

Flexible Plug & Play

Overview

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Project overview

- **Objective:** To trial smart grid technologies and smart commercial arrangements to facilitate cheaper and faster connection of DG to constrained parts of the network.
- **Duration:** 3 years: January 2012 - December 2014
- **Project Value:** £9.7 million (£6.7m funding from LCN Fund)
- **Partners and Suppliers:** Flexible Plug and Play was delivered with the help of number of project partners and suppliers.

ALSTOM

SilverSpring
NETWORKS



smarter
grid solutions



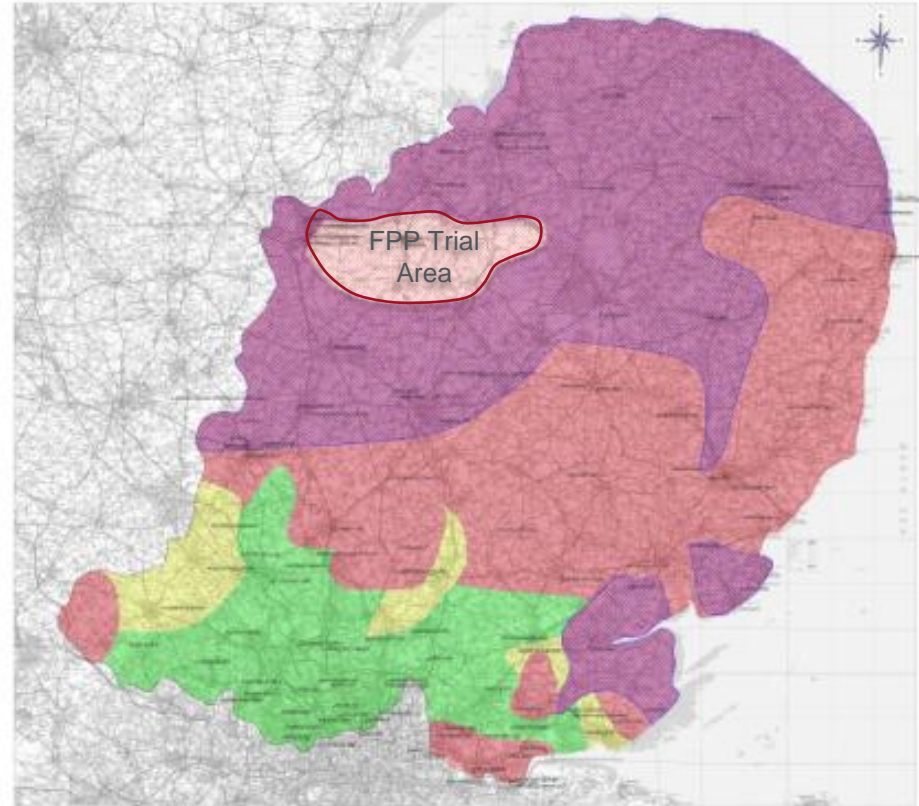
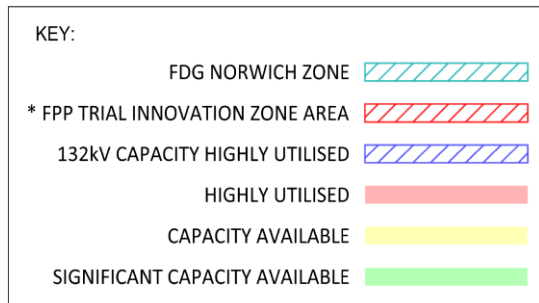
WILSON
TRANSFORMER

