



Corporate AI Strategy towards the Energy Transition

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MYTILINEOS at a Glance



Financial Results 2022

Key Highlights

Beginning of a "New Era"



EPS

€3.41/sh

↑ 186% YoY

H2 2022 performance, indicates the
Beginning of a "New Era"

EBITDA

€823m

↑ 130% YoY

H2 2022 performance, annualized,
shows a **profitability pace** of >€1bn

Q4 2022 EBITDA

€290m

↑ 147% YoY

New Record-High Quarter
Profitability

ESG

During 2022, MYTILINEOS
joined the **MSCI & Dow**
Jones Sustainability Indices

Top 10% in 10 out of the 13 ESG
Raters we participate

Cash Balance

€1.1bn

↑ 76% YoY

Robust Cash generation despite
record CAPEX spending

Liquidity

€2.2bn

↑ 47% YoY

Comprising c.€1.1bn Cash and
c.€1.1bn Committed Credit lines to
fund **Growth**

Leverage / Net Debt

0.9x / €716m

Despite high CAPEX, **Leverage halved**,
due to consistently **robust Cash Flow**
from Operations

2022 Dividend

Proposed final dividend
€1.20/sh*

Strong track-record with >€400m*
(c.15% of current **Mkt Cap.**) being
distributed since 2017


*own equity shares adjusted

*incl. 2022 proposed payment



Corporate Innovation initiation (IP M&A)


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(Innovation
and R&D Division)



4 vertical Strategic sectors

Digital World

Digitization of the Target Model, Digital Services and Products aligned with the EU Clean Energy Package (CEP)

AI and Machine Learning

Investment in Data Analytics and AI applications for Energy (Retail, Wholesale, Aggregators, PPAs, Industry 4.0, etc)

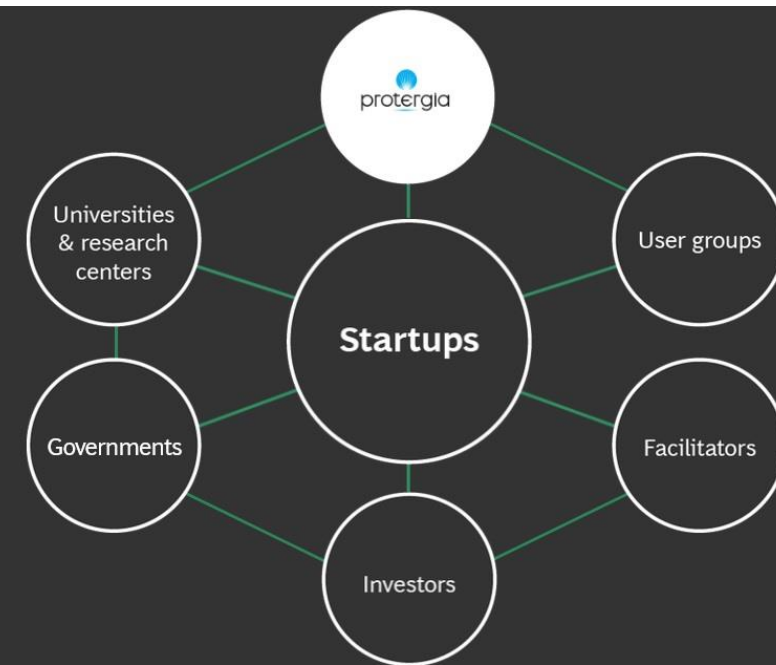
Smart Connected

IoT and Smart connected Buildings and Systems

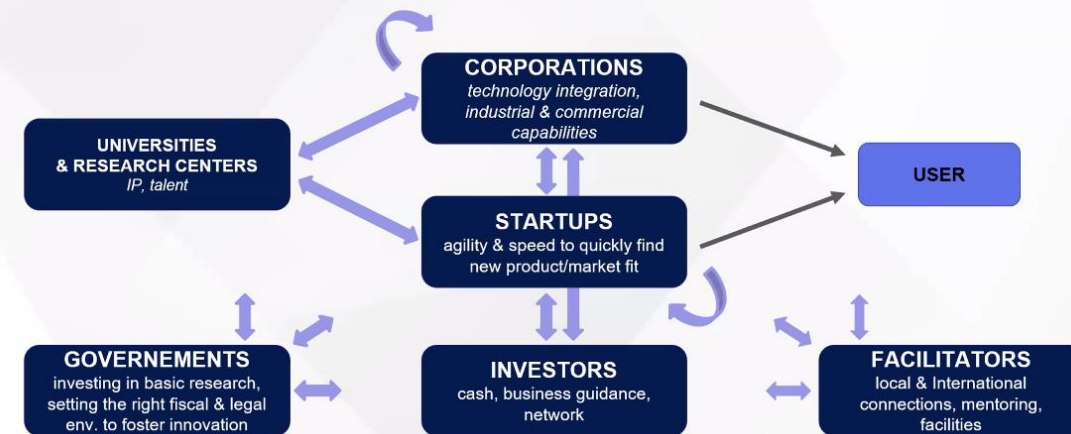
Sharing Economy

Blockchain applications, P2P systems, Energy Smart contracts and smart Financial Engineering

The Deep Tech Ecosystem



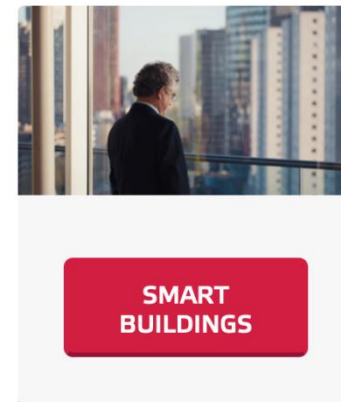
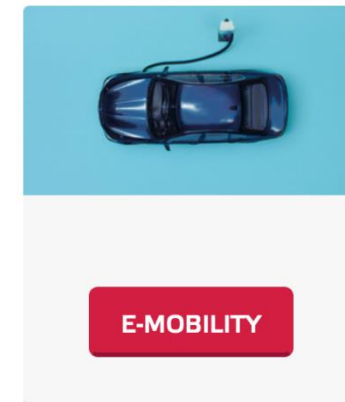
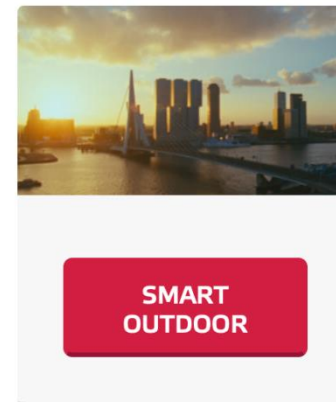
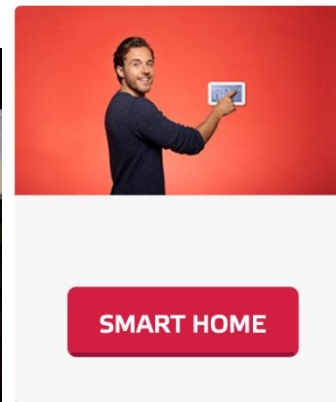
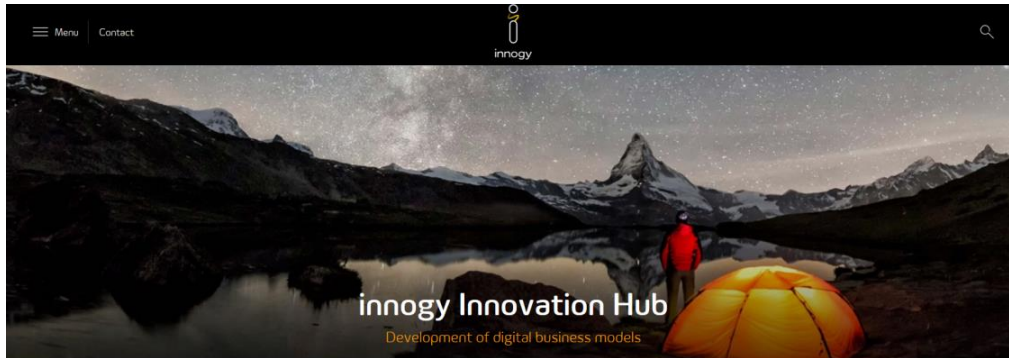
It takes an ecosystem



