Your Online Digital Architecture Alpha Phase User Story Overview

Enabling Accessible Energy Data

Why

How

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YODA

Solving the fundamental problem of exchanging digital energy information between data providers and data users

Creating a ‘Common Data Architecture’ to provide energy data transparency and enabling access allowing users to innovate and disrupt

YODA

Collaboration @ Core
Working in harmony with existing data-initiatives

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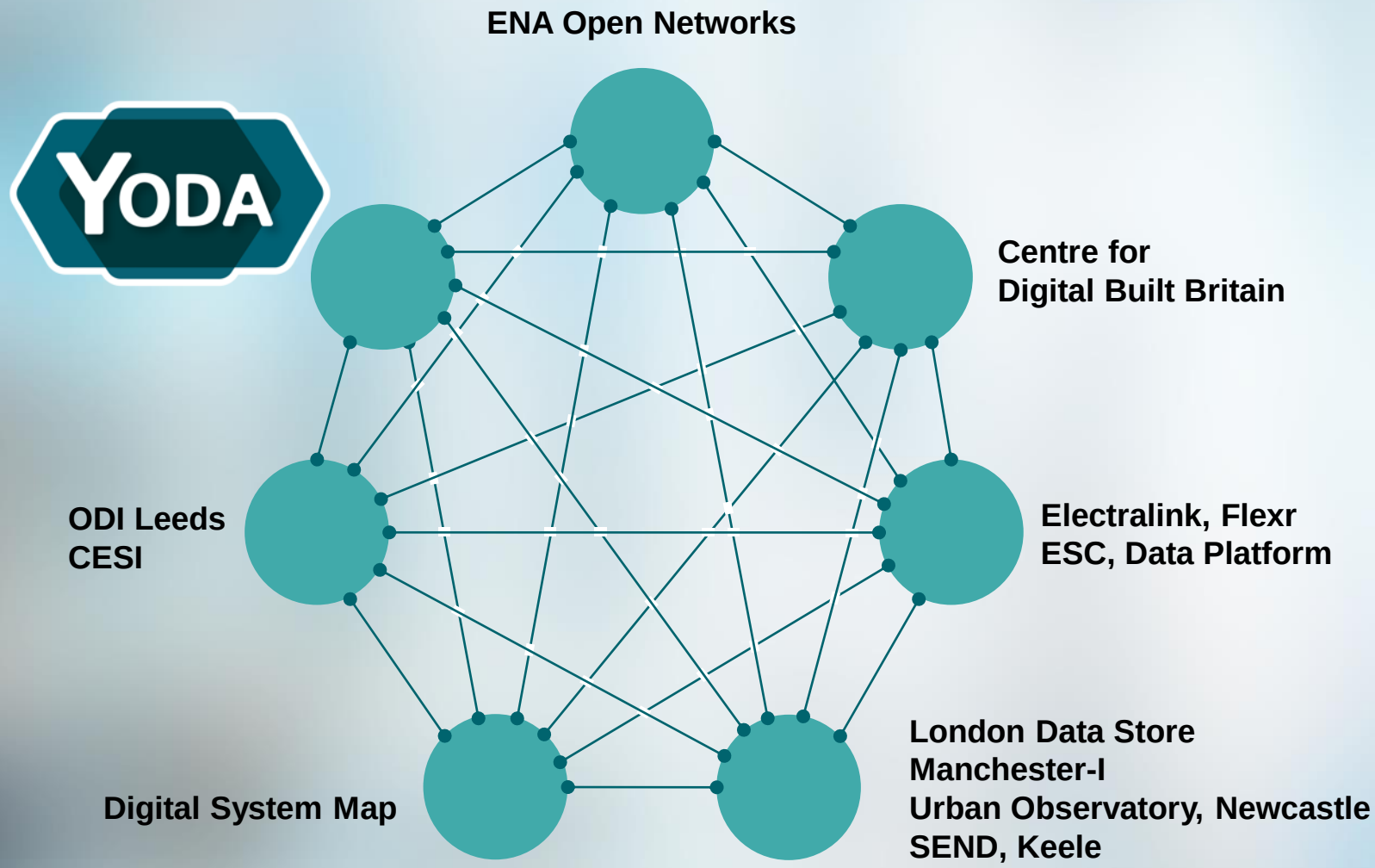

Observations

- YODA will work in harmony with existing open-data initiatives
- Interoperability at its heart
- Converging on standards
- YODA is part of solution – collaboration critical for open-data

Flexible architecture
Removing barriers to data access for stakeholders

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Innovation via Applications

e.g., EV integration

YODA Insight-Arena

Engage, Share, Roadmap & Incubate

YODA MARKETPLACE

YODA BROKER

YODA DATA COLLATION

YODA CENTRAL DATA EXCHANGE ARCHITECTURE

YODA API Tooling

Data Provider A

Data Provider B

Data Provider C

Data Provider D

Data Provider N+

Energy Map

Data Catalogue

Asset Register

Future Proofing Principles

- Flexible API tooling to enable wide integration with the meta-model
- Flexible & Extensible Data Structure
- Brokerage services to interconnect data requestors and providers
- User Centric-Roadmapping

