



Democratizing Data Exchange using cloud native architectures

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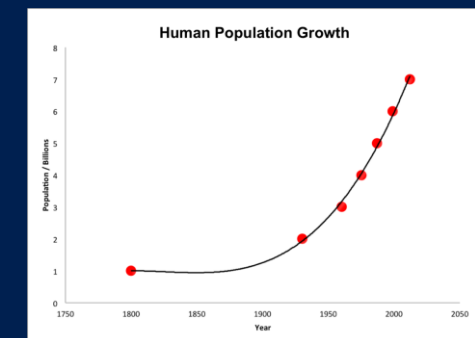
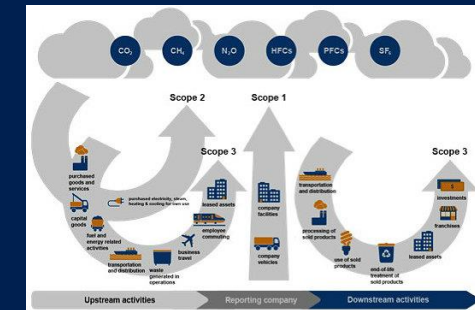
Who led the digital transformation of your company?

A) CEO

B) CTO

C) COVID-19

Rajesh Murthy – EVP at CMA CGM / LinkedIn Post



THE ONE-TWO PUNCH FOR OIL MARKETS

Creating cost variability and eradicating complexity while freeing up capital

Focus the organization on the core business and maintain flexibility to dial up and down based on resulting market outcomes

Joining hands with peers and competitors

This can be in the form of joint development programs particularly for contiguous upstream positions

Bringing the ecosystem creatively into play

Roughly 30% and 50% of inefficiencies sit where operators and oilfield services companies interface requiring collaboration

<https://www.accenture.com/us-en/insights/energy/oil-supply-demand-shocks>



Cloud enables transformation



Productive



Hybrid



Intelligent



Trusted

Azure for Energy

Global scale
for company
operations



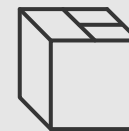
**High Performance
Compute & Storage**
on demand
new HW and SW
available quickly



Data Platforms
for subsurface,
production, drilling,
operations, ESG



**IoT, AI, Cognitive
and hybrid** for
digital oil field and
edge scenarios



**Security &
compliance** for
critical information
management



... and we are wildcatters

DATA IS THE NEW OIL

“Data is the new oil. It’s valuable, but if unrefined it cannot really be used. It has to be changed into gas, plastic, chemicals, etc., to create a valuable entity that drives profitable activity; so must data be broken down, analyzed for it to have value.”

-- Clive Humby



Houston, we have a data problem

<https://www.emc.com/leadership/digital-universe/2012iview/big-data-2020.htm>

Currently only 3% of the potentially useful data is tagged

<https://hbr.org/2017/09/only-3-of-companies-data-meets-basic-quality-standards>

Only 3% of Companies' Data Meets Basic Quality Standards

<https://www.mckinsey.com/industries/oil-and-gas/how-we-help-clients/digital-and-advanced-analytics>

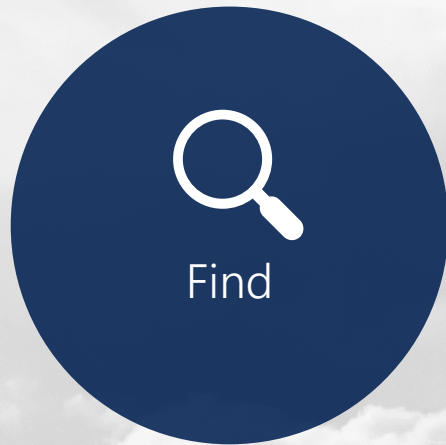
Oil and gas companies generate an enormous amount of data through sensors and logging tools, yet less than 1 percent of this data is used to inform decision making

<https://www.networkworld.com/article/3325397/idc-expect-175-zettabytes-of-data-worldwide-by-2025.html>

Nearly 30 percent of the data generated will be consumed in real-time by 2025

Patterns of inefficiencies

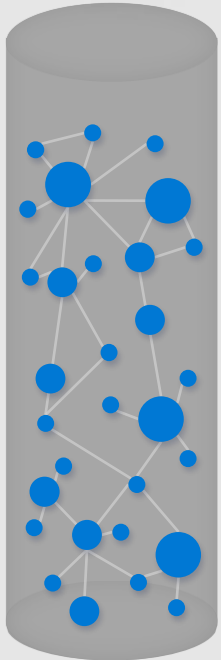
It is not uncommon to find individuals who spend more than 50 percent of their working time handling data – finding, retrieving, sorting, examining, copying, recording, changing, filing and sending data
Arthur Spewak - 1992 book, Enterprise Architecture Planning (EAP)