Manage Digital Ecosystems



Eneco Smart Energy's domains



The communications, mobility, security, logistics and energy sectors are increasingly

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Who we are

Enel X is a global business leading the transformation of the energy sector. Shifting the paradigm, Enel X helps customers use technology to transform energy into new opportunities, so they can thrive and drive progress, across the world. We are a global company with strong roots in the energy field and an open strategy geared toward technologies to help



Dr. Lioudmila Simon

Head of Innovation Domain
Networked Mobility bei E.ON
Innovation

[View full profile](#)



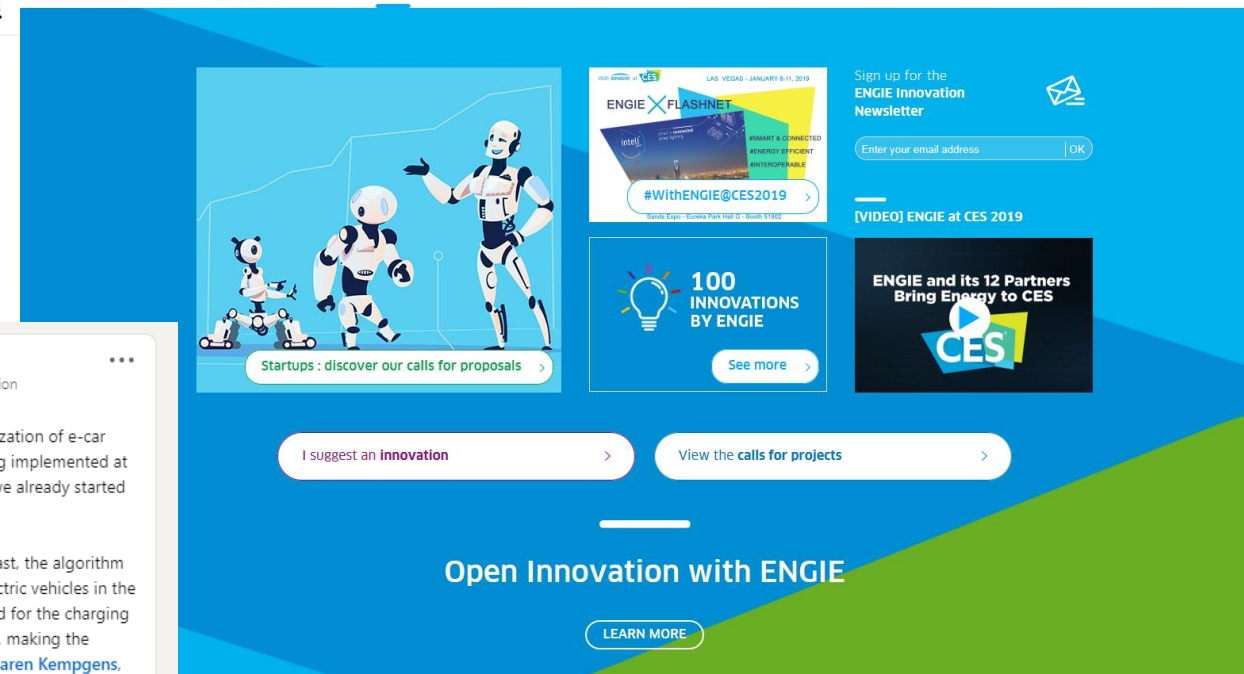
Dr. Lioudmila Simon • 2nd
Head of Innovation Domain Networked Mobility bei E.ON Innovation
2d •

I am happy to announce our intelligent algorithm for commercialization of e-car and stationary battery storage at charging parks. Our pilot is being implemented at [innogy eMobility Solutions](#) charging park in Duisburg, at which we already started with primary control power commercialization.

Based on historical usage of the charging park and weather forecast, the algorithm calculates PV power generation and energy needed to charge electric vehicles in the next 48h and derives at which times the battery will not be needed for the charging park. This freely available battery capacity is then used for trading, making the battery usage more efficient. Special thanks to [Mark Ritzmann](#), [Maren Kempgens](#), [Steffen Lüttgens](#), [Giorgio Cortiana](#) and [Lechwerke AG](#) enabling trading on the flexibility markets.



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**#1 Use M&A
as a 360° opportunistic
lever**

**#2 Cannibalise traditional
utility business model**

#3 Change the battlefield

**#4 Rebalance from product
to service and from
service to platform**

**#5 Stick the customer to
your ecosystem**

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SUMMARY OF THE NEW PRODUCT & SERVICE OFFERINGS



E-mobility services and EV Flexibility (V2G, V2B)



Energy Storage services and Flexibility (DR, VPPs)



Digital Customer experience
(contracts and onboarding)



Smart City Services
(Net zero cities, Smart buildings, IoT)

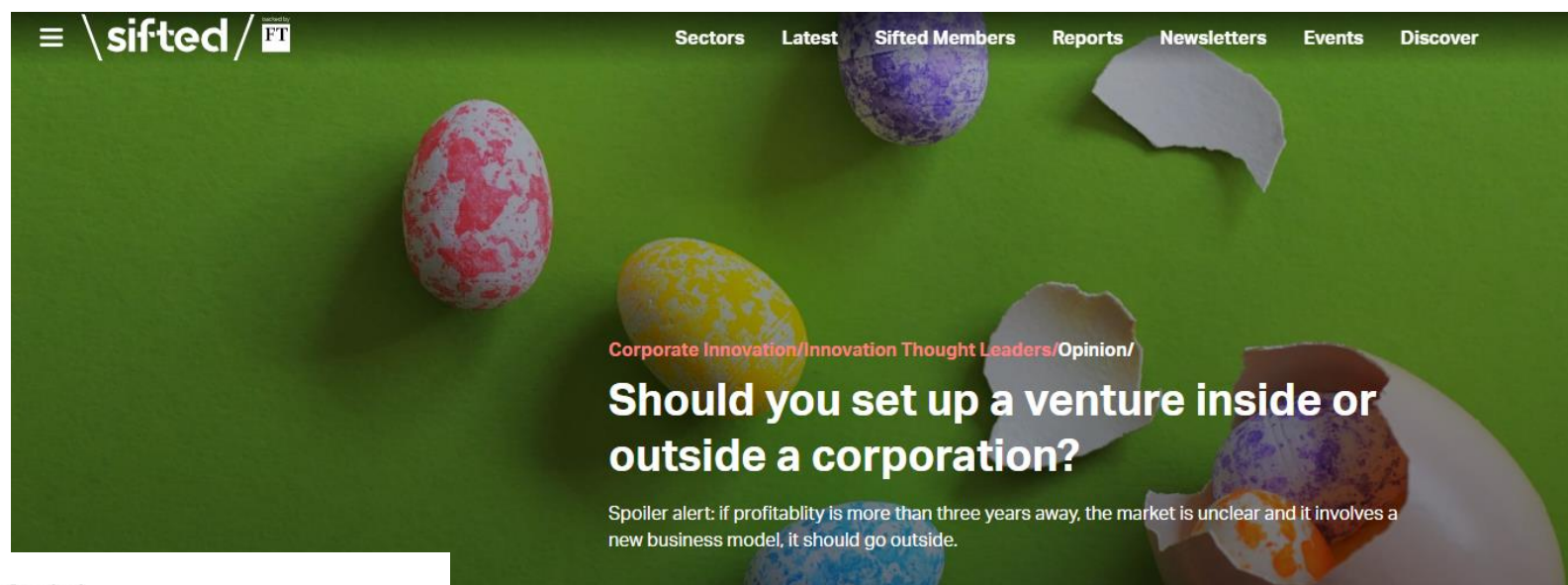


Green PPAs (Blockchain, Peer2Peer)



