DER & The Grid

Lodden Mallee Future Energy Forum
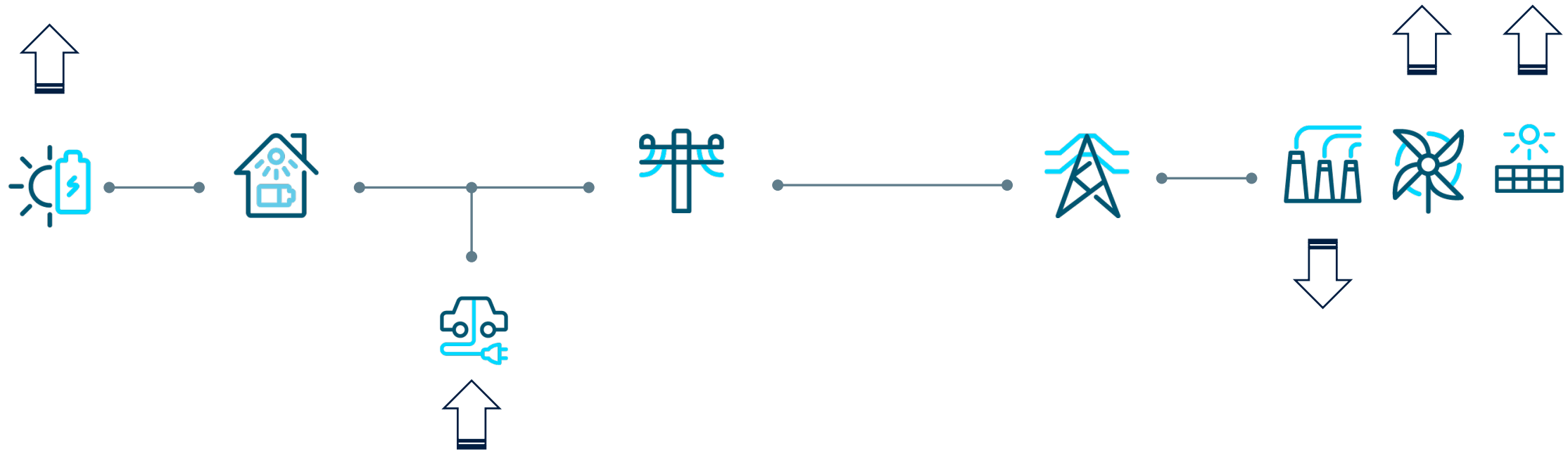
