

An abstract graphic in the top right corner consisting of several overlapping, curved green lines that form a series of interconnected loops and curves, resembling a stylized 'C' or a series of overlapping arcs.

# The Digital Transformation of Energy

24th June 2016

# Software is impacting every industry



20<sup>BN</sup>

Hotel Service

The world's largest accommodation provider that owns no real-estate



18<sup>BN</sup>

Consumer App Economy

The world's largest consumer hardware company only creates a few apps



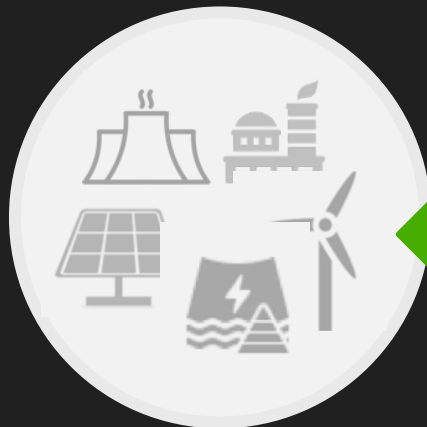
50<sup>BN</sup>

Taxi Service

The world's largest taxi company that owns no vehicles

# Energy is going digital

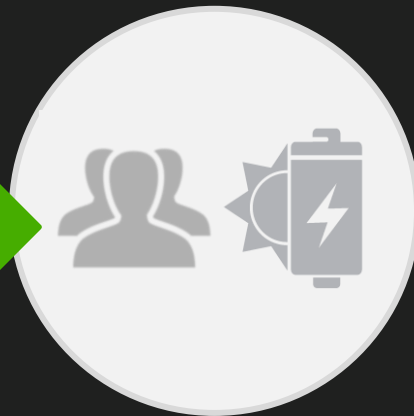
Generation



T&D



Consumption  
& Micro Gen



2020 Market Opportunity

Energy-level

OPPORTUNITY

**\$90B**

UTILITIES

**\$225B**

INDUSTRIAL INTERNET

# Customer problems we are solving

High cost of unplanned downtime

High spare parts inventory levels

Expensive & frequent machine inspection cycles

Lost equipment efficiency

Lack of real-time data on equipment health

Islands of machine data that are hard to access

Conflicting data sources

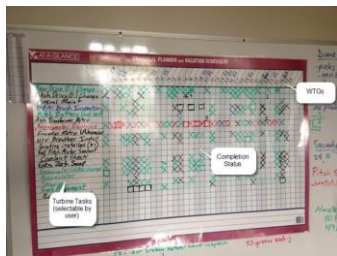
Workflows that strain to work through organizational silos

Delays for critical data to reach decision makers

Aging workforce

# How do customers manage their Wind Fleet?

## Plant Operators



### Keep equip running by ...

- Identify outages
- Reset turbines
- Equipment fixes

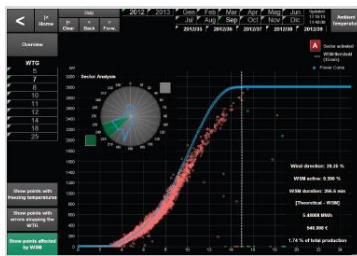
Availability  
Reliability



#IndustrialInternet

Asset Performance

## Fleet/Asset Managers



### Improve operations by ...

- Analyze historical perf
- Recommend improvements
- Upgrade/uprate opportunities

AEP Enhancement  
Productivity



Operations Optimization

## Commercial Managers



### Make money by ...

- Forecast & schedule power flows
- Project flip/refi/acquire decisions
- Negotiate service contracts

