Cybersecurity & Digital Energy Platforms

Speaker : *Alina Kuzmich, Technical Analyst and Head of EV, Power Transition Ltd*

Cybercrime in Electricity Sector

Energy sector has been the major target for cyber crime, with over 16% of all officially reported attacks

BUSINESS > CYBERSECURITY | February 26, 2021

Npower data breach: Credential stuffing attack forces app closure

By Robert Scammell

EDITORS' PICK | May 15, 2020, 05:56am EDT | 11,391 views

Cyber Attack On U.K. Electricity Market Confirmed: National Grid Investigates

What Happens When Russian Hackers Come for the Electrical Grid

Emergency training at a restricted facility off Long Island has aimed to minimize the potentially catastrophic effects of a cyberattack on U.S. power infrastructure.

By Michael Riley
January 26, 2022, 9:00 AM GMT

Trends in the Electricity Sector and its Cyber Risks

power transition

- By 2040 almost half of the total electricity in India will be generated by renewables
- Energy Companies are becoming more interested in piloting, innovating and integrating new energy management systems

Potential threat impacts

Generation
Disruption of service and ransomware attacks against power plants and clean-energy generators

Root cause: Legacy generation systems and clean-energy infrastructure designed without security in mind

Transmission
Large-scale disruption of power to customers through remotely disconnecting services

Root cause: Physical security weaknesses allow access to grid control systems

Distribution
Disruption of substations that leads to regional loss of service and disruption of service to customers

Root cause: Distributed power systems and limited security built into SCADA[1] systems

Network
Theft of customer information, fraud, and disruption of services

Root cause: Large attack surface of IoT devices, including smart meters and electric vehicles

[1]Supervisory control and data acquisition.

McKinsey & Company

INDIAN RENEWABLE ENERGY INDUSTRY REPORT, 2021

REPORT from McKinsey & Company, 2020

Crucial Security Features

Decentralised Governance
Hedera Governing Council

Fairness of Transactions
with Guaranteed Finality

aBFT Mathematical Proof
Highest Security Standard

Privacy
Trust and Transparency

Stability
Network will not Fork

Interoperability
Hardware & Software

WEF, 2020

Hedera, 2018

Enterprise-Grade Security

Cybercrime Category	Description	Cybercrime Scorecard			
		Bitcoin	Ethereum	Hashgraph	VISA
DDoS	Rendering systems inoperative				
Surveillance Hacking	Illegal gleaning of private information				
Sybil and Bot Attacks	Creating false identities/users				
Network Infiltration	Poisoning network functionality				
Overall Score:		350	350	400	150

Cybercrime Scorecard Index		Score
Highest levels of Cybercrime Prevention have been implemented with solid ongoing security program		100
Cybercrime prevention is good, but more attention required as criminals evolve		75
Cybercrime issue addressed but poorly designed and implemented		50
Cybercrime has been identified, but inadequate measures taken to prevent it		25
Cybercrime issue has not been identified or addressed		0

Decentralised Governance

Hedera Governing Council

Google, wipro, TATA COMMUNICATIONS, BOEING, IBM, LG, UCL

Deutsche Telekom, EDF, DLA PIPER, swisscom, NOMURA, eftpos Good for Australia, UBISOFT, LSE

Hedera Council Members, 2022

Global Applications of Hedera

Finance Sector

eftpos Good for Australia

Launch of micropayments as innovative payment solutions, contributing to automation of payments for smart cities.