31 October 2019
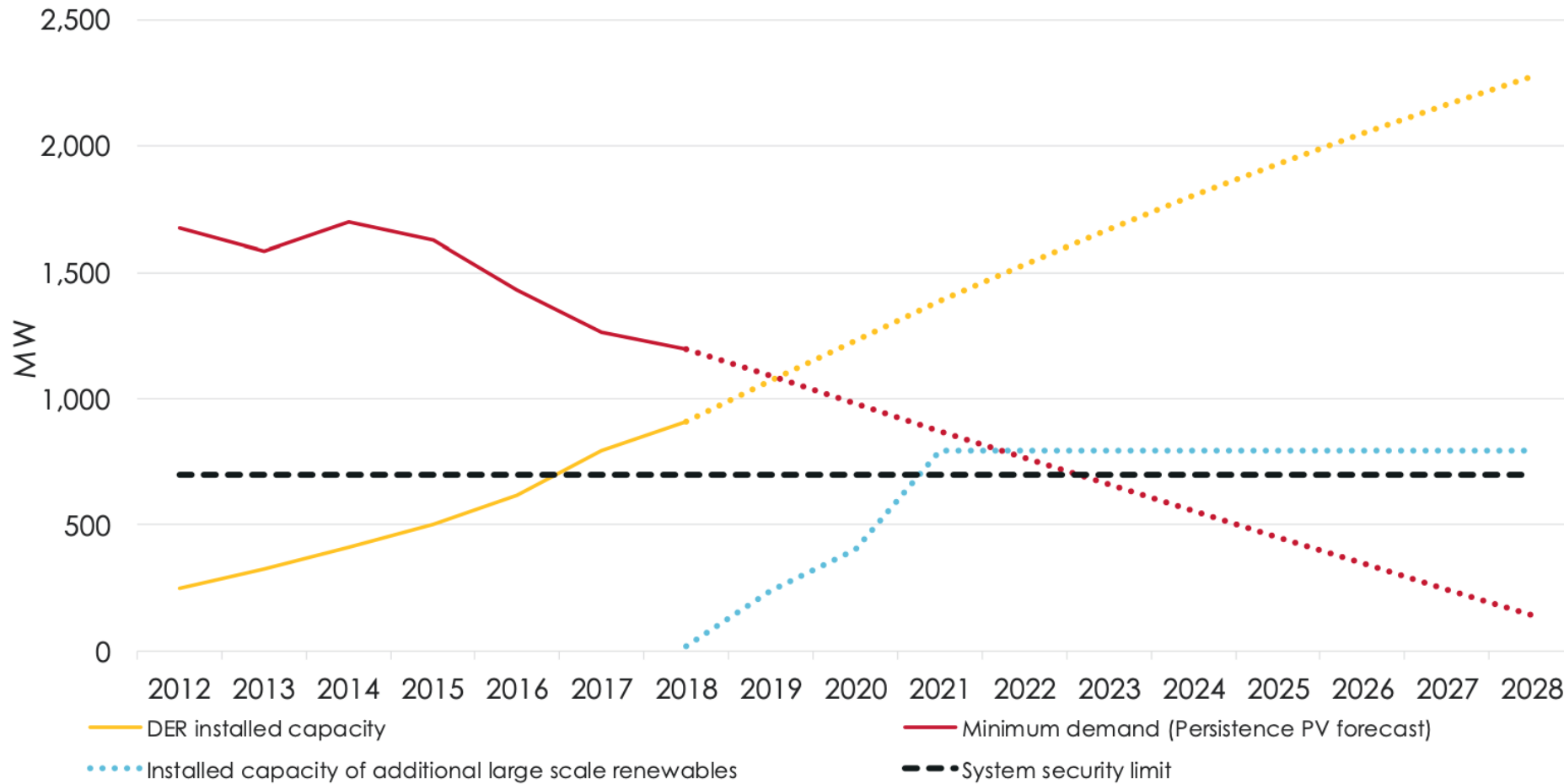
GreenSync