Detailed Persona Analysis techniques were used to identify distinct starting points for user stories

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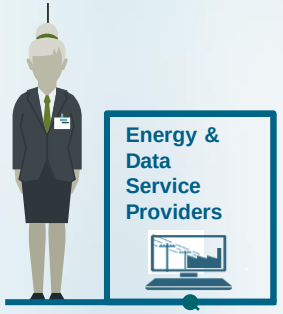
> *We **plan, develop, and operate** solar farms. Our typical **hurdles** are in gathering **good quality data** about the **transmission network**, **load** requirements **forecasts**, & **GIS** data*



Energy & Data Service Providers

> *We are working on **predictive modeling** for office building energy consumption but **struggle with accessing reliable** datasets in a **standardized** format, identifying **duplicate data**, and **cleansing** it.*

Research & Development Cluster

> *We want to **expand our fast charging network** and **provide roaming services**. It is difficult to access **reliable** data on **network capacity**, **mobility patterns**, market **forecasts** etc. to be able to evaluate the business case.*

Mobility Providers

> *We want to develop a roadmap for deploying smart sensors and **provide modern citizen services** but it is quite **difficult to decide the number, siting and placement** of different devices*

Government Authority / Smart City

> *We want to **optimize our asset management strategies** but **lack the capability** to carry out **predictive asset condition prognosis** ourselves. Also interested in exploring the potential revenue from providing our **premium data products.***

Electricity & Gas Utilities

Equipment manufacturer interested in condition monitoring data of its deployed assets across multiple utilities to improve design

Active Persona: Innovator

A User Story

Situation

A leading manufacturer of distribution equipment would like to extend the functionality of a complex switchgear assembly by adding new technical features. However, they would like to base this on statistical analysis of failure mode and effects derived from condition monitoring data of already installed devices.

Complexity

Apart from privacy concerns and commercial risks, different equipment operating utilities did not provide condition monitoring data with similar level of detail and granularity. It was also quite complex for the manufacturer to parameterize the statistical failure models.

Solution

Through YODA's app marketplace, the manufacturer finds an app from a data analytics company specializing in failure modeling. The manufacturer first subscribes to the premium anonymized condition monitoring datasets from different utilities for this type of switchgear and then subscribes to the app from the data analytics company to process the data.

Call for Action - Participation

Data Providers

- **Electrical utilities** providing *anonymized* asset loading (e.g. historic timeseries loading for a given transformer type) and *anonymized* asset-specific condition monitoring data (number of switching operations, results of DGA, oil moisture tests, winding resistance, thermography etc.)
- Electrical utilities and **regulators** providing outage statistics (times, duration, number of impacted customers)

Data Users

- Equipment manufacturers for electrical utilities (transformers, switchgear, circuit breakers, protection relays)
- Data analytics app developers
- Electrical utilities

eMobility provider expanding its fast charging network across multiple cities considering network capacity, mobility patterns, …

Active Persona: Data Manager

B **User Story**

Situation

An e-Mobility service provider plans to expand its fast charging services in multiple cities covering the installation of charging points, maintaining and servicing the charging infrastructure, and providing roaming services.

Complexity

From prior experience, the service provider's planning teams anticipate long and protracted discussions with different organizations to access more reliable data on network capacity, mobility patterns, market forecasts etc. to be able to evaluate the business case.

Solution

Through the YODA platform, the service provider is now able to access electric vehicle capacity maps to support charging point siting decisions as well as reliable mobility patterns to design specific services (roaming, reservation, and billing services.)

Call for Action - Participation

Data Providers

- **Electrical utilities** providing eV capacity / heat maps (if available) or network reserve capacity, grid planning, and GIS data
- **Traffic monitoring and optimization companies** providing data on traffic and mobility patterns (e.g. by area and for 15 min intervals)

Data Users

- E-Mobility service providers (roaming, reservation services)
- Electric vehicle charging point operators (installation, operation, maintenance of charging infrastructure)

RE service provider / investor interested in optimized planning for a solar farm considering location, network capacity etc.

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Active Persona: Investor

C User Story

Situation

A renewable energy service provider wants to plan, develop, and operate a series of solar farms to leverage a time-limited business opportunity.

Complexity

From past project experience, the planning team is well-cognizant of hurdles in gathering good quality data about the transmission network, load requirements forecasts, & GIS data

Solution

Registering with the YODA platform, the planning team is able to access reliable data about network capacity to offtake the solar farm output, optimum location / siting, as well as past energy trade data about ancillary services to strengthen the business case. In addition to the planning team, the product design department of the energy and data service provider uses anonymized smart meter consumption datasets to design multiple customized demand-side management products for different customer segments.