Energy FinTech and Energy Efficiency
over Marketplaces

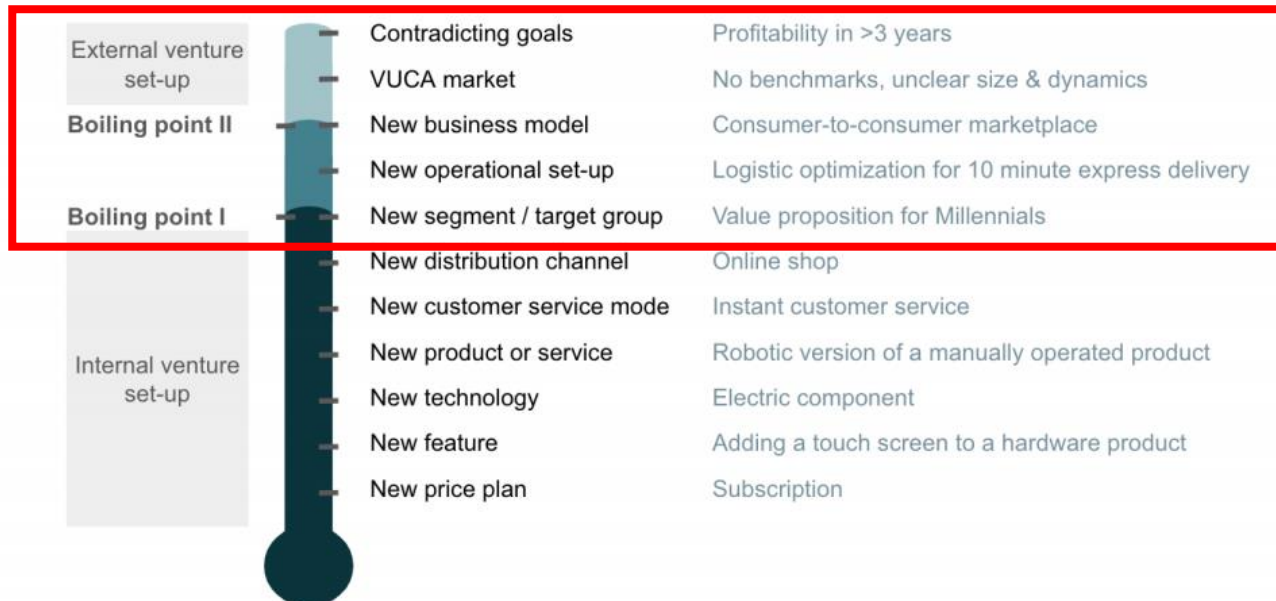
Deeptech Space
Creative Technology
Speed and execution
Strong AI skills
**New division or a
new startup ?**



Stryber Corporate Venture Building Thermometer Model

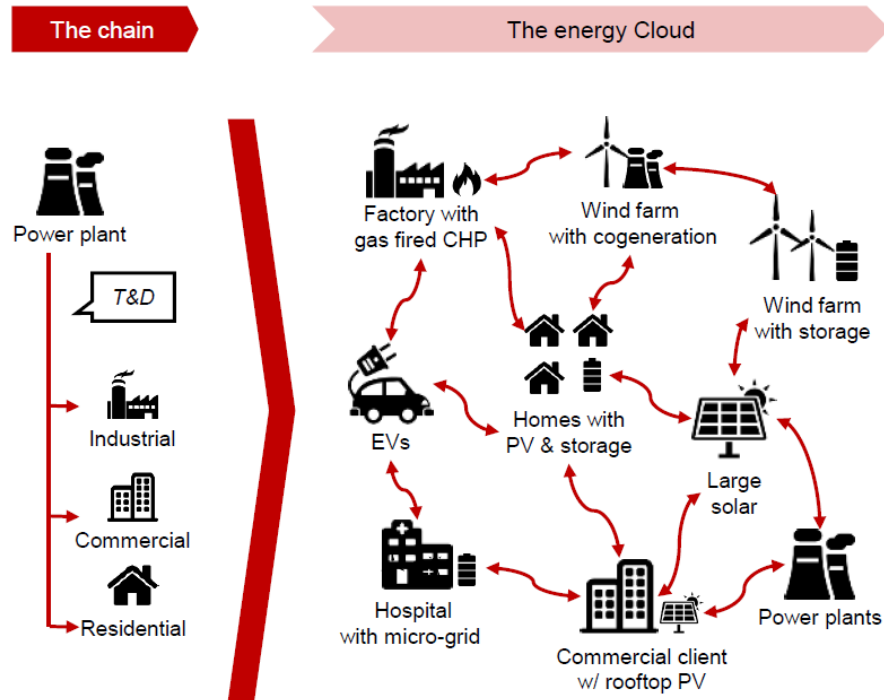
How to decide whether to launch a venture inside or outside of your core organization based on venture characteristics?

Example novelties in comparison to your core business...



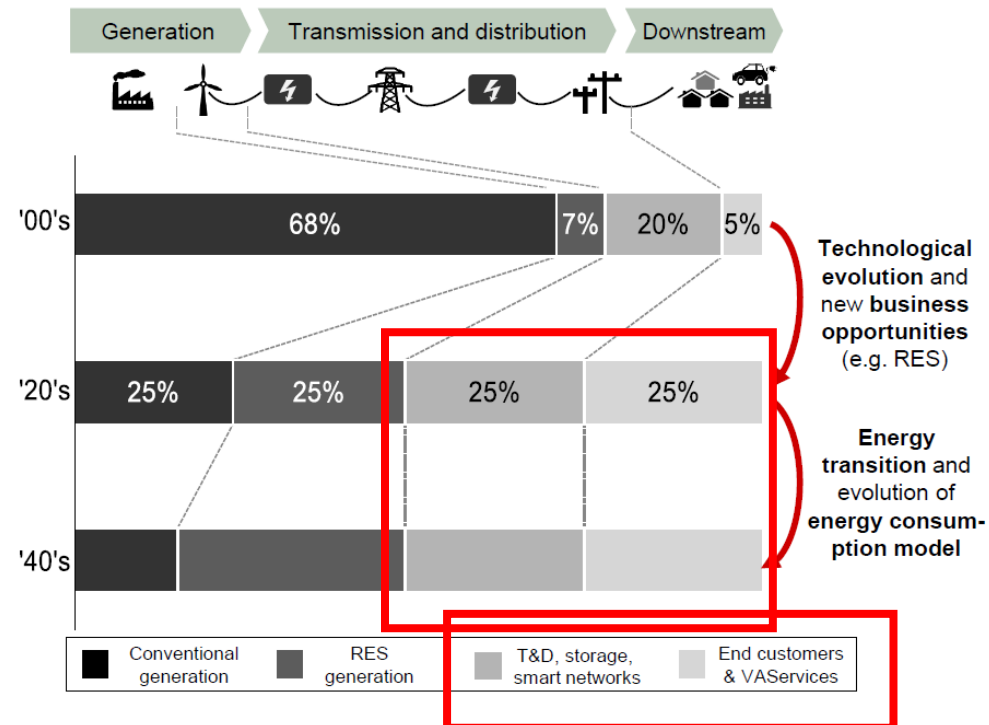
Energy Market restructuring & Profit Margin reshuffling -> Symbiotic market

