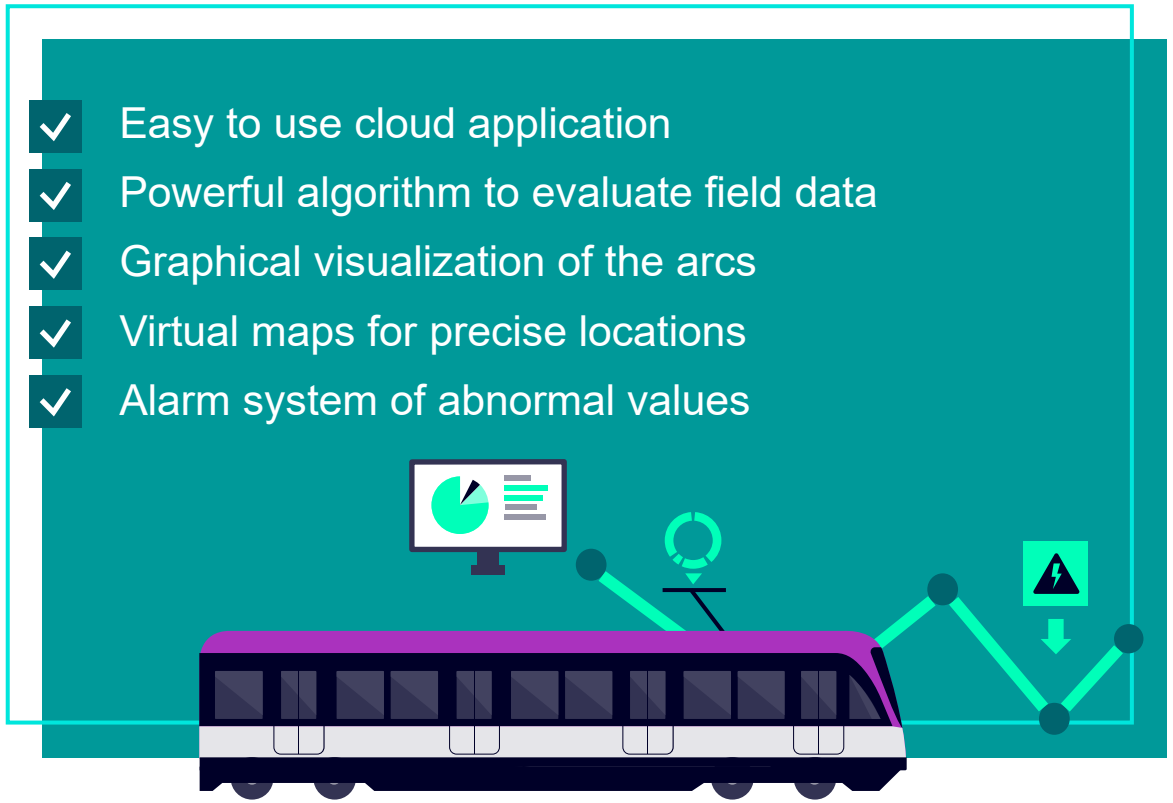
Clear visualization of arcing in the contact lines to ensure the health of pantograph and catenary equipment.

RailXplore Arc Analyzer

Product Description

Preventing problems in the overhead contact line network is complex as the available information lacks transparency and is usually slow. **RailXplore Arc Analyzer** provides visualization of the appearance of arcs in the power-supply system to give a clear outlook of the condition of the overhead contact line system and to support early detection of problems in critical areas to increase network availability and reduce maintenance costs.

RailXplore Arc Analyzer application



The realization of the system of **RailXplore Arc Analyzer** embodies several components from the field and connectivity solutions:

Data collection

- GPS location of arcs
- Current and voltage
- Data logger
- LTE modem

Data monitoring & analytics

- Use of analytics for data analytics and monitoring dashboards

Cloud environment

- Siemens IoT solution for cloud applications
- Data processing using advanced analytics and AI

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Benefits of RailXplore Arc Analyzer

MAINTENANCE

Maintenance Improvement

- Increased maintenance efficiency through specifically planned inspections
- Support in a timely manner for maintenance decision-making
- Reduction of maintenance cost

