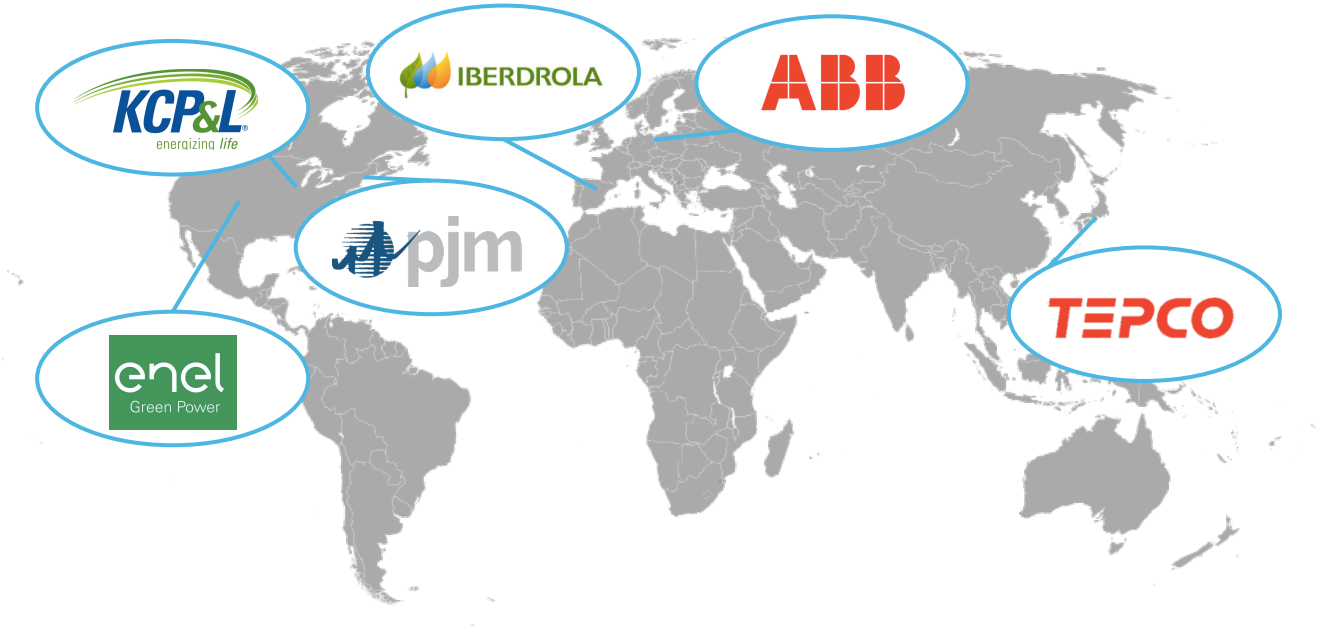
Solve with VIA

Remote Analytics™ to Improve Energy Forecasting and Resiliency

AI For Energy

VIA is improving energy forecasting and resiliency by making more data available to more expert analysts.

Several of the world's largest energy companies are VIA investors and customers



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Better Forecasting And Resiliency

VIA is already applying AI to multiple operations and maintenance and asset management problems globally.

45,000 Transmission Towers

1,300 Circuits Serving 800,000+ Customers

Geothermal Electric Submersible Pumps

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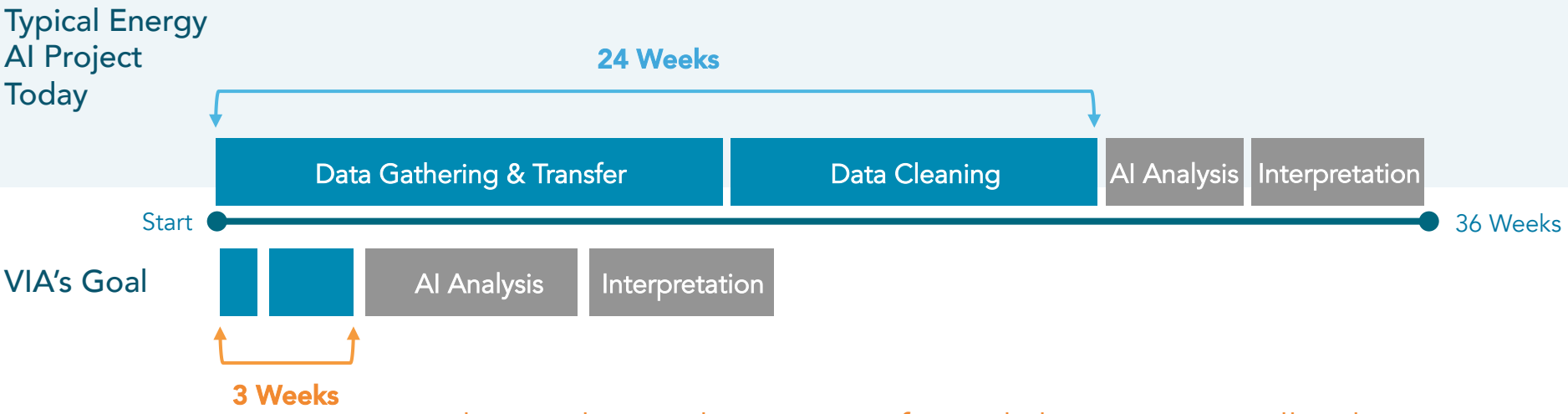
Underlying Challenge: Data Access

Assembling the large datasets that AI algorithms require is the longest and most expensive part of an AI project.



