



KTH / EES / protection

Nathaniel Taylor: KTH / EES

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An overview:

KTH protection-related groups
Some of their projects
Their context in the EE School
Resources (lab).





KTH Schools

School of Architecture and the Built Environment

School of Biotechnology

School of Computer Science and Communication

School of **Electrical Engineering**

School of Industrial Engineering and Management

School of Information and Communication Technology

School of Chemical Science and Engineering

School of Engineering Sciences

School of Technology and Health

Scientific Information and Learning

KTH Business Liaison

Some mergers to happen by 2018 ... but our protection groups will doubtless still be there together within the new structure.



KTH Electrical Engineering in numbers

440 Employees (~2015) including:

- ~30 Professors
- ~30 Assistant/Associate Prof.
- ~240 PhD students

Strategic areas:

- **Energy and electrical power**
- **Information and Communication Technology**
- Intelligent transport systems
- Micro and nanosystems
- Space, plasma and fusion



KTH Electrical Engineering departments & groups

Departments:

Communication Theory, Communication Networks
Signal Processing, Automatic control, Micro and nano systems
Fusion Plasma Physics, Space and Plasma Physics

Electric Power and Energy

Electromagnetic Engineering

Management of technology
Software systems architecture and security
Electrical machines and drives
Integration of renewable energy sources
Electricity markets research group
Power system operation and planning

High power electronics

Smart transmission systems lab

Power system operation and control

Theoretical Electromagnetism
Antenna theory
Electromagnetic compatibility
Magnetic materials and modelling
High voltage engineering
Energy storage
Power switching devices

Power system reliability

Power equipment monitoring

protection-related projects are running in the groups at the bottom of these lists



KTH EES groups with protection-related work

Power system operation and control

Lars Nordström

Power equipment monitoring

Nathaniel Taylor

Power system reliability

Patrik Hilber

High power electronics

Staffan Norrga

Smart transmission systems lab

Luigi Vanfretti

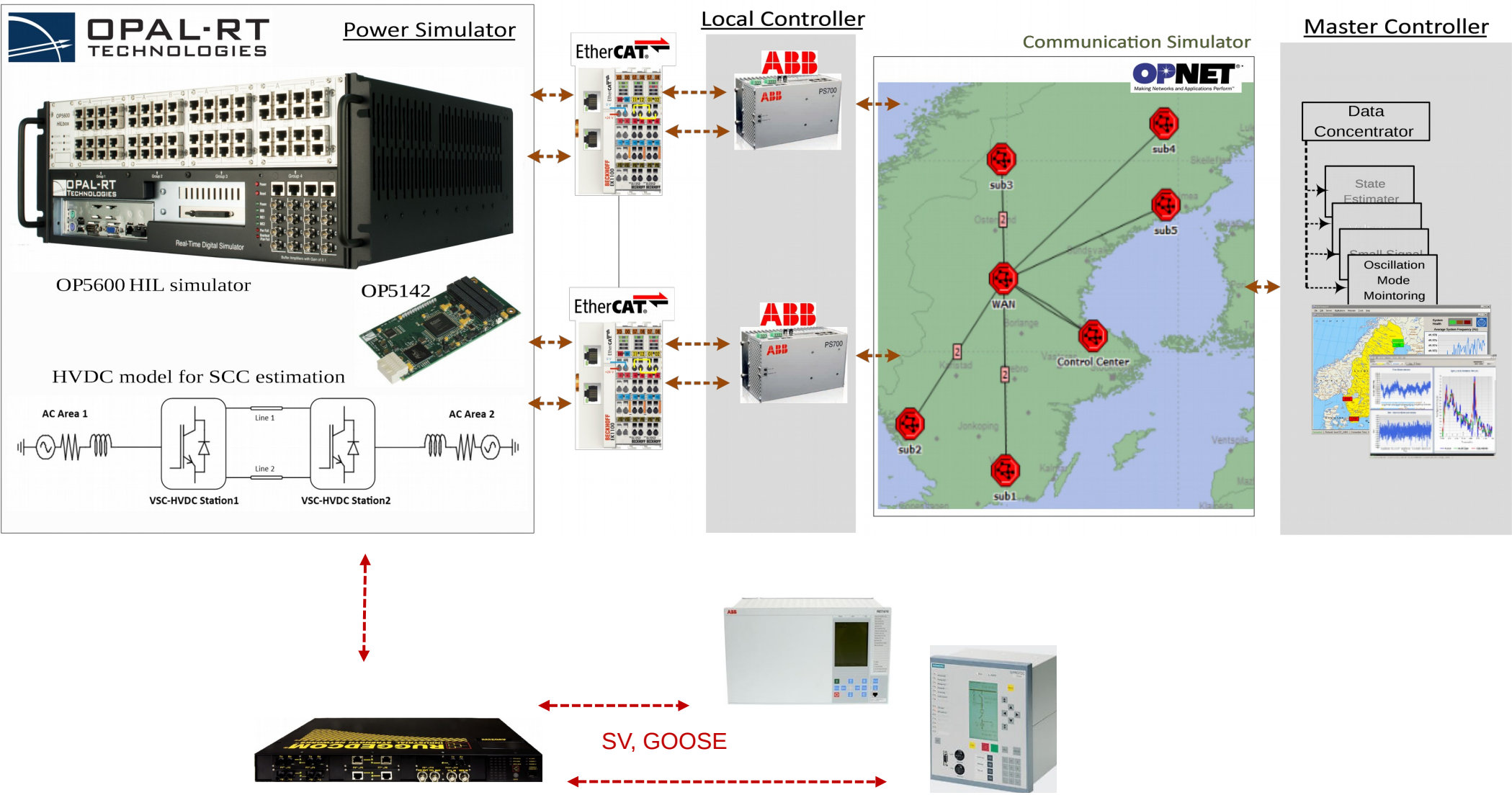
Examples of ongoing projects (two to be presented today):

Centralized substation protection architecture

Fault location in resonant-earthed distribution systems

Line protection in HVDC cable systems

Real-Time Co-Simulation Test-bed





Protection-related courses (master level)

Power Grid Technology and Substation Design instrumentation, faults

Power System Analysis fault analysis

Communication and Control in Electric Power Systems substation comms

Computer Applications in Power Systems system description

Power System Protection applications



Thank you!

Any questions

Now ?

Or to Nathaniel at **taylor@kth.se**

(I can put you in contact with people who aren't present today)