VISIBILITY

Clear Visibility of the Arcing

- Involvement of all available vehicles by retrofitting the measurement system
- Georeferenced detection of highly worn areas
- Gain a comprehensive knowledge of various operation situations

BENEFITS

ANALYSIS

Insightful Analysis

- Increased asset availability due to early problem detection
- Analysis and identification of root causes

PLANNING

Data Information for Better Planning

- Additional data (big data) for upcoming renovations and extensions of the catenary network

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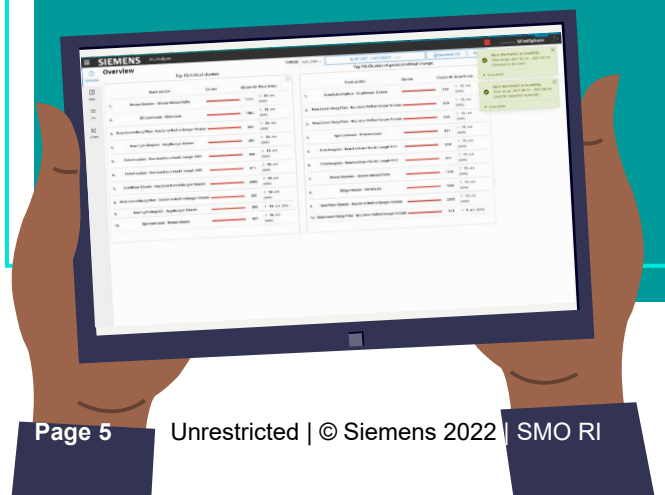
Key Functionalities

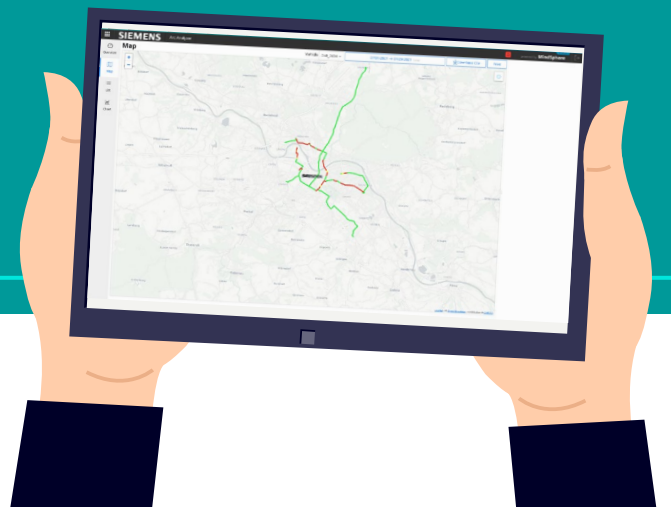
System Overview

- Automated evaluation of critical arcing locations in the network
- Visibility of problems in the overhead contact line system at any time



Detail Map View of Clusters

- Georeferenced detection of highly worn areas
- Precise assignment of location and measurement data for enabling timely maintenance activities



Alarms Management

- Warnings and alarms of abnormal values
- Support event problems at the right time

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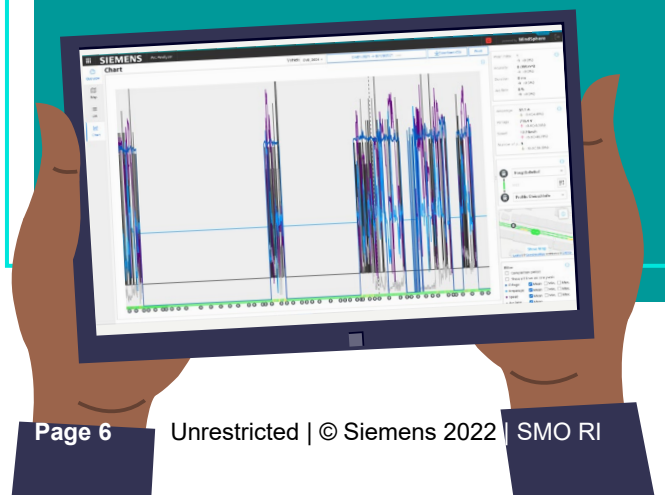
Key Functionalities