Reducing data gathering, transfer and cleaning time will reduce project costs by 2/3 and yield answers 3x faster

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Impact Of Difficult Data Access

Four obstacles limit AI data access, negatively impacting analysis and business performance.

Data Obstacles:

- Location
- Security / Privacy
- Format
- Volume

AI Limitations:

- Narrower range of expertise
- Slow, elaborate "workarounds"
- Fewer algorithms / reduced effectiveness

Business Consequences:

- Expensive AI analysis
- Undiscovered insights
- Elevated O&M costs

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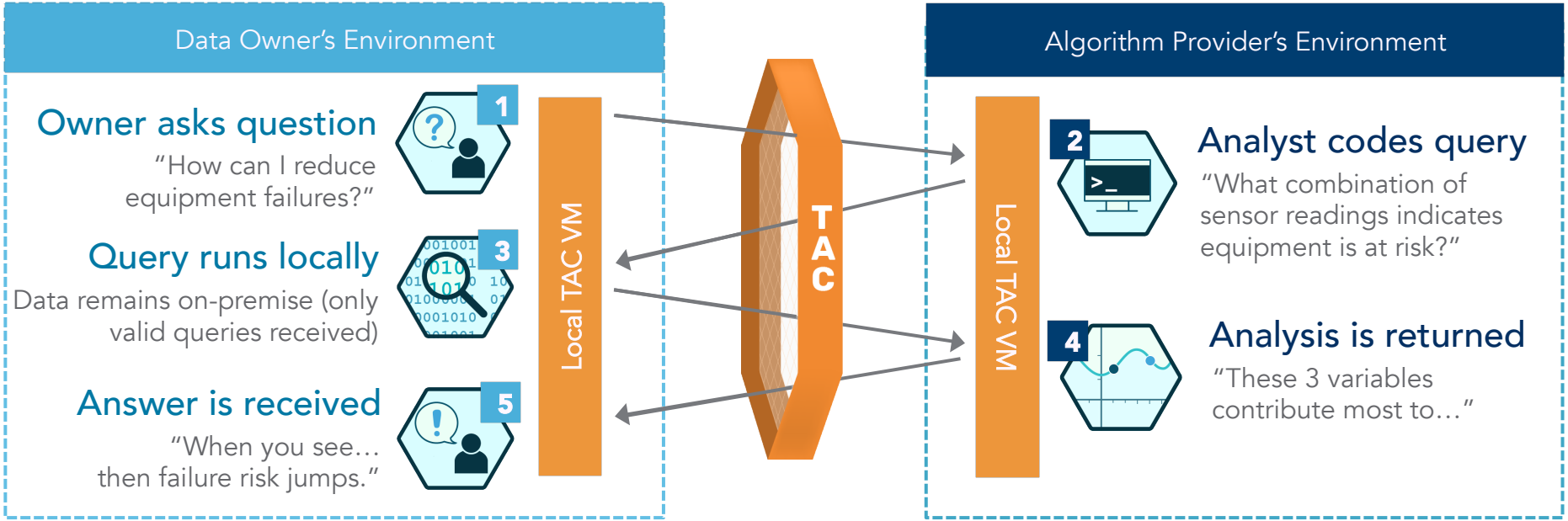
VIA's Solution: TAC

Trusted Analytics Chain (TAC) makes more on-premise data accessible, faster and more easily, to more analysts (on- or off-premise), through Remote Analytics™.

TAC authenticates users, enforces contracts, and aggregates and verifies results across distributed data sources.



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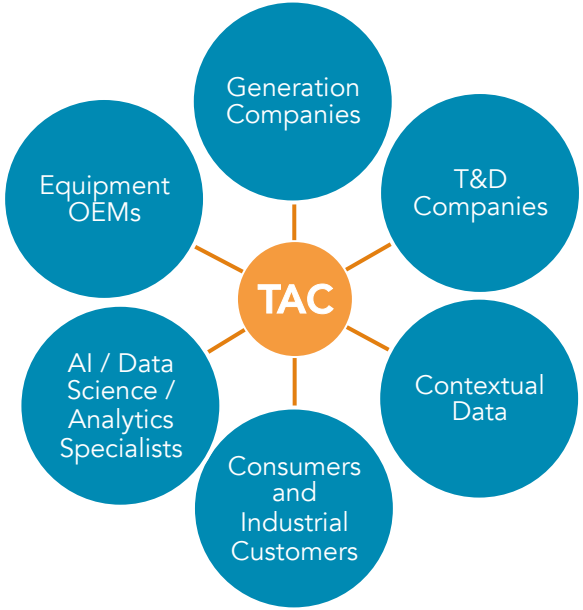
TAC Momentum

VIA is working with data owners, problem owners, and analysts across the energy ecosystem to make TAC the industry standard data access platform.



