

FACTS

RESEARCH AREA	Network Planning & Design
START DATE - END DATE	Feb 2018 - Aug 2020
FUNDING MECHANISM	Network Innovation Allowance
ESTIMATED EXPENDITURE	£1,100,000
PROJECTS PARTNERS	EA Technology
MORE ON	http://www.smarternetworks.org/project/nia_npg_024

CONTEXT

The connections design departments in DNOs are facing unprecedented pressure as customers seek to connect novel new loads, and other low carbon technologies, at low voltage. Examples include electric vehicle (EV) charging and renewable generation. This situation is unlikely to improve; the transport sector in the UK is expecting to see significant growth in electric vehicle sales and use in the near future. For distribution network companies this will create the need to serve significant additional vehicle charging infrastructure.

This demand stretches the capacity of Northern Powergrid and means that a large proportion of the available engineering resource is devoted to relatively routine design work. This, in turn, means that design resource is not necessarily available to serve those customers that have more complex or complicated requirements. Overall this means that customers' quotations are delivered on longer timescales than we, or they, would like.

EXPECTED OUTCOMES

The project will be delivered in four separate phases, each delivering a set of interim objectives and acting as stage-gates for progress to subsequent stages.

Stage 1: Assessment of data quality issues, identification of key design rules and assessment of feasibility of approach and production of a fully designed plan for subsequent stages.

Stage 2: Identification and assessment of appropriate and efficient algorithms to perform network assessments at LV, including modules to convert "raw" network data to CIM and from CIM to a DEBUT-style assessment tool where deemed necessary.

Stage 3: Phased pilot introduction and implementation of tool, based on stage 2 outcomes, to internal users. To include rollout testing, user feedback, modification and post development.

Stage 4: Development of customer-friendly online connections tool.

APPROACH

Northern Powergrid has recently implemented an Enterprise Asset Management (EAM) system built on an Oracle database architecture. This dataset contains a rich source of data on the location and capability of the electrical assets in the ground. We have an opportunity to leverage this information and the substantial investment that it represents to facilitate a faster and more efficient, economic and consistent connections process that delivers a better customer experience.

LONG TERM PRIORITIES



Network Environmental Footprint



Network Reliability & Availability



Network Management & Flexibility



Demand-side Response



Network Planning & Design



Communication & Engagement



IT-enabled Process Improvements



Social Responsibility