Growth  
Profitability  
Risk

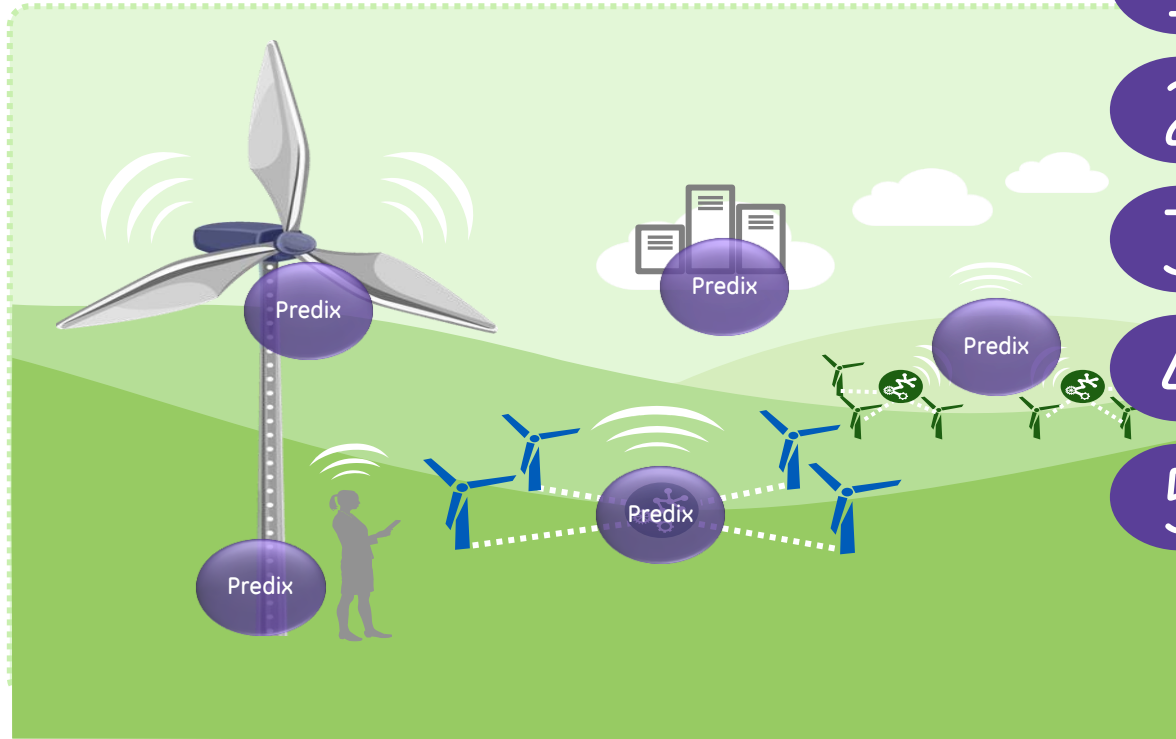


Business Optimization

powered by 

# GE's Industrial Internet software platform

Predix™



1

One platform

2

One architecture

3

Modular, cloud-agnostic approach

4

Faster development, operation and management

5

Secure connectivity



# Predix™

## Software Platform for Developing, Deploying, And Monetizing Industrial Internet Applications



POWER  
GENERATION



RENEWABLES



OIL & GAS



POWER TRANSMISSION  
& DISTRIBUTION



LIGHTING



Business Optimization



Operations Optimization



Asset Performance Management



Custom Solutions &  