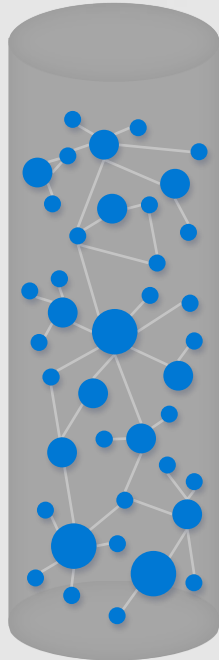
LOADING

Our "Winchester House" of Data

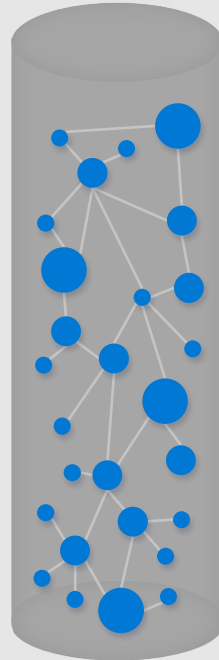
Subsurface



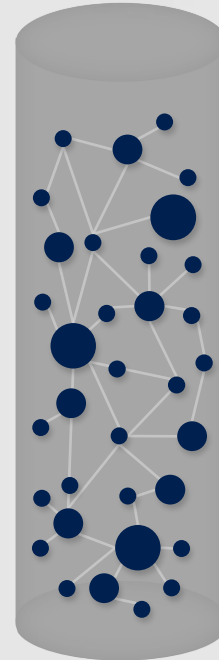
Trading



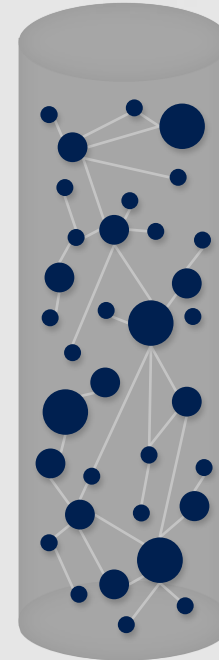
Production