Healthcare

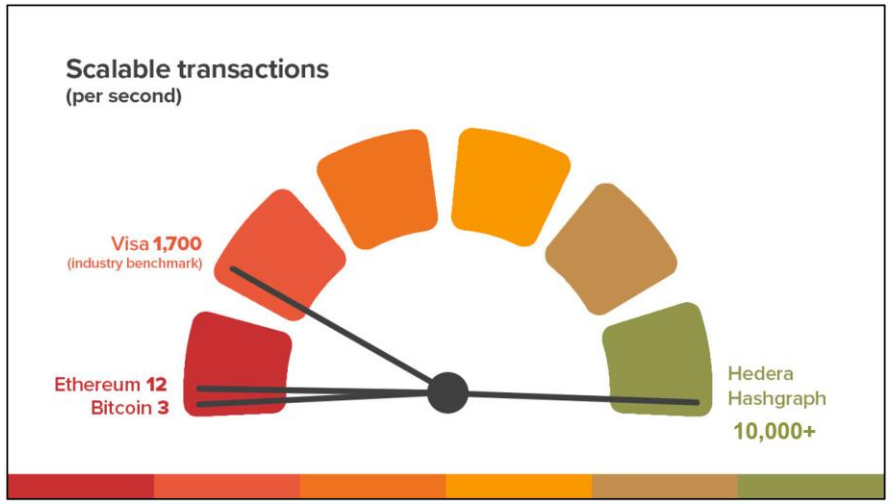
NHS

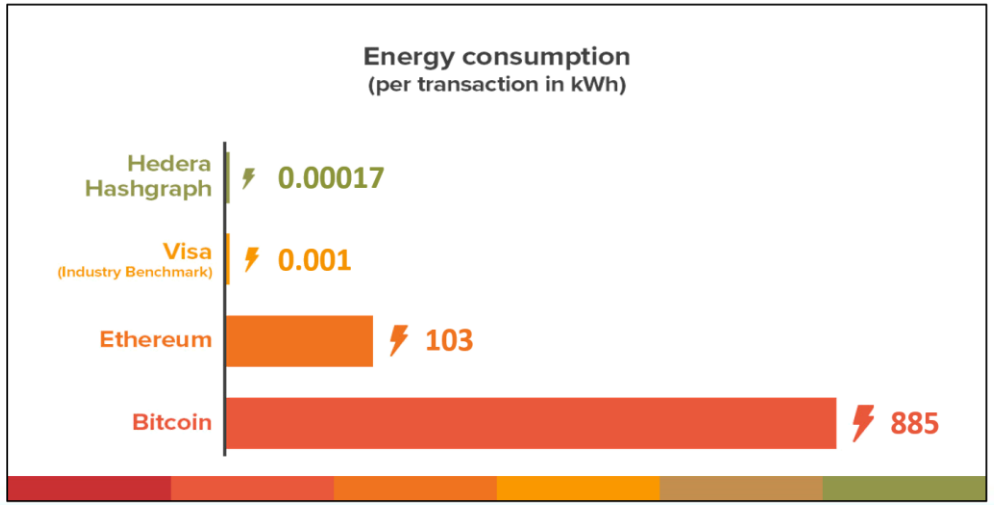
Monitoring the temperature of COVID-19 and other vaccines in storage rooms across NHS hospitals in the UK.

Energy

power transition

Standardisation of register of transmission and distribution assets for networks and P2P Energy Trading.





India SMART UTILITY Week 2022
02 - 04 March 2022
Digital Platform

Working with Indian DISCOMs

power transition
ISGF India Smart Grid Forum

EV & Storage Smart 'PicoGrid' Pilot

- Direct integration with DISCOM's cloud-based platform and sub-meters to receive real time data.
- Simulation of automated control over the battery storage for energy trading.
- Site asset optimisation to identify surplus electricity to be stored in aggregated batteries.

Smart Urban Microgrid Pilot

- Cloud-based and direct hardware integration
- Automated control over the generation and demand assets.
- P2P trading between prosumers and consumers.
- Shifting peak demand for the locally balanced grid.

