Proactive Grid Management for Enhanced Availability

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SCCER - FURIES

The SCCER-FURIES is expected to shape the next generation of the electrical Swiss infrastructure in all its layers, from transmission to distribution, enabling a vast penetration of renewable energy resources. Our role is focused on the development of a methodology for online prediction of grid disturbance as a mean to further improve power delivery service availability.

Objectives and Approach

- Disturbance identification and classification
- Data collection and conditioning
- Prediction algorithm development
- Online application:

  Monitor -> Predict -> Mitigate
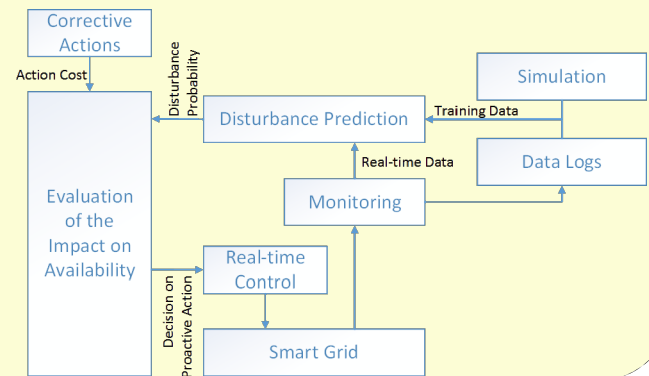
Contributions and Results

- Taxonomy of grid disturbances
- Disturbance prediction methodology
- A model and evaluation of the affect on availability
- Expected availability enhancement by the order of magnitude
- DyPSyFI – fault injection enhanced simulator for provision of disturbance-relevant data
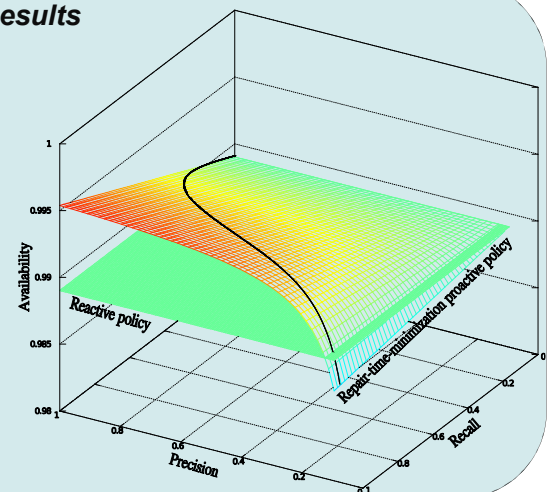
Future Work

Our focus in the next phase of the project will be on real-life verification of the developed models and algorithms. In particular following steps are foreseen:
- *Real-life data provision, aggregation and conditioning*
- *Definition of prediction requirements*
- *Definition of cost matrix*
- *Assessment of disturbance prediction techniques on availability of a real grid*

More information: http://www.alari.ch/projects/sccer-furies-future-swiss-electrical-infrastructure

www.alari.ch