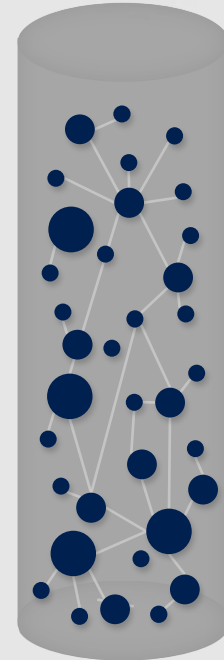
Oilfield Services



Data Provider



JVs



Need an open data model with rich semantics

Subsurface



Trading



Production



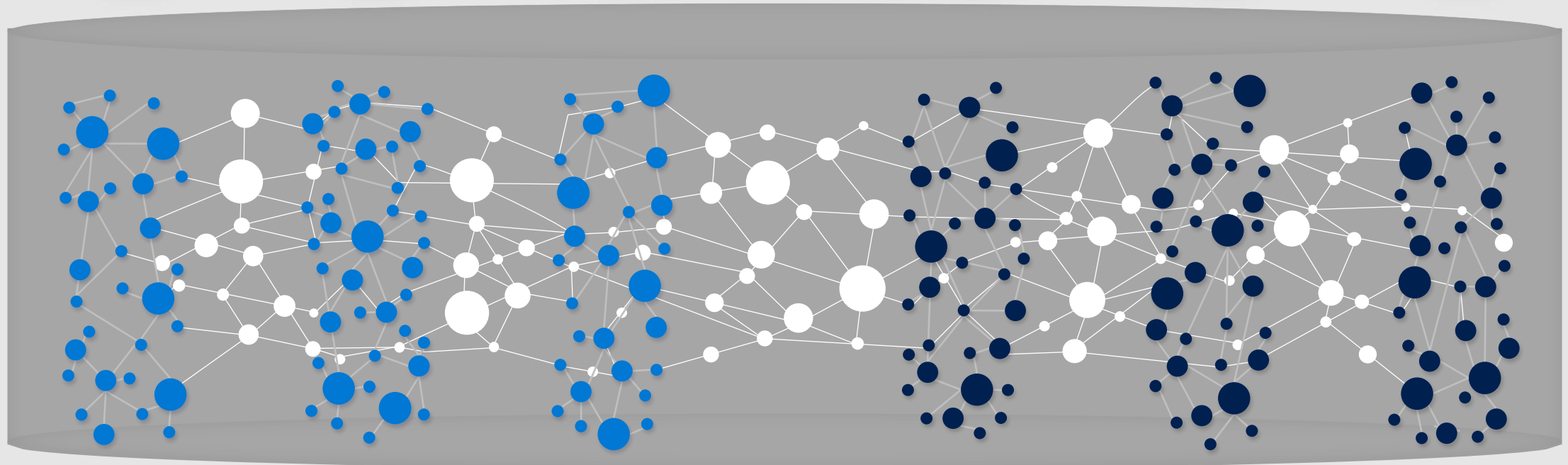
Oilfield Services



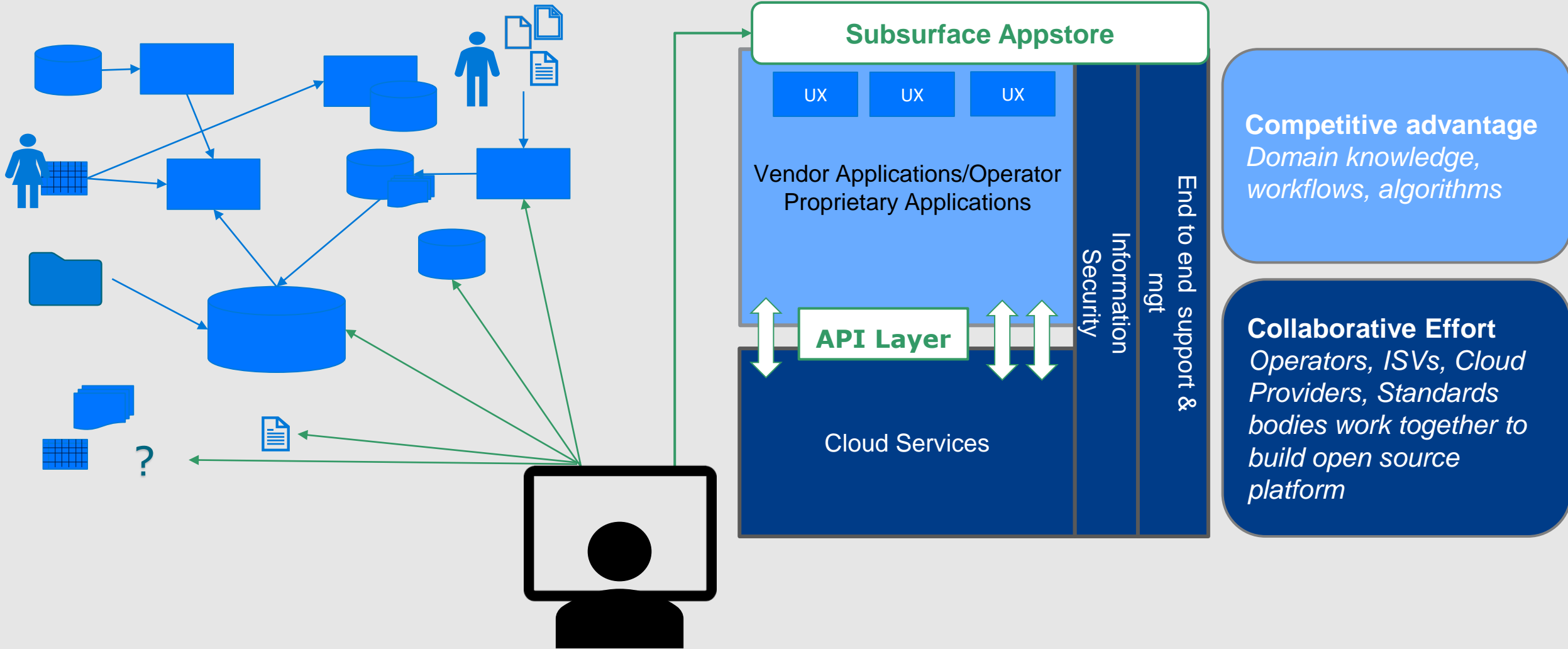