Visualization of the Data

- Work intuitively with the data
- Graph representation of the calculated frequency of arcs (arc rate) and intensity over time (i2t), showing possible correlations



Management of the Data

- Available data analytics
- Complete, correct, and quick transfer of data
- Enhancement of the flexibility of the system
- Automatic collection of relevant data

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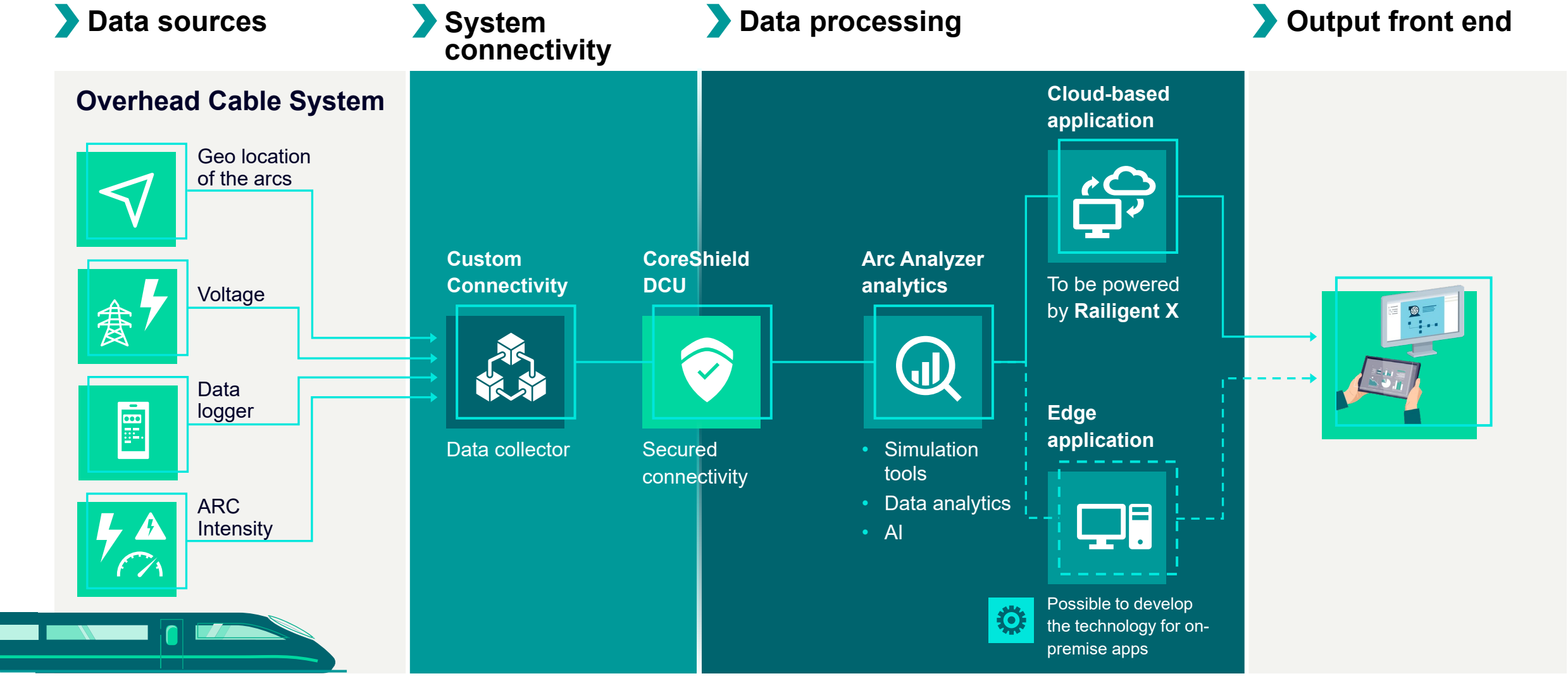
System Architecture



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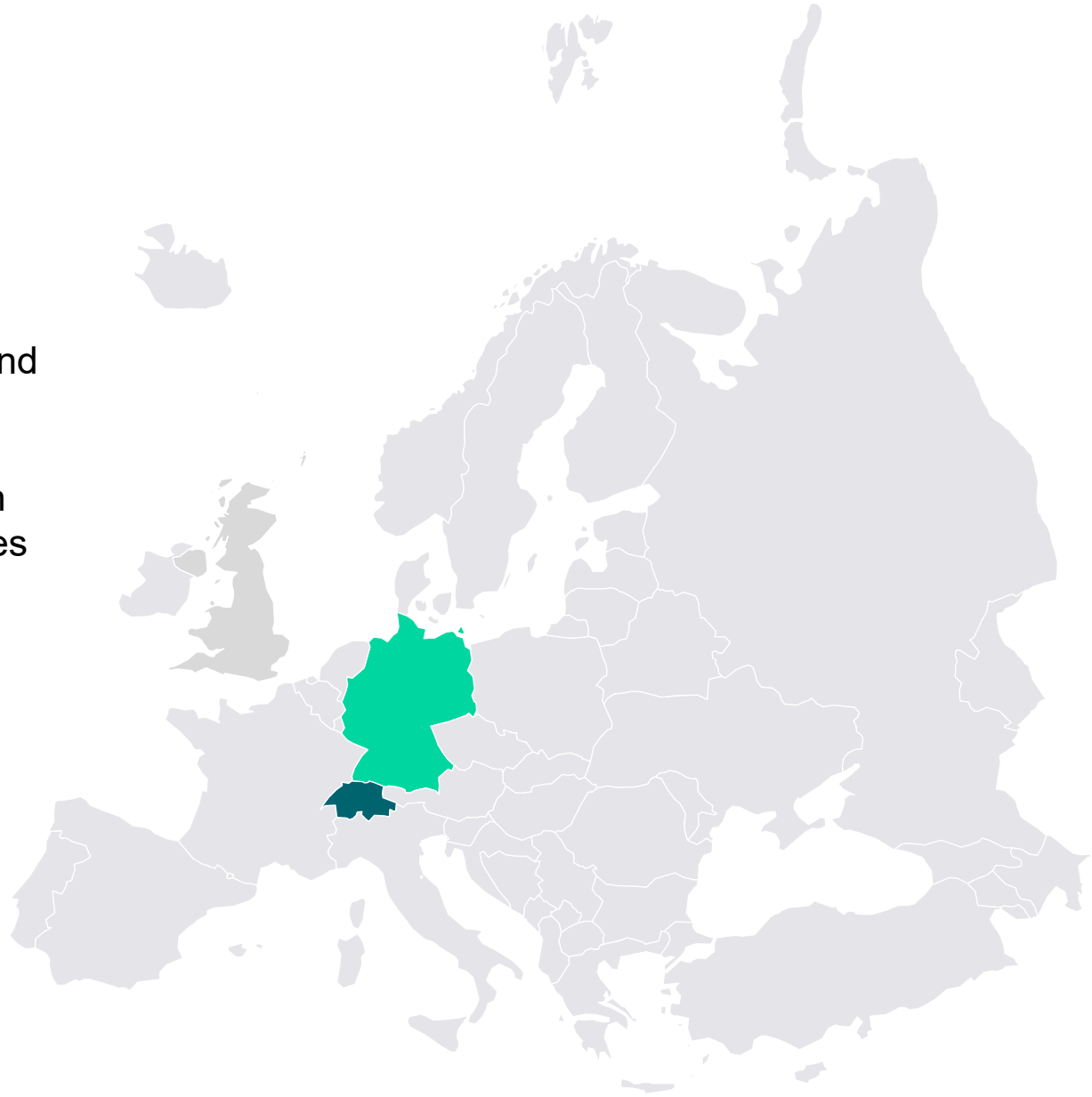
References

Switzerland & Germany

Europe

RailXplore Arc Analyzer has been piloted in Germany and in Switzerland.

The pilot in Switzerland has proven effective results given that **RailXplore Arc Analyzer** was able to diagnose issues of the catenary equipment almost 6 months in advance.



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Contact

Harshal Kulkarni
Product Lifecycle Manager

Siemens Mobility GmbH
ADV D AA MO PR&GS ML-IXL
75/2/3 Baner Road
Baner, Pune
India

Phone: +91 9158620452
E-mail: harshal.kulkarni@siemens.com

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