Call for Action - Participation

Data Providers

- **Electrical utilities** providing generation availability heat map (if available), network capacity / constraint data, smart meter data
- UK **Met Office** providing weather, slope, solar irradiation data
- **Ordnance survey**, **Environment Agency** providing GIS data on land use restrictions, infrastructure access (roads, proximity to transmission bulk supply points)
- Local **district councils** providing permitting / approval guidelines

Data Users

- Renewables service provider / investor
- Energy service provider (e.g. green source guarantee, DSM, energy efficiency)

YODA

Playing your part

Why

How

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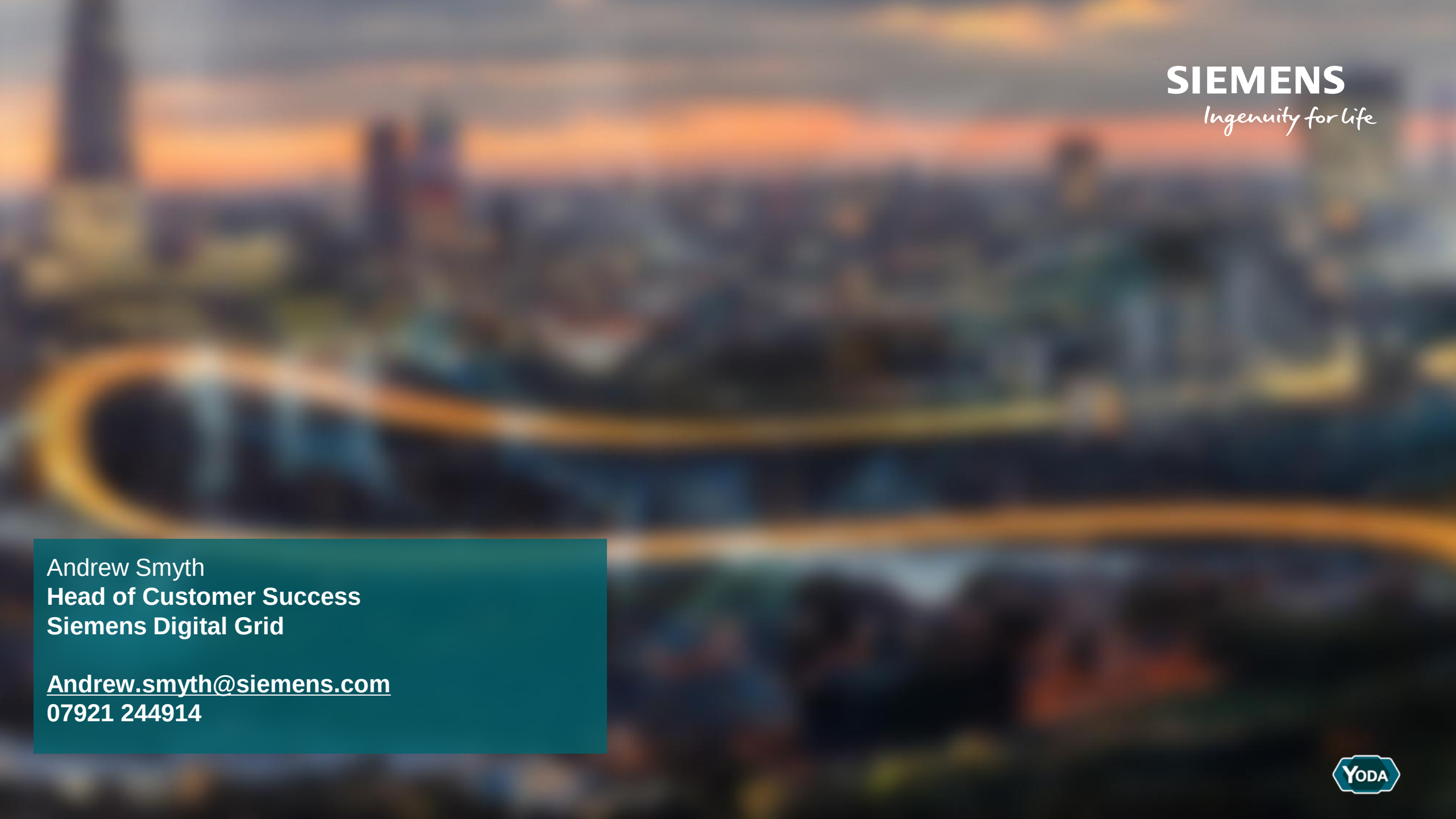
Real data and contextual insight is required for testing YODA's services so that they meet your requirements

Contribute datasets to help ensure soundness and relevance of the user stories

YODA



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