Market structure evolution



Note: (*) EBIT

Energy sector profit pool* evolution – power focus

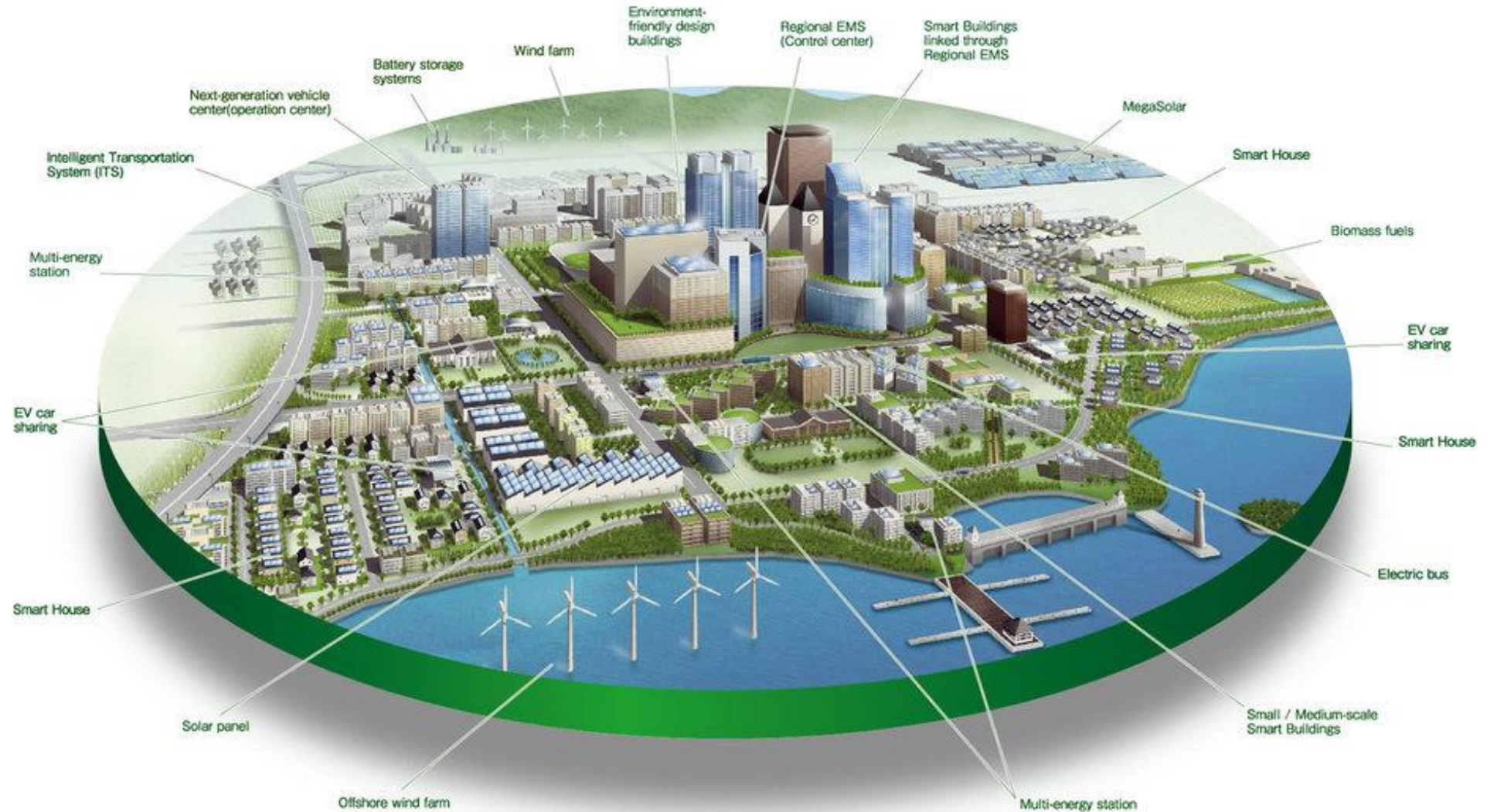


Value is shifting towards
Decentralised & Decarbonized Assets -> hybrid energy models

Reduce Price volatility and risks

A Smart Energy City has:

- Fixed stakeholders
- Moving stakeholders
- High volatility
- High complexity
- High uncertainty
- Human behaviors
- Cooperatives
- Open Data
- ...lots of other data !

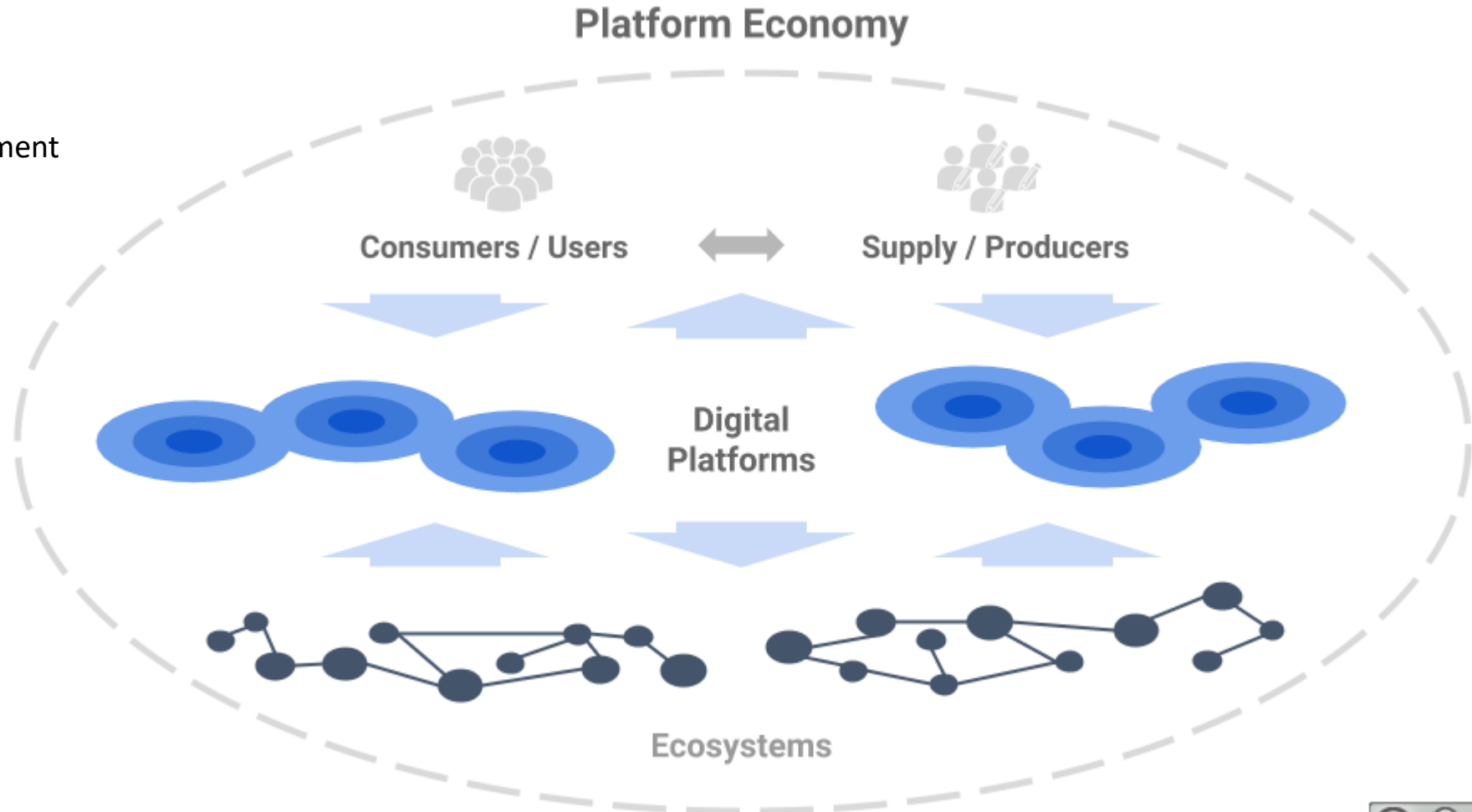


Smart Energy City -> Municipalities -> Digital Energy Communities: **Symbiotic Market**