Projects in the UK

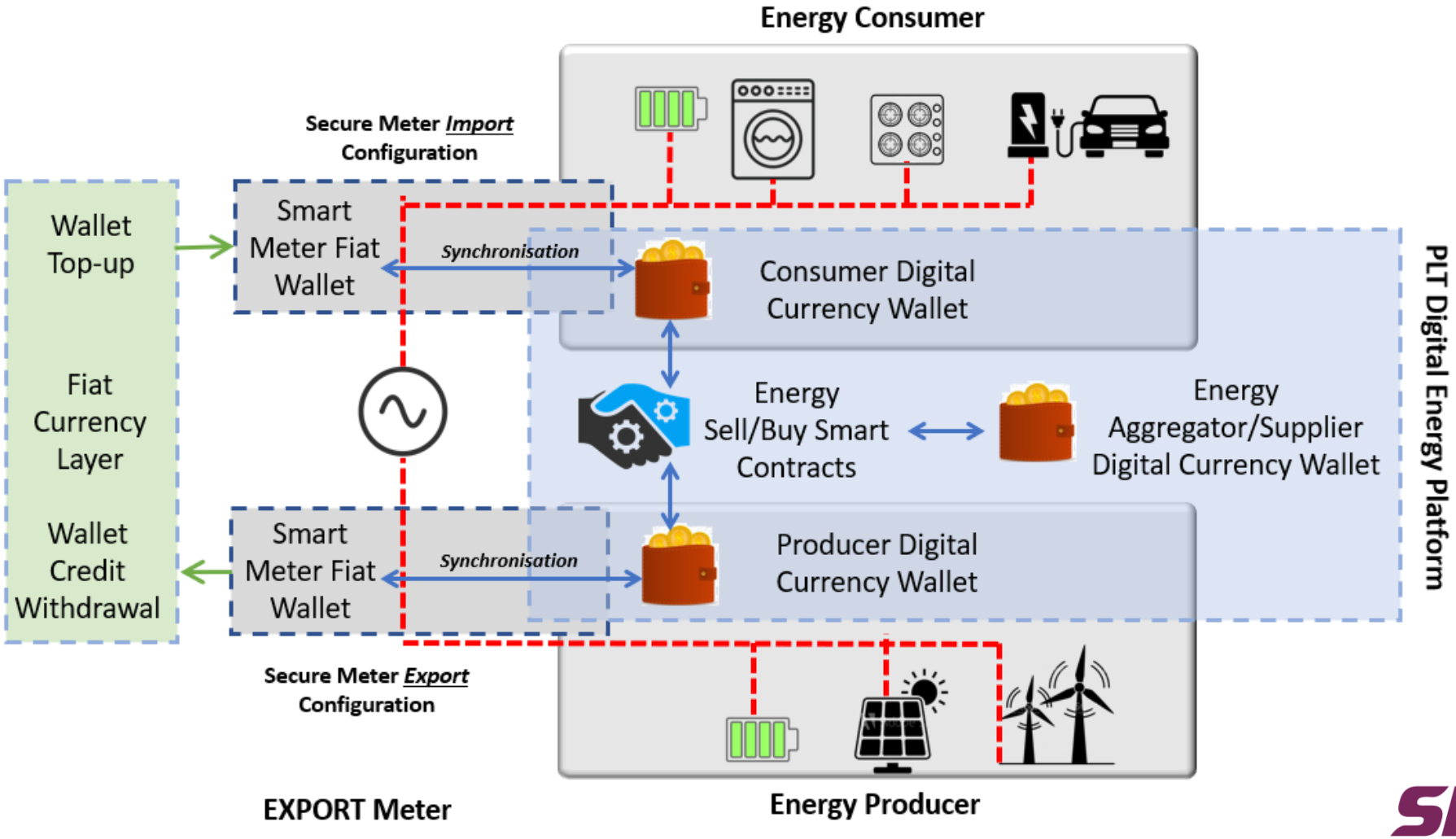
Residential Microgrid at Corby, UK

- Residential microgrid with 47 Prosumers
- Hardware integration and site optimisation
- Tested different P2P energy trading models
- 20-30% energy savings for the community
- Carbon reduction (c. 120 tonnes annually)

Smart Microgrid Campus at BRE, UK

- Smart grid and flexibility services
- Dynamic control and load switching
- P2P and P2G energy trading
- Digital Payment Services
- Energy costs savings of 20%
- Real time carbon impact

Digital Payment with DLT



Thank You

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