Applications



Faster development,  
operation and  
management



Industrial scale  
analytics



Machine-centric



Secure  
connectivity



Modular,  
cloud-agnostic  
approach

## Predix Platform

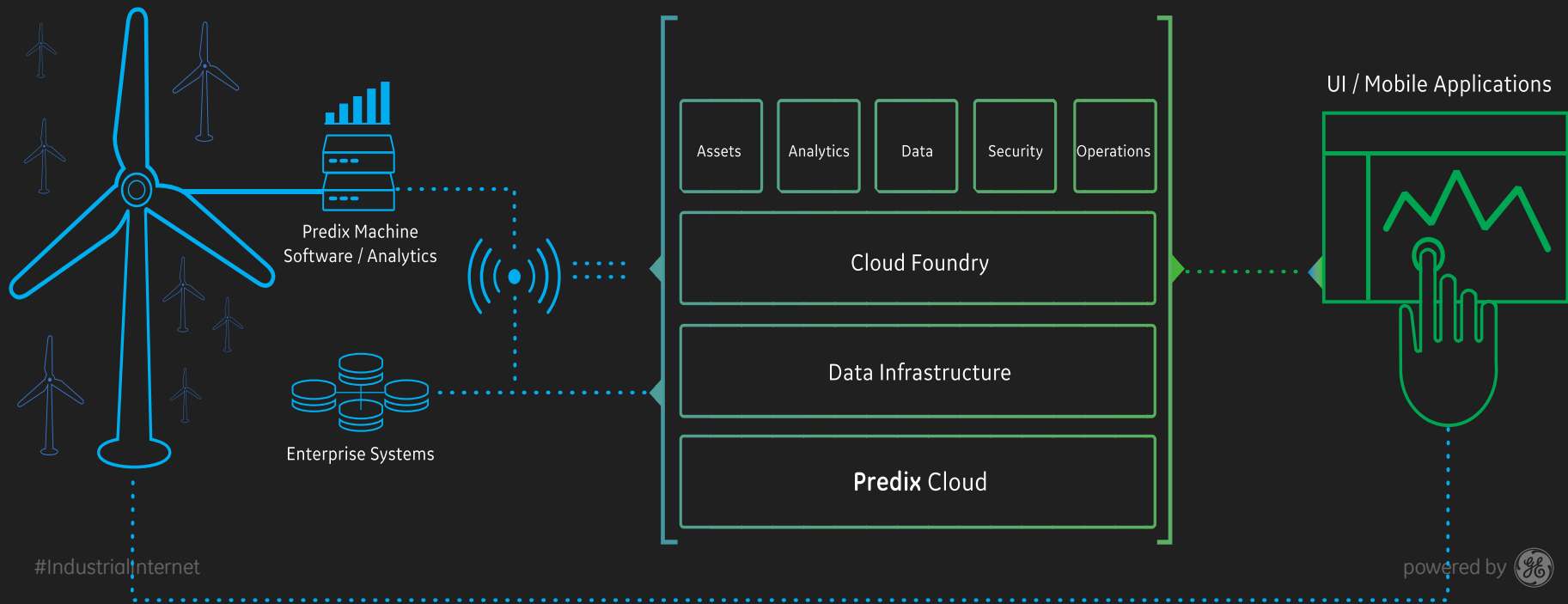
# Create Digital Industrial Innovation

## The Industrial Cloud Platform

Connectivity

Services

Applications





# GE's Digital Wind Farm

Innovative hardware meets the industrial Internet



## Differentiated Technology

Next generation, brilliant  
2MW turbines

Modular design: 2 rotor types  
& tower heights; variable  
nameplate



## Flexible Service Contracts

FSA + PowerUP