Welcome to the Platform Economy with AI

Platform economy:

- Digital Platforms
- Remote Asset Management
- Risk hedging
- Interoperability
- Asset Complexity
- Strong AI



We need AI to **solve complex Energy decision making problems** and to automate procedures, we do not need analysis only, we need sophistication

We use **AI in Energy** when:

- we need fast actions
- we need to understand data sets
- we need to decrease uncertainty
- we need to reduce complexity
- we need to automate procedures
- Because of ChatGPT ?

05 The 4th Industrial Revolution (4IR)

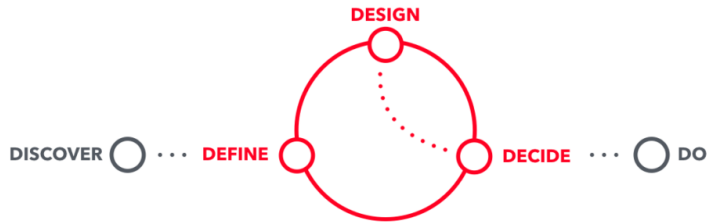
Over the next decade advancements in AI, distributed ledgers and robotics will impact a variety of sectors. For utilities, these trends combined with the dramatic changes in the energy transition such as distributed energy resources, increased proliferation of sensors on infrastructure and behind the meter devices and demand management advances will unleash a variety of transformative use cases in the sector. For example, devices which auto-detect demand levels on the grid and reduce power could be powered by AI and recorded by blockchain.