Initial Applications:

- Ongoing compliance filings
- Benchmarking
- Condition-based predictive maintenance
- Secure, edge computing

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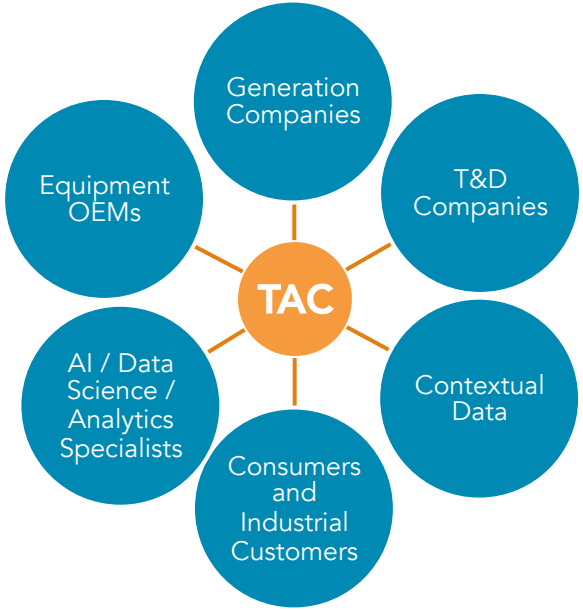

Initial applications enabled by TAC:

- Recurring compliance filings
- Benchmarking
- Condition-based predictive maintenance (including secure, edge computing)
- Data <-> analytics marketplace for data collected across thousands of customers

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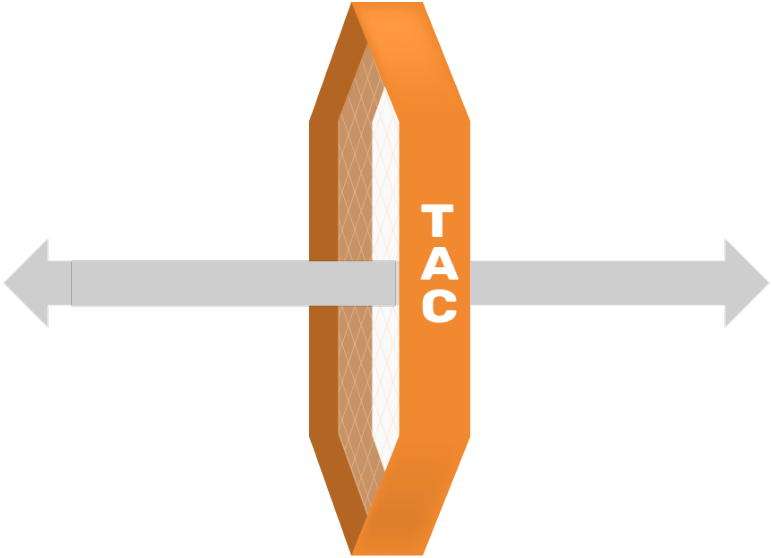
TAC At Scale

TAC can be used to source leading analysis from a wide range of experts without physically aggregating data or compromising security or privacy.

More data …

Virtually combine data within or across energy companies while maintaining privacy



More analysts …

AI experts

Academic researchers

Consultants

Industry associations

Government bodies

Industry equipment manufacturers

… = Better AI = Improved Forecasting and Resiliency

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Why Blockchain?

Multiple blockchain components support key requirements to implement Remote Analytics™ in the energy industry.

Auditability	Immutable ledger reduces the burden of regulatory oversight and compliance
Preventative Security	Smart contracts screen analysis questions before data is ever queried
Anonymity	Blockchain has a large, active research community in differential privacy and homomorphic encryption
Payment	Coins provide a simple mechanism to allow payment between anonymous parties

VIA's Trusted Analytics Chain provides differential privacy and homomorphic encryption.
VIA's encryption is NIST compliant (patent pending) for federal agency applications.

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TAC Takeaways

TAC's Remote Analytics™ approach solves many common data access challenges.

Data Always Remains With The Data Owner	▪ No data is transferred to VIA or to analysts
Easy, Flexible Data Mapping	▪ Different data schemas and schema changes do not impact analysts
Single Platform For Multiple Applications	▪ Applications from basic data cleaning and benchmarking to advanced AI predictive maintenance are easier
Virtual, Not Physical, Data Aggregation	▪ Multiple, distributed data sources, including edge data, can be analyzed without physical data transfer

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