Data Provider



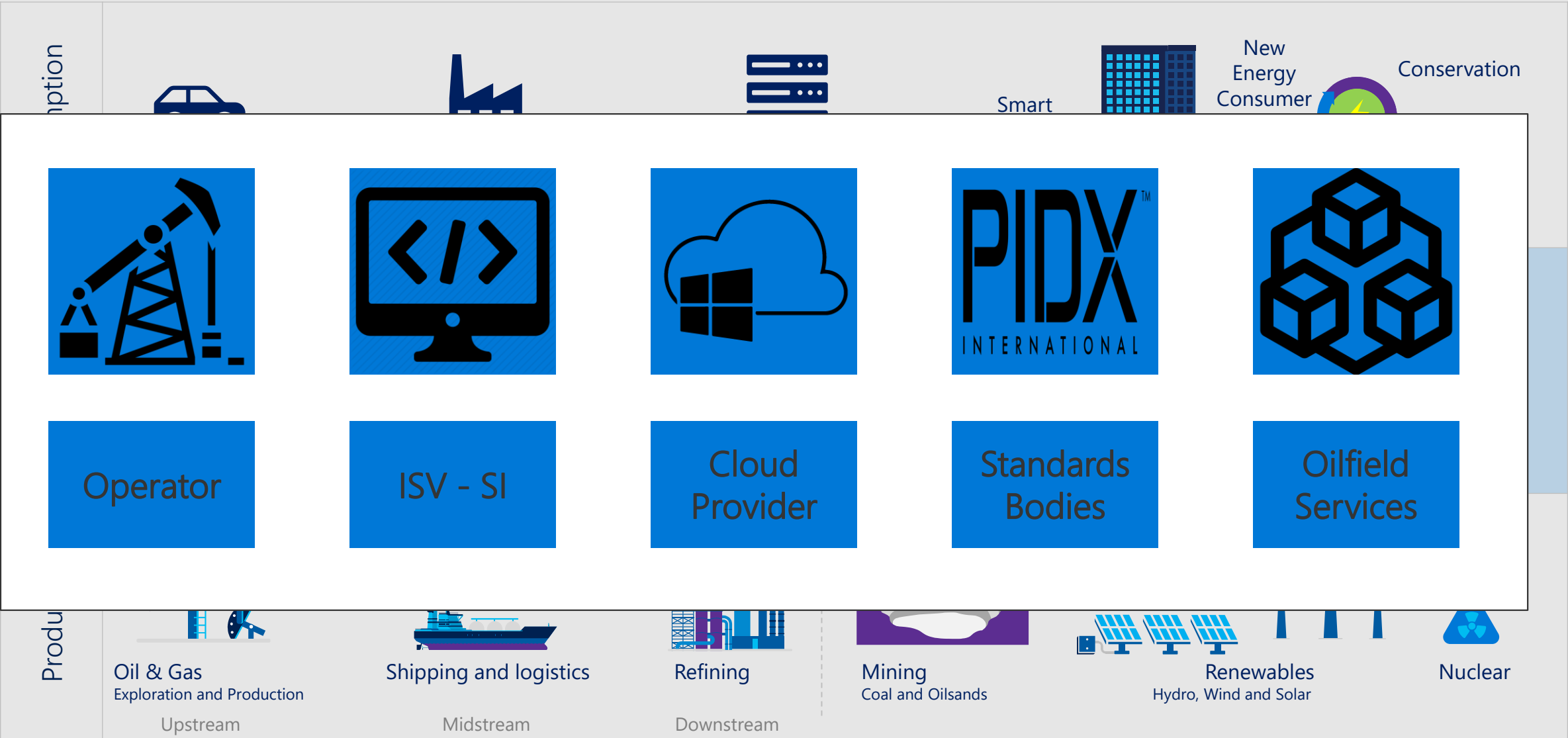
JVs



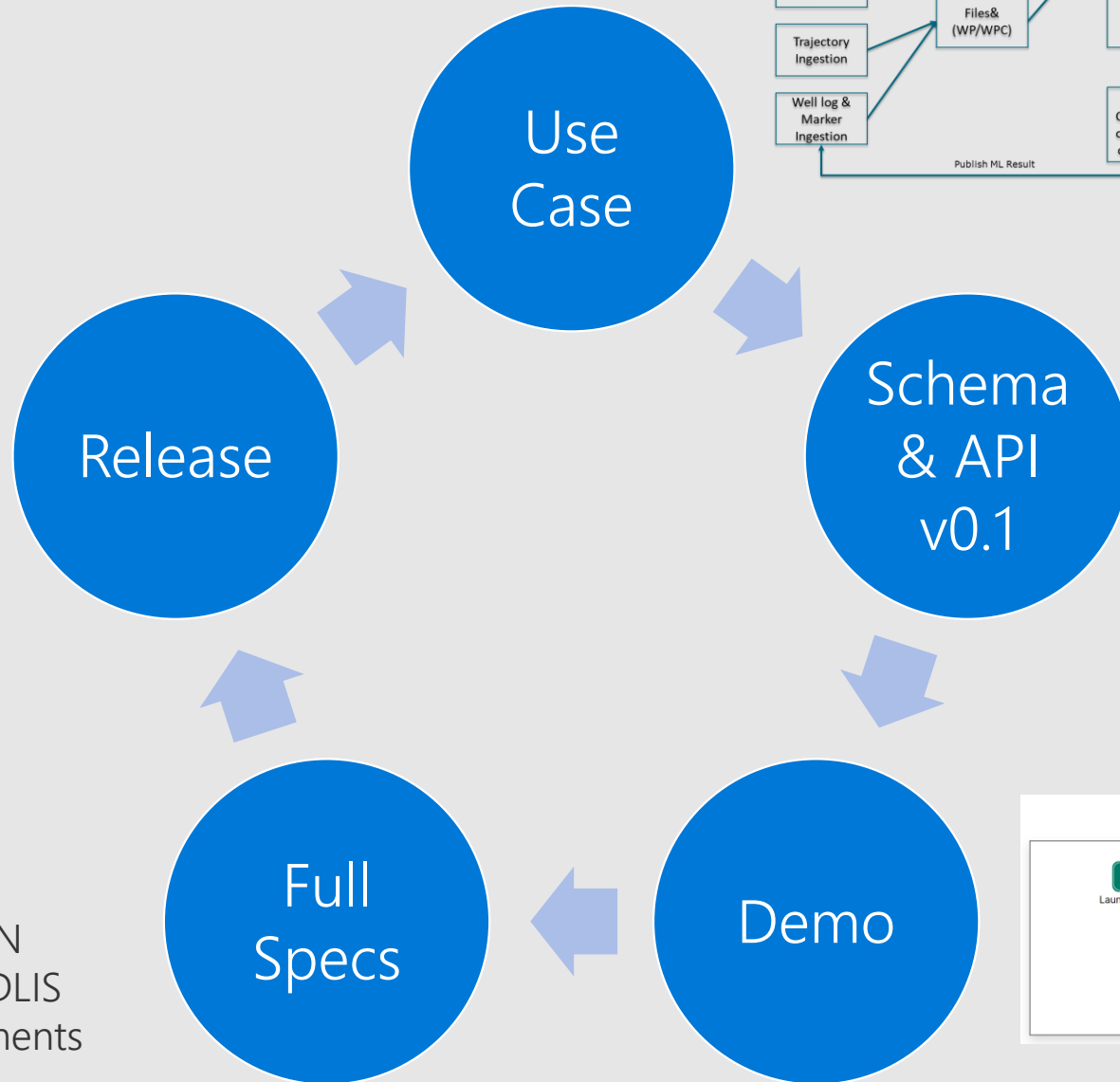
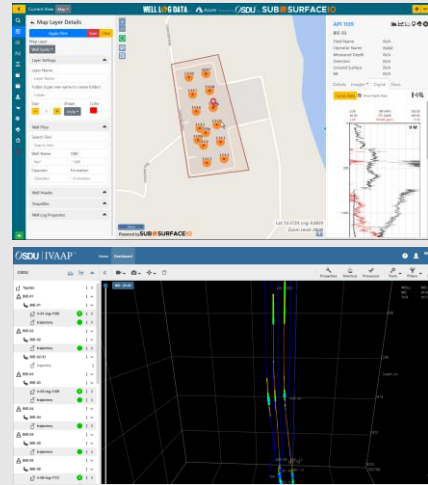
Open Group – Open Subsurface Data Universe



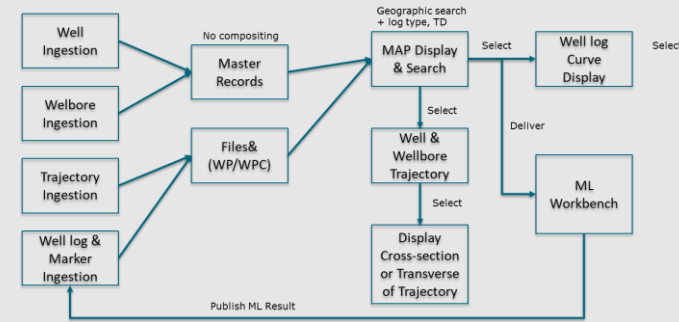
Bring the ecosystem together



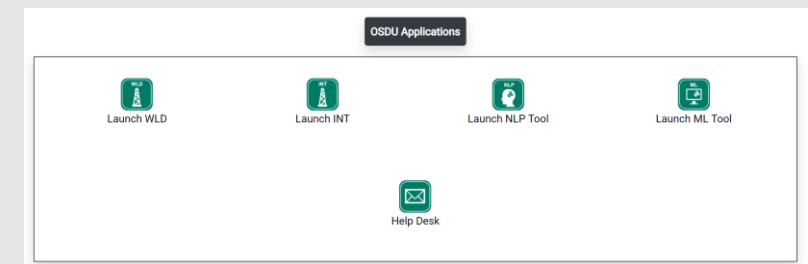
Iterative Approach



Data Ingest
 Schema v2 ... vN
 Well Logs LIS, DLIS
 RBAC - Entitlements



Well and Wellbore (csv)
 Well trajectory (csv)
 Well logs (LAS 2.0)
 Well markers (csv)
 Documents (txt)
 Manifest (JSON)