We follow Harvard's best practice

Agile Teams



AI API Marketplace

Agility in AI Algos

Map value with AI Algos

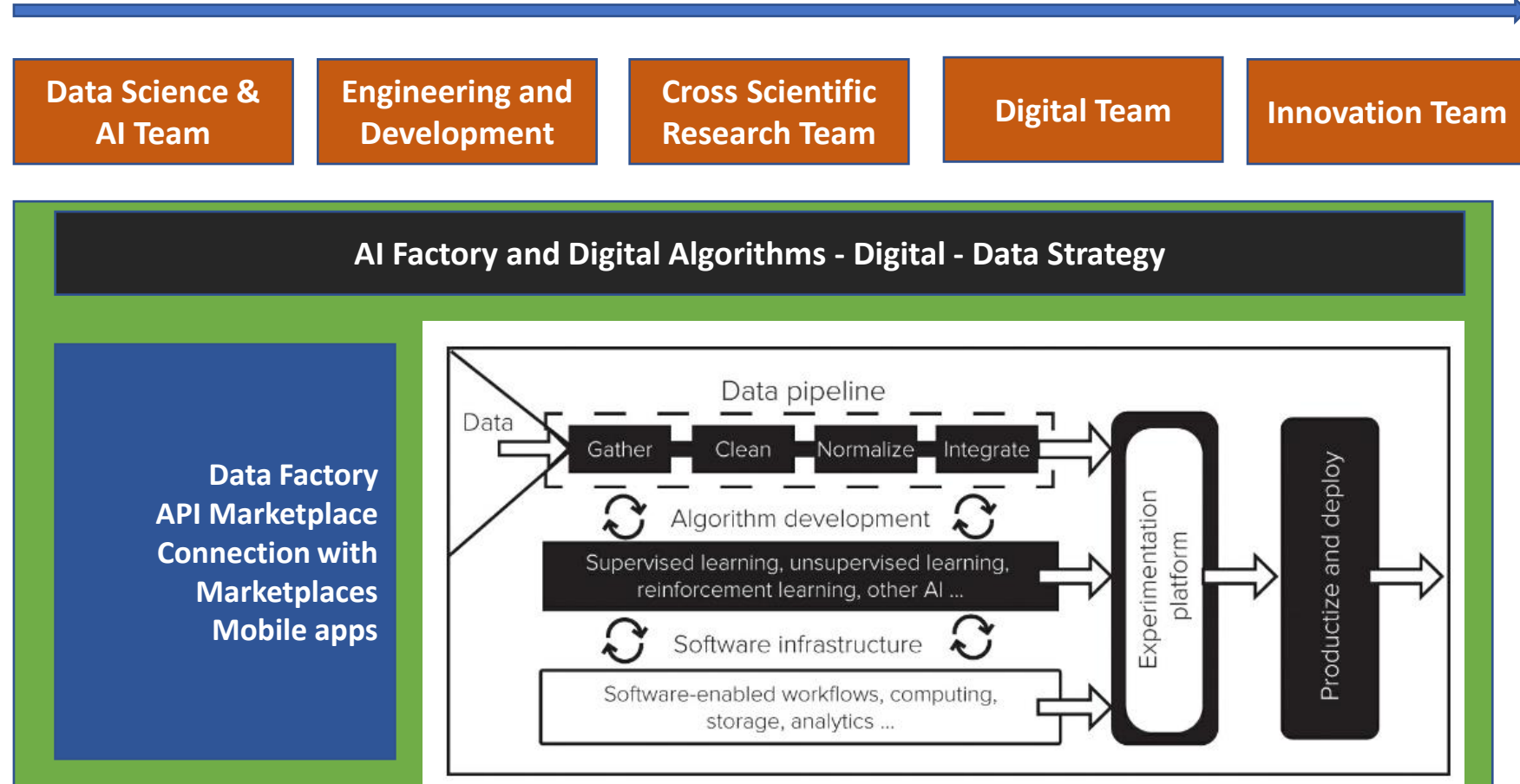
AI monetization

Ethics

Training, Data and Feature

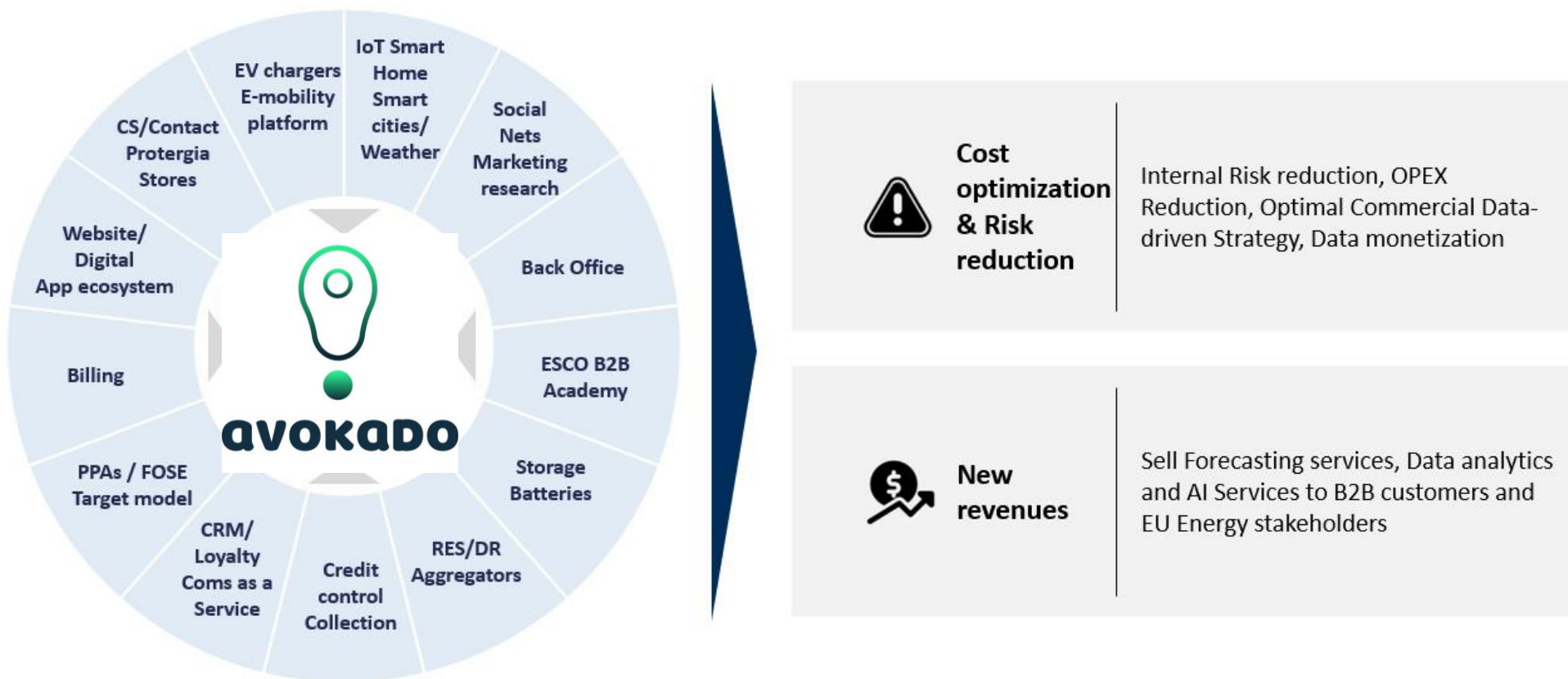
Engineering

Exploit new training and go deep in Transformer Tech



Experimentation

QUORA SYSTEM SUPPORTS ALL NEW SERVICE OFFERINGS





$$\text{Objective Function} \left[\sum_{n=1}^x \text{batteries} f(c, p, st, tr, ev) = \min/\max \begin{bmatrix} \text{Net Zero} \\ \text{Revenues} \\ \text{Battery Life} \end{bmatrix} \right] dt$$

c: consumed energy (kWh (t), (v\$))

p: produced energy (kWh (t), (v\$)) from PV

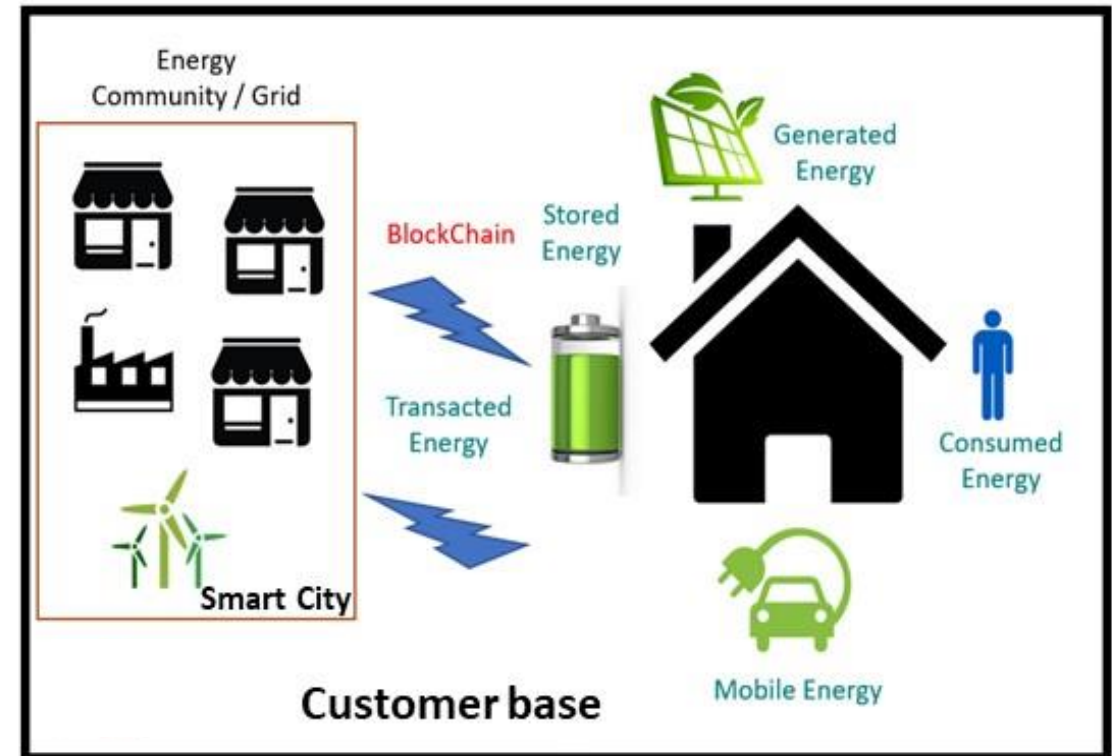
st: stored energy (kWh (t)) at battery

tr: transacted energy (kWh (t), (vt\$)) from smart contracts

ev: mobile energy (kWh (t), (x,y), (dis), (vev\$)) from EV

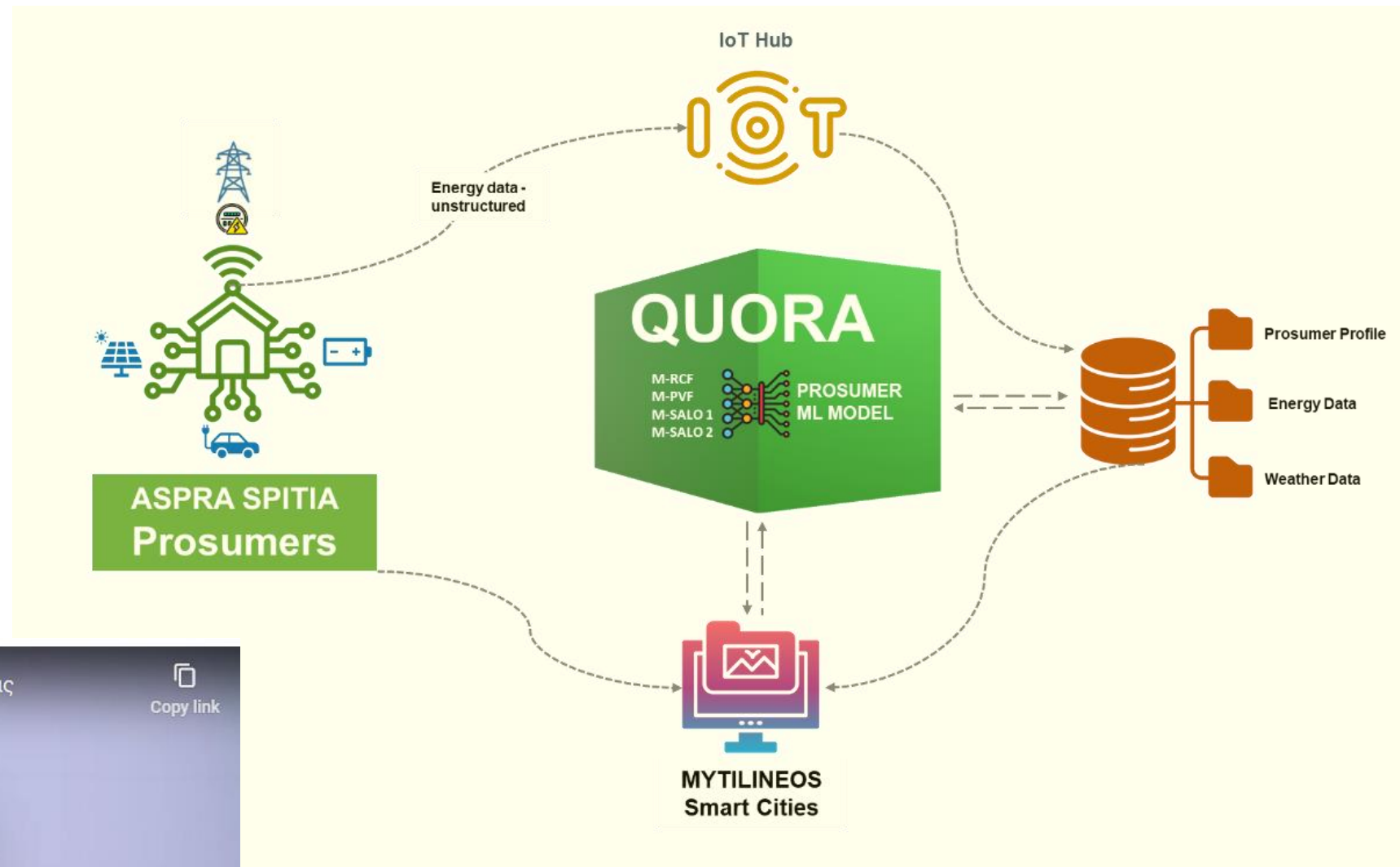
- Running ML/AI algos and solving optimization Objective functions
- **Edge AI**
- **Patent pending** algos/system