History of Change

The need for flexibility

The Problem – a postcard from WA

Source: AEMO 2019 *Integration Utility-scale Renewables and Distributed Energy Resources in the SWIS*

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What's Needed

DER Smart Hardware

Hardware capabilities (codified by standards over time)

DER Connectivity and Visibility

Internet connected, cloud enabled (supported by protocols)

DER Remote Control

Remote dynamic dispatch functionality (enabled by customer permissions and agreements)
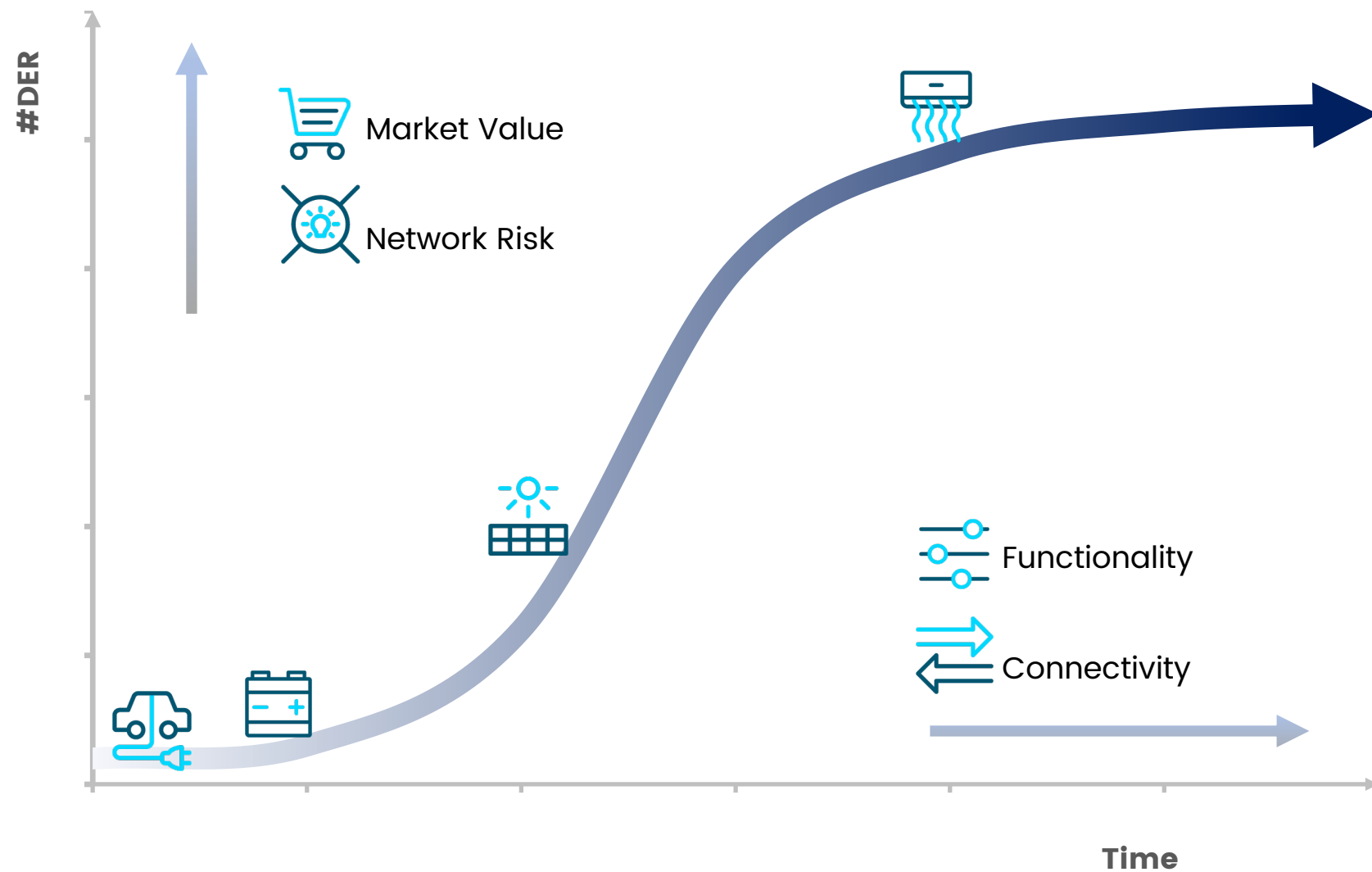
DER Flexibility Markets

Enabled by 1, 2, 3, software and markets
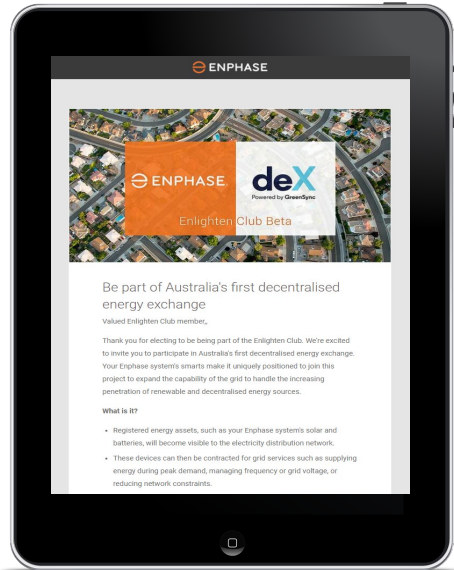
Unlocking value