Leverage Cloud Born Tech



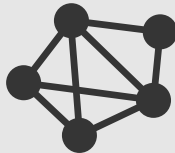
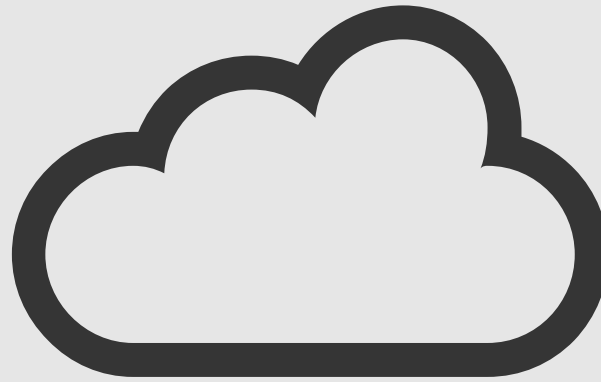
Object
Storage



Http REST/gRPC
Json
NoSQL



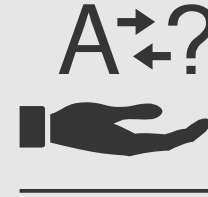
Serverless



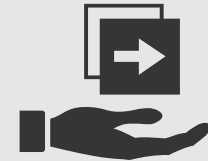
Microservices



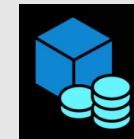
Internet of
Things



Multiparty
Confidential
Compute



Secure Data
Shares



Blockchain
Tokens

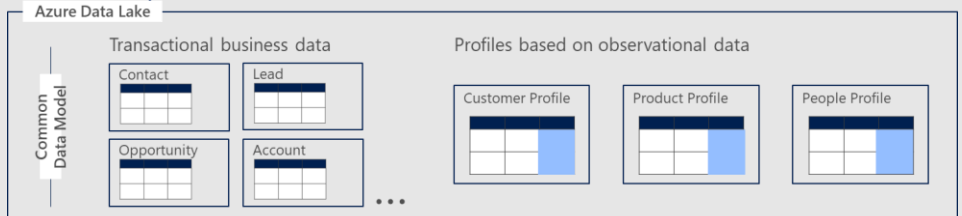
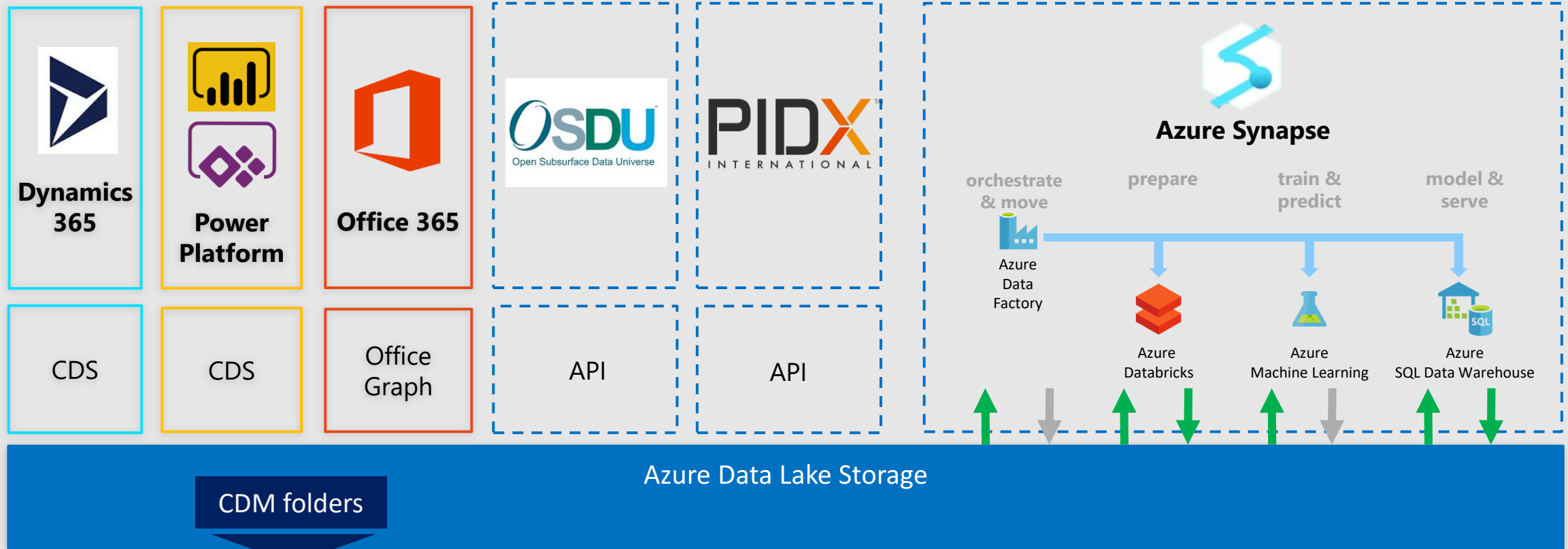
Convergence with your day to day work