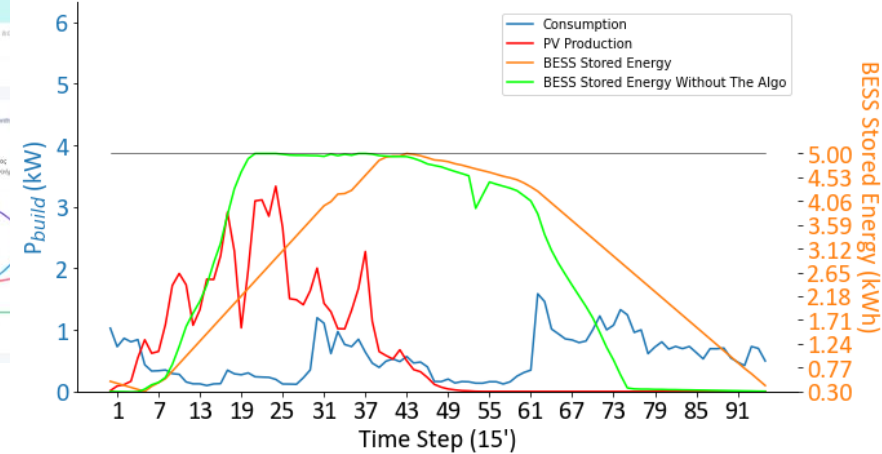
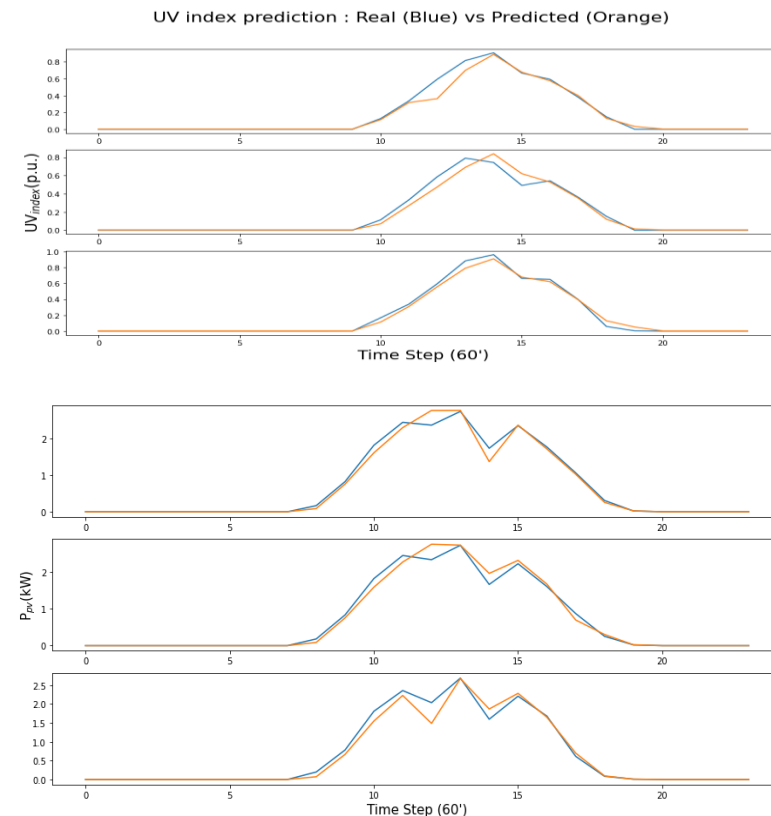
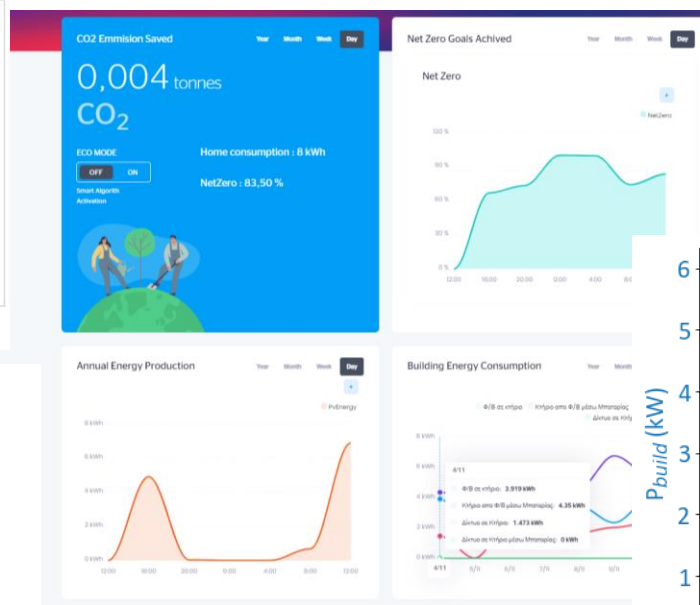
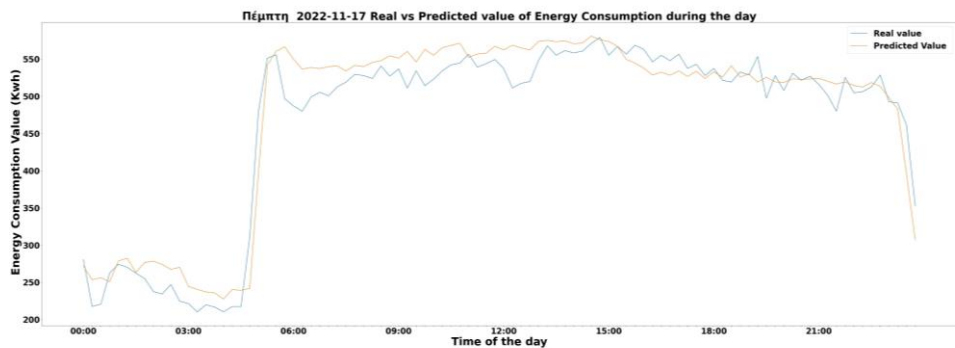
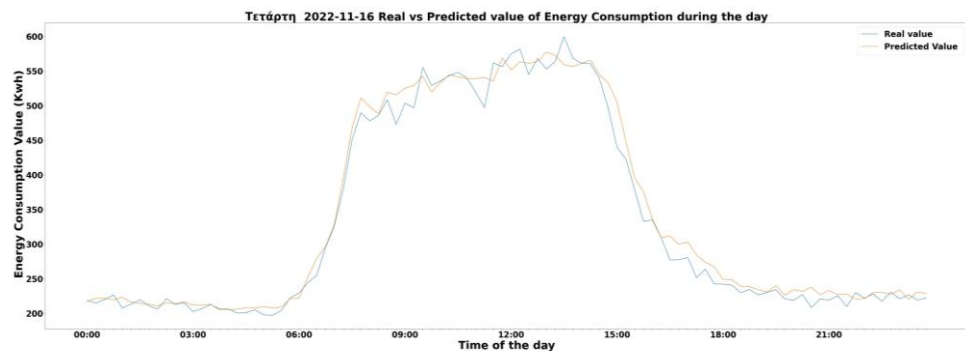
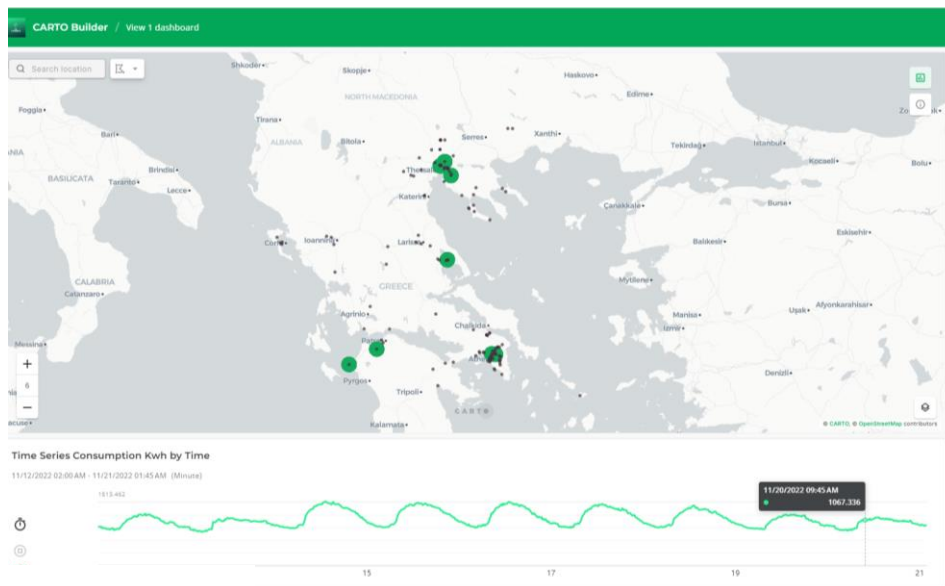
New prosumer ecosystem/ML model