Stabilize unplanned  
operating expenses, with  
performance optimization

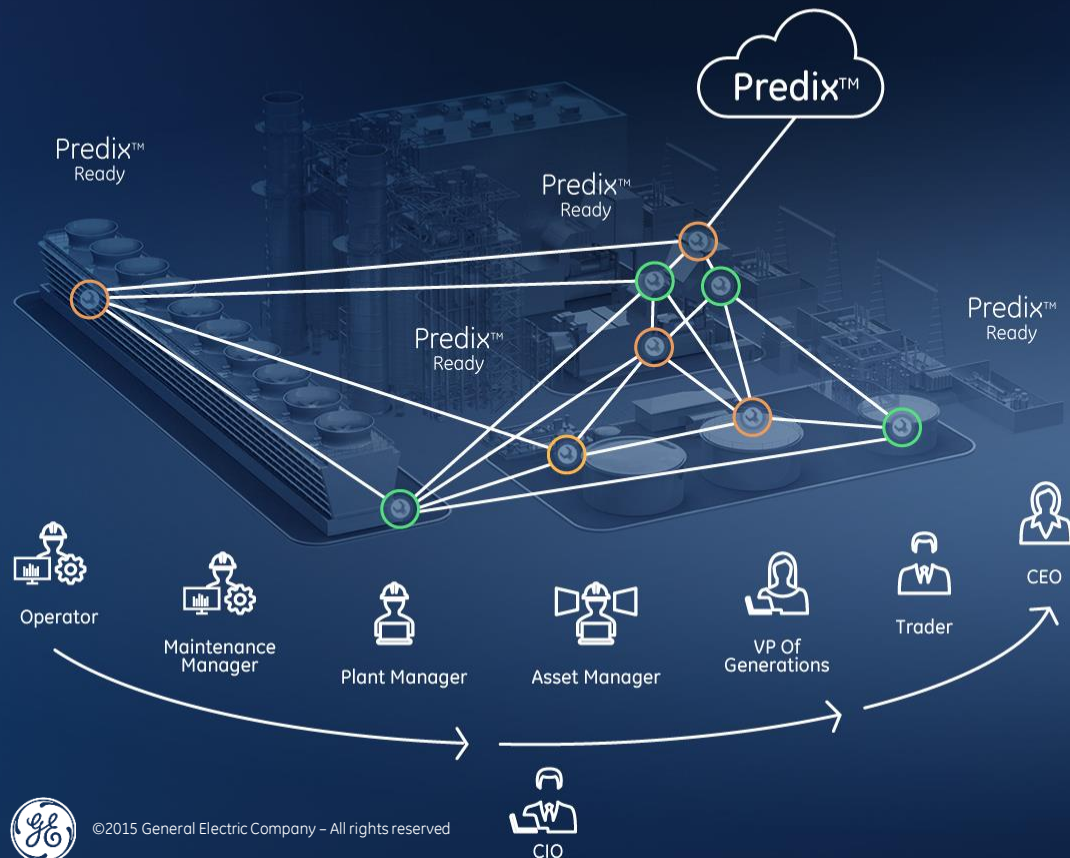


## Software & Analytics

Predix enabled data  
analytics

Asset Performance,  
Operations & Business  
Optimization

# Connecting data



## Deeper Insights

Create a single unified automation architecture—from sensor to the boardroom.

## Better, Faster Decisions

Drive the best user experience for across the workforce—from Operator to the CEO.

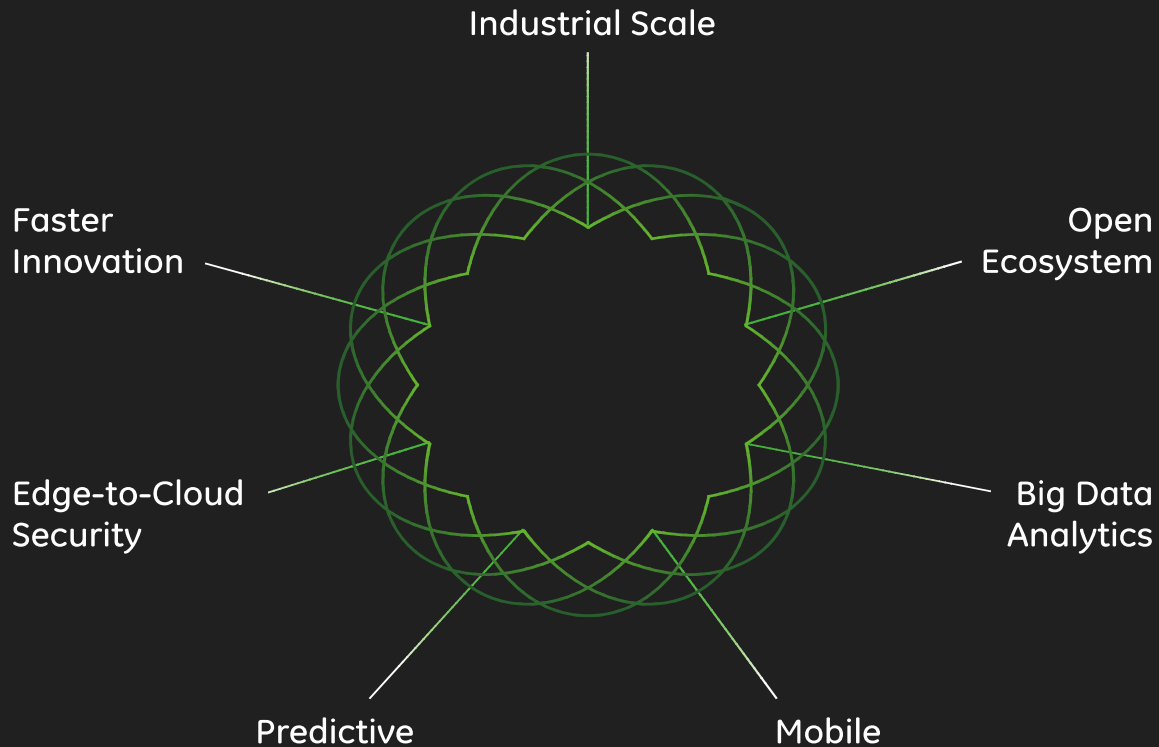
## Real-Time Actions

Develop advanced software, algorithms and analytics—no unplanned outages.