Basics
Smart DER Evolution

#DER

Market Value

Network Risk

Functionality
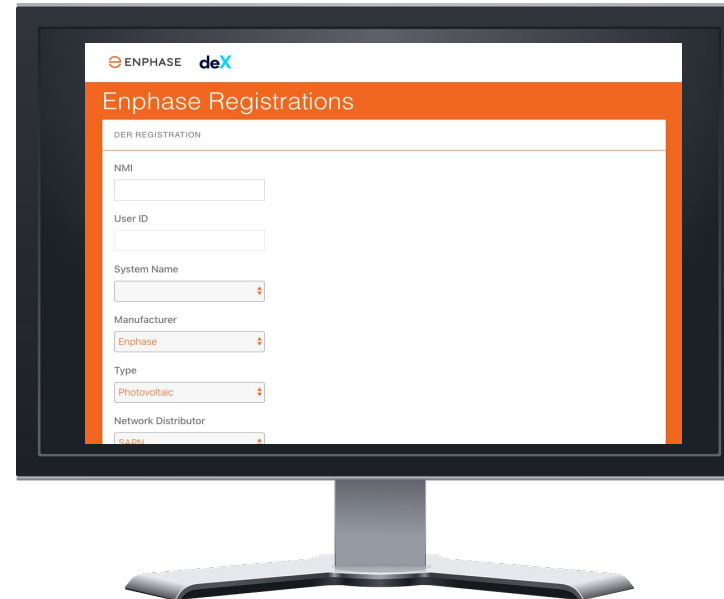
Connectivity

Time

Exchanging value

deX Exchange Example
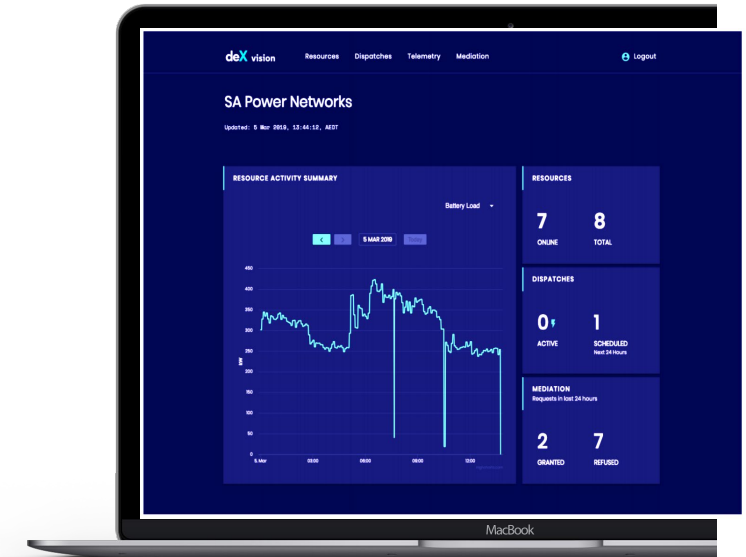## DER Dynamic Registration Use Case - solar

Customer Engagement

Dynamic Registration

Visibility /Emergency Curtailment

Wellington Electricity

A new business model to support electric vehicle charging at scale and help manage peak electricity demand on the network, co-funded by the New Zealand government.

Functionality

- DER registration

- Dynamic dispatch and connection agreements

- DSO dispatch request for critical network support

- Retailer VPP service contracting and dispatch

Simply Energy & SA Power Networks

Implementing the first DSO functionality in Australia

Functionality

- DER registration

- Visibility and mediation functionality for DNSP

- Publish contracts and constraint data

- VPP dispatch for wholesale and FCAS

SA Power Networks Simply energy® GreenSync TESLA Geli solaredge

UK Power Networks

Part of a team delivering the world's most advanced network control system and DSO marketplace

Functionality

- DER registration via Nexant

- Publish contracts and constraint data

- Mediation from ADMS via SGS DERMS

- Production DSO capability

- Digital flexibility service contracts for MV constraint management

This Room Is Equipped With

Edison Electric Light.

Do not attempt to light with match. Simply turn key on wall by the door.

The use of Electricity for lighting is in no way harmful to health, nor does it affect the soundness of sleep.

Sign of the times

Thank you