QUORA Example







Executive Dashboard - Total Demand Consumption

Source: HEDNO public database as of Tuesday, 07 March 2023



Hour 11 PM Day 6 Month March Year 2023 IPTO Forecasts

ADD FORECAST

UPLOAD RES

DOWNLOAD FORECASTS



Total Load Forecast

Daily

Weekly

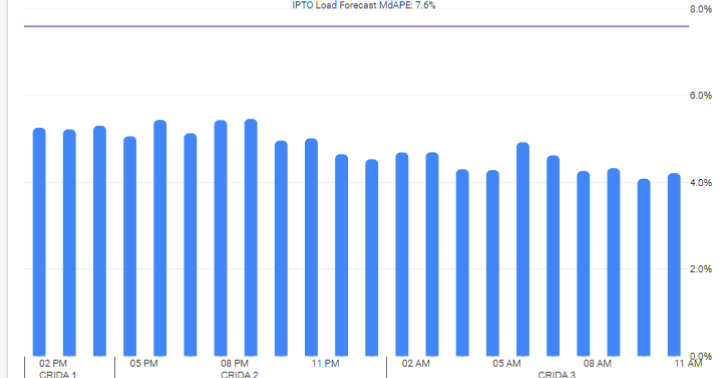


Last 6 months

MdAPE

Day

Week



Last 2 months

Executive Dashboard - Total Demand Consumption

Source: HEDNO public database as of Tuesday, 07 March 2023



Hour 11 PM Day 6 Month March Year 2023 IPTO Forecasts

ADD FORECAST

UPLOAD RES

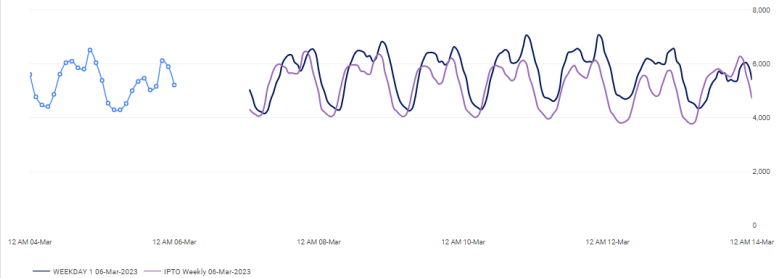
DOWNLOAD FORECASTS



Total Load Forecast

Daily

Weekly

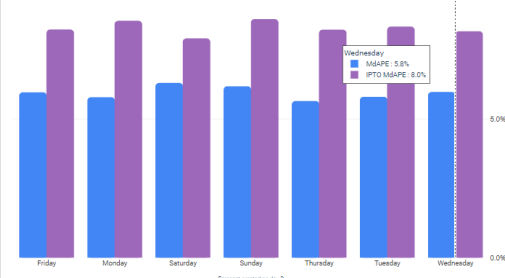


Last 6 months

MdAPE

Day

Week



Last 6 months

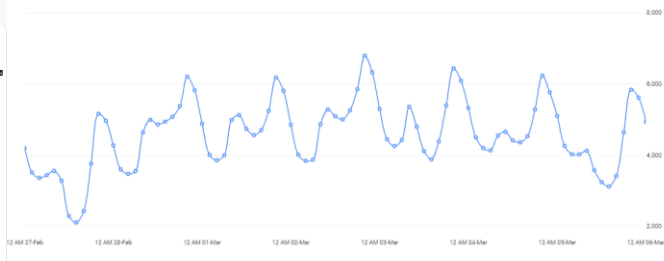
Actual Measurements

Net Load

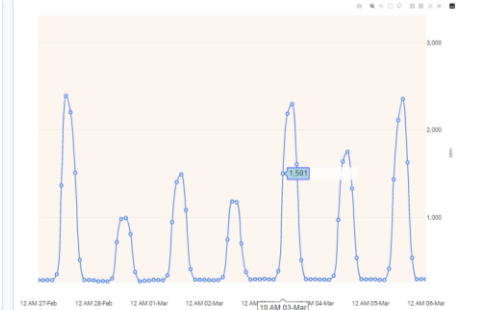
Temperature

Humidity

Wind



RES Network





avokado

CLEAN TECH

Blackrock CEO Larry Fink: The next 1,000 billion-dollar start-ups will be in climate tech

PUBLISHED MON, OCT 25 2021 3:29 PM EDT | UPDATED MON, OCT 25 2021 4:35 PM EDT



Catherine Clifford
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KEY POINTS

- Blackrock CEO Larry Fink said he thinks the next 1,000 unicorns, or start-ups worth at least \$1 billion, will be involved in climate technology.
- Organizations like the International Monetary Fund and the World Bank “must play a critical role” in helping to ensure capital is invested in green climate technology in developing nations, Fink said.
- Also, Fink said BlackRock would not divest from hydrocarbon companies.



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TRENDING NOW



UK reports highest number of daily Covid



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