## Digital Twin

Virtual model of every asset combining thermal, statistical, & similarity-based models working in orchestration with one another


# PREDIX



## Predix

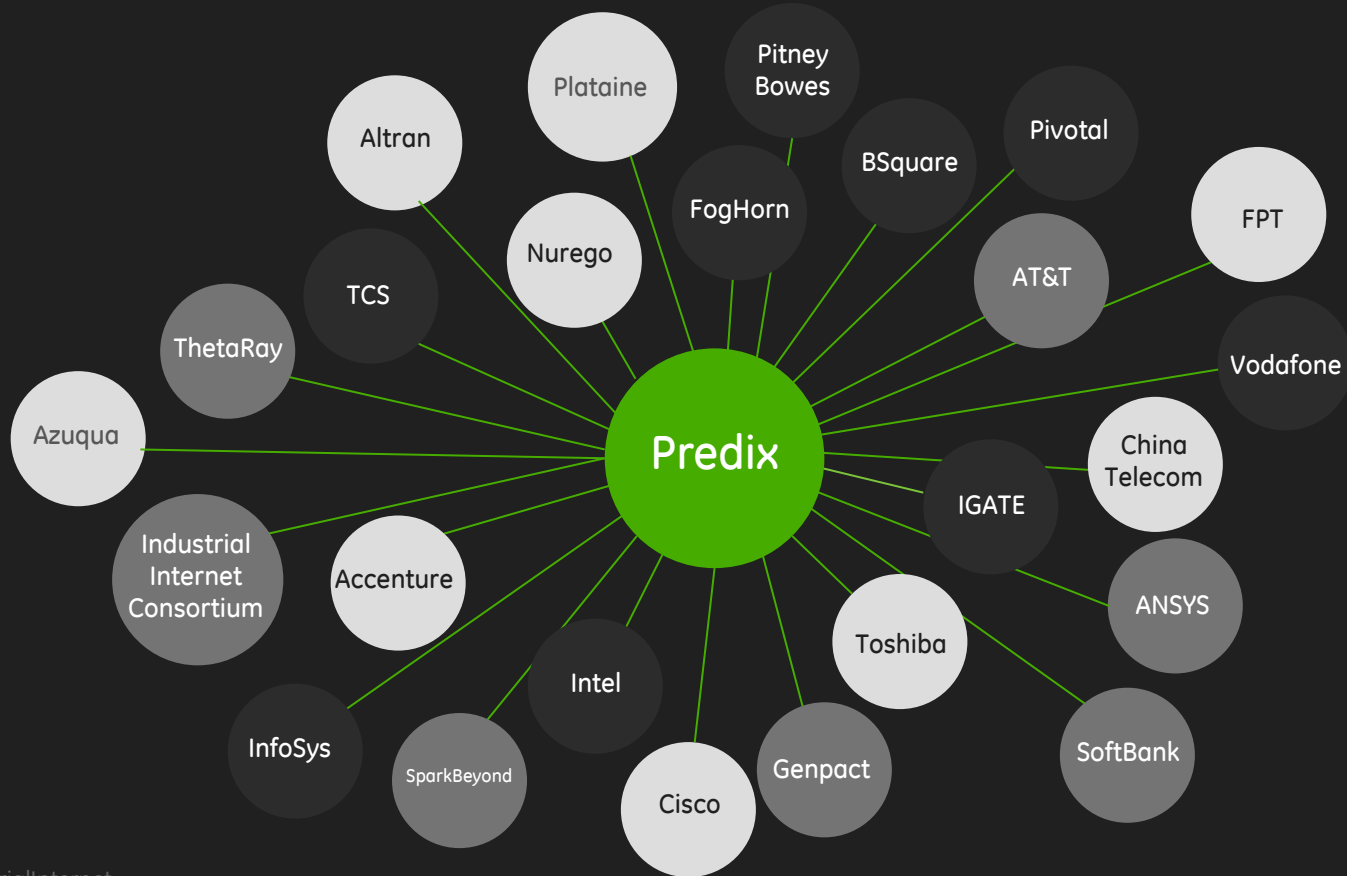
Your Cloud Platform for the Industrial Internet

#IndustrialInternet

powered by 

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# Open Innovation Ecosystem



# Cybersecurity



**Embedded  
Security**



**Field Security**