DNV·GL

Imperial College
London



The FPP Trial Area



Location: Cambridgeshire

Surface: ~ 700km²

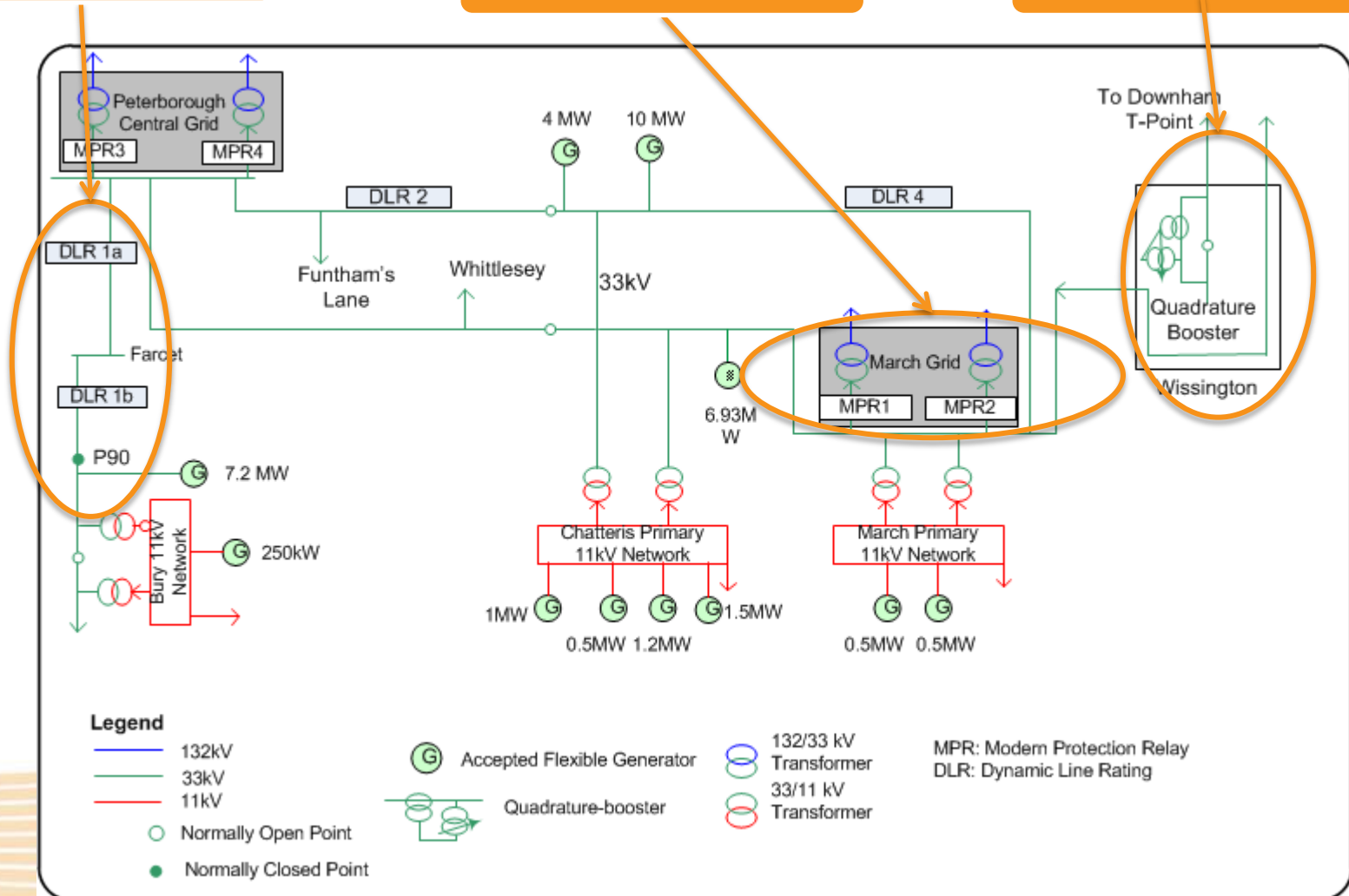
Network: 33kV and 11kV Network (2 Grid, 10 Primary substation sites)