Decision Makers, Business analysts

Data scientists, Data engineers

No code, low code

Low to high code

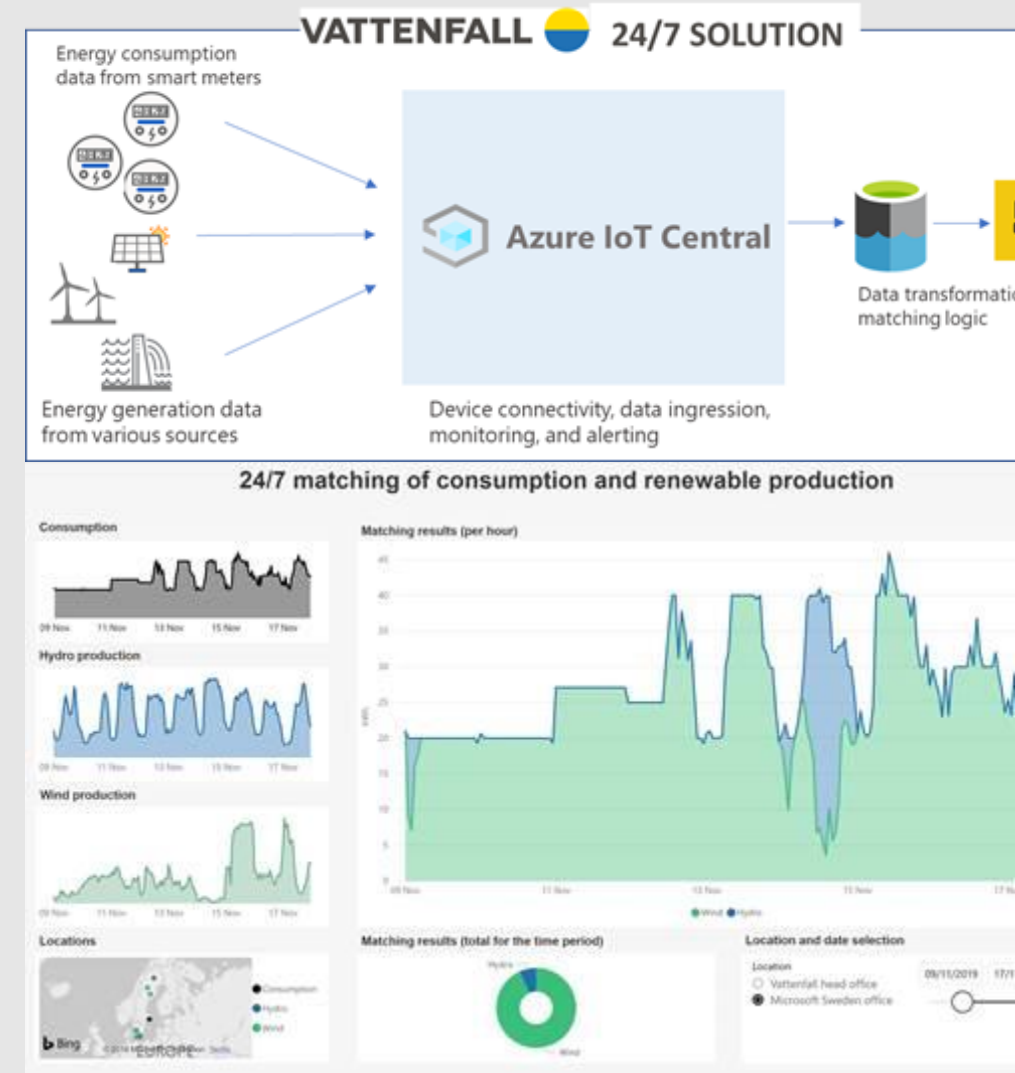


Closing thoughts - real-time

24/7 Matching Platform

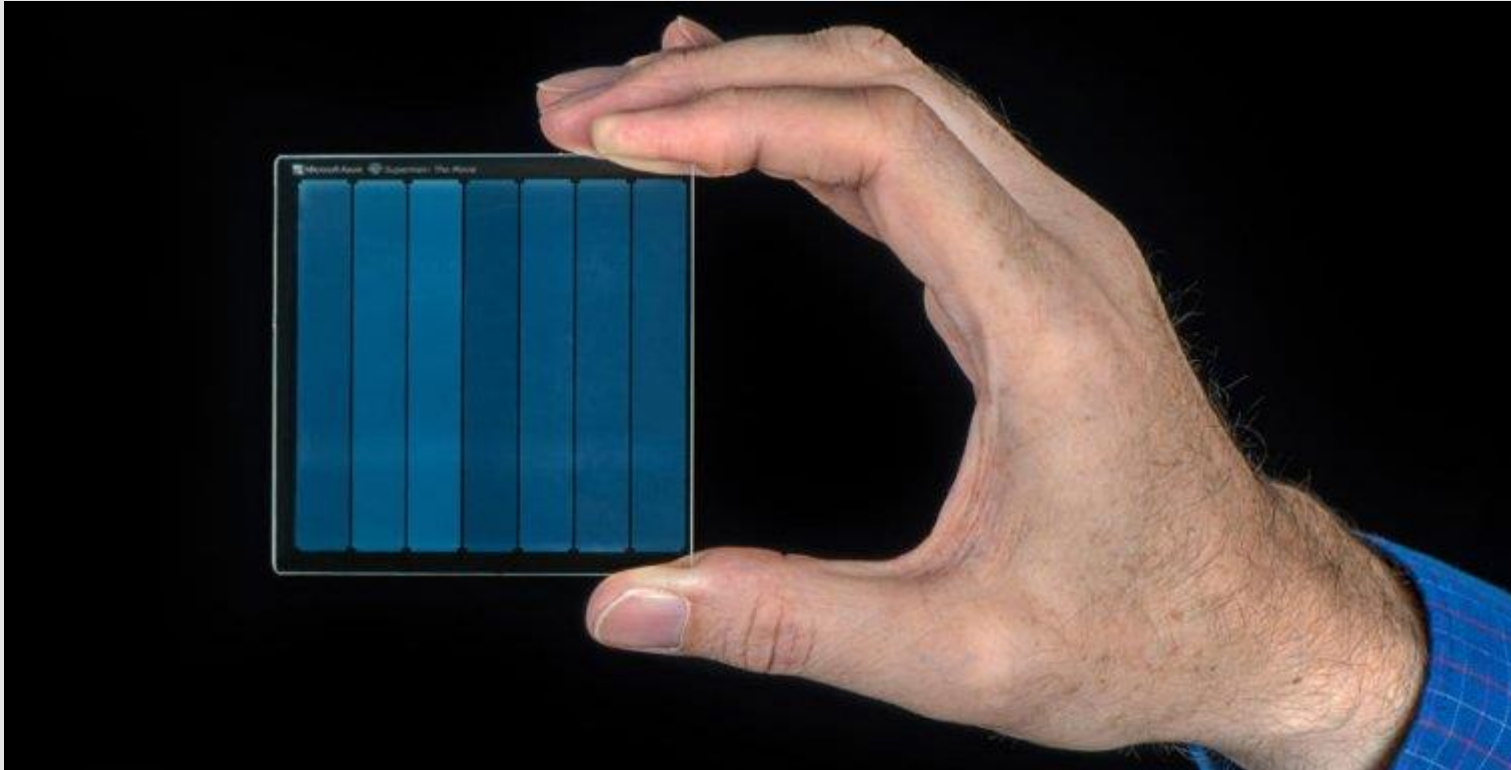
- Allows business to power operations with renewable energy
- Choose the electricity you want, match your consumption with that energy hour-by-hour with SmartUtility build on Azure IOT
- Created with Energy Provider

<https://www.vattenfall.se/foretag/miljo/24-7-matching>



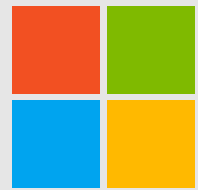
A bit of future - Project Silica

Once written will exist for millions of years



75.6GB digital copy of the 1978 movie "Superman"

Q&A



Microsoft Azure

Productive + Hybrid + Intelligent + Trusted