NETWORK DATA SHARING AND LICENSING

An Enabler for Autonomous Networking

Fraunhofer
Heinrich Hertz Institute

AT A GLANCE

Real field-collected datasets are crucial for the development of smart and autonomous networks.

At Fraunhofer HHI, we gather and make such datasets accessible, allowing our community to move to future autonomous networks.

Features

- Real field-collected data
- Clean and standardized datasets
- Task and use-case specific datasets
- 4G/5G RAN datasets

Applications

- Training and testing of machine learning algorithms
- Validation of DSP algorithms through sampled waveforms
- Development of network automation solutions

Technical Background

Autonomous networking is one of the key enablers for digital transformation and moving towards low-margin operation regime of telecom ecosystems.

However, the scarcity of real field-collected network data is one of the main showstoppers in their development. Fraunhofer HHI provides field-collected data, which allows researchers and solution providers to develop and/or test their solutions for the realization of smart and autonomous networks.

Field Data to Enable Autonomous Networking
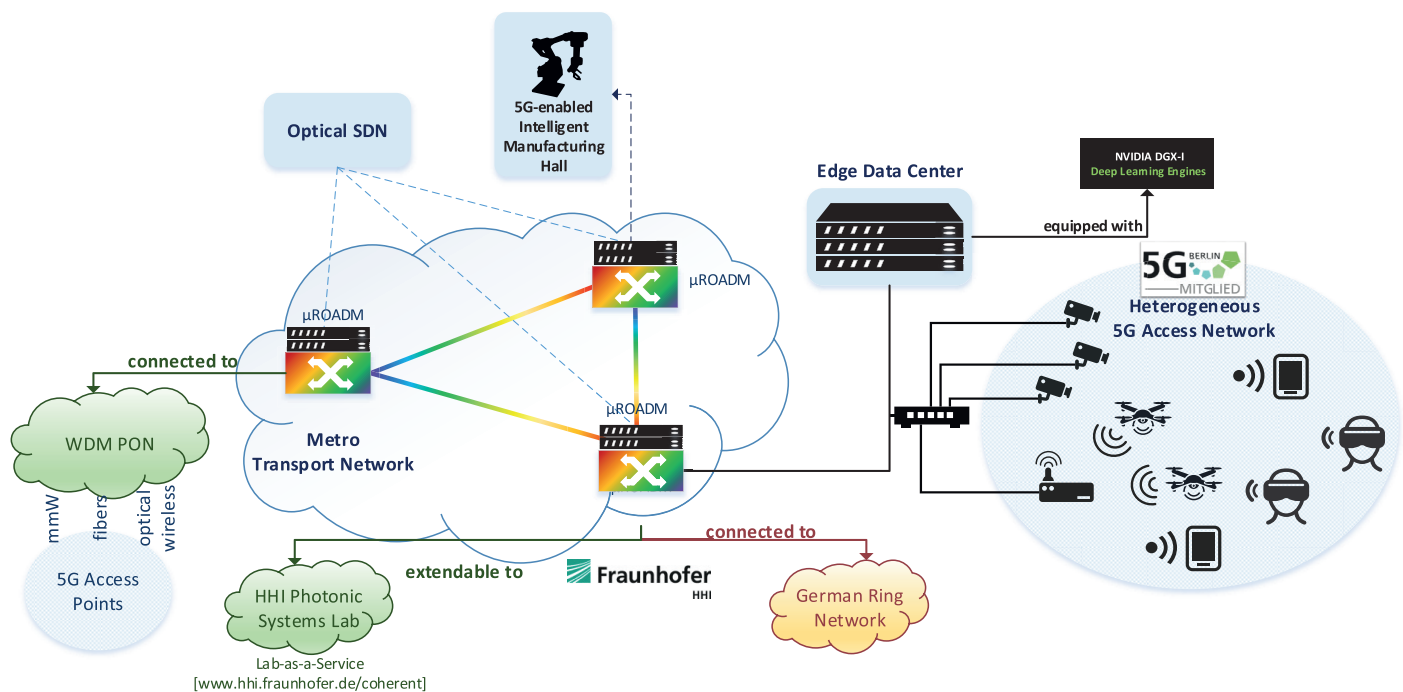
The 3-node microROADM metro network testbed hosted at Fraunhofer Heinrich Hertz Institute provides a great opportunity to perform real-field experiments including 5G-ready RAN infrastructure and edge compute capability for realizing low-latency end-to-end use-cases.

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Metro network characteristics

- 3 μROADM nodes
- Edge compute capability per node
- 400G coherent transponders and beyond
- Filtered and filterless add/drop options

RAN characteristics

- 2.6 GHz TDD LTE macro-cell
- 2.6 GHz TDD indoor LTE small-cell
- 3.7 GHz 5G macro-cell upgrade

Edge cloud environment

- Multi-rack edge cloud connected to RAN
- Flexible container-based cloud environment
- AI-enabled by Nvidia DGX-1 deep learning platform