The electrical network

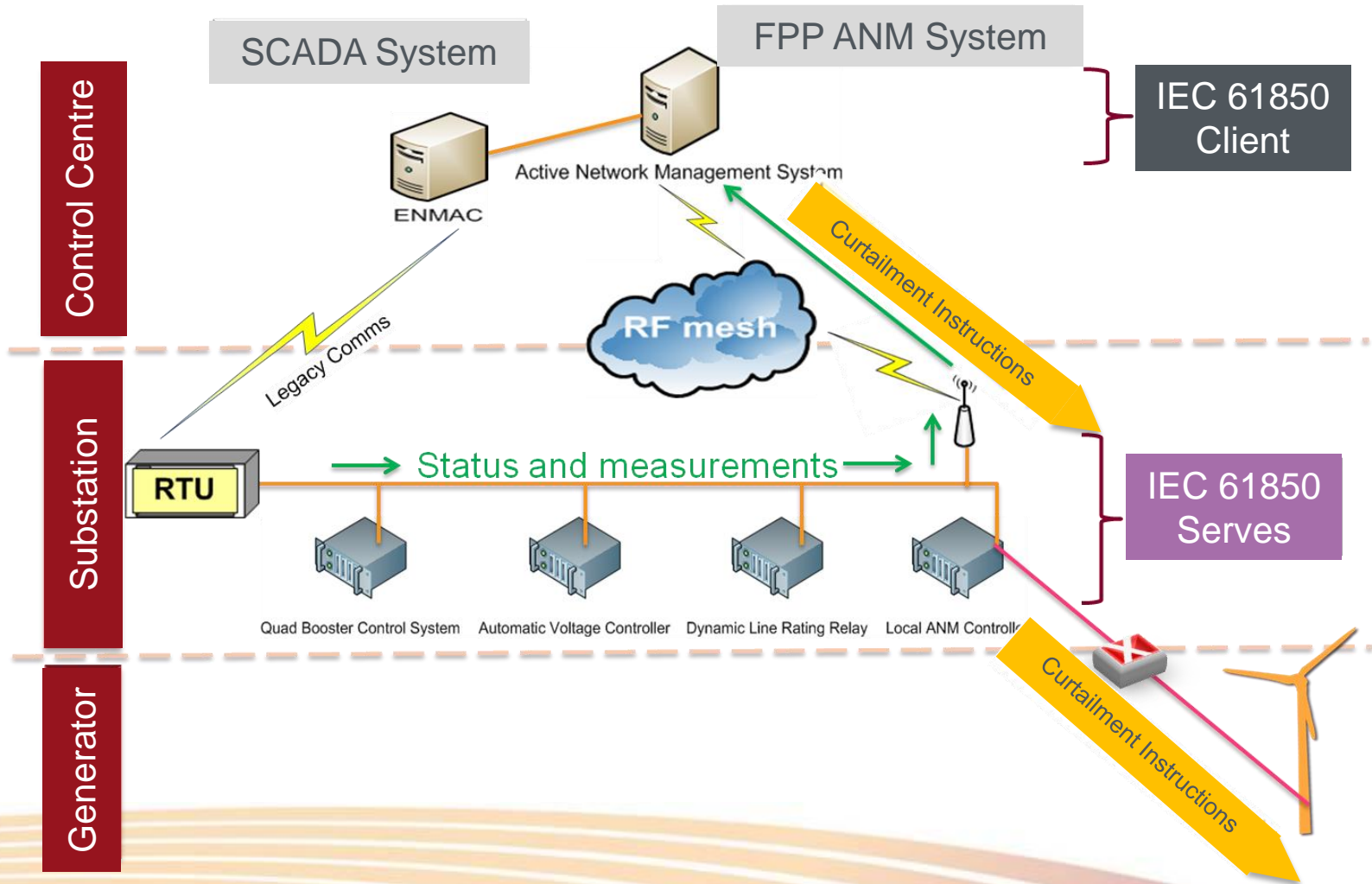
Thermal constraint

March grid reverse power flow

Unbalanced parallel circuits



How the key components fit together



Key achievements of Flexible Plug and Play



Engaged with 50+ DG developers
→ Interviewed 20



Commissioned RF mesh wireless
network for wide area comms



Trialled two DG access principles:
LIFO and Pro-rata capacity quota



Integrated and commissioned smart
devices across 12 sites



Made 40 connection offers:
• 15 accepted, 54.4MW enabled,
£44m savings



Installed and commissioned first
quad-booster at 33kV



Developed analysis tool for
investment options in DG
dominated networks



Deployed IEC 61850 for
interoperability between solution
components

Successful deployment of new commercial arrangements and interoperable smart grid components to deliver faster and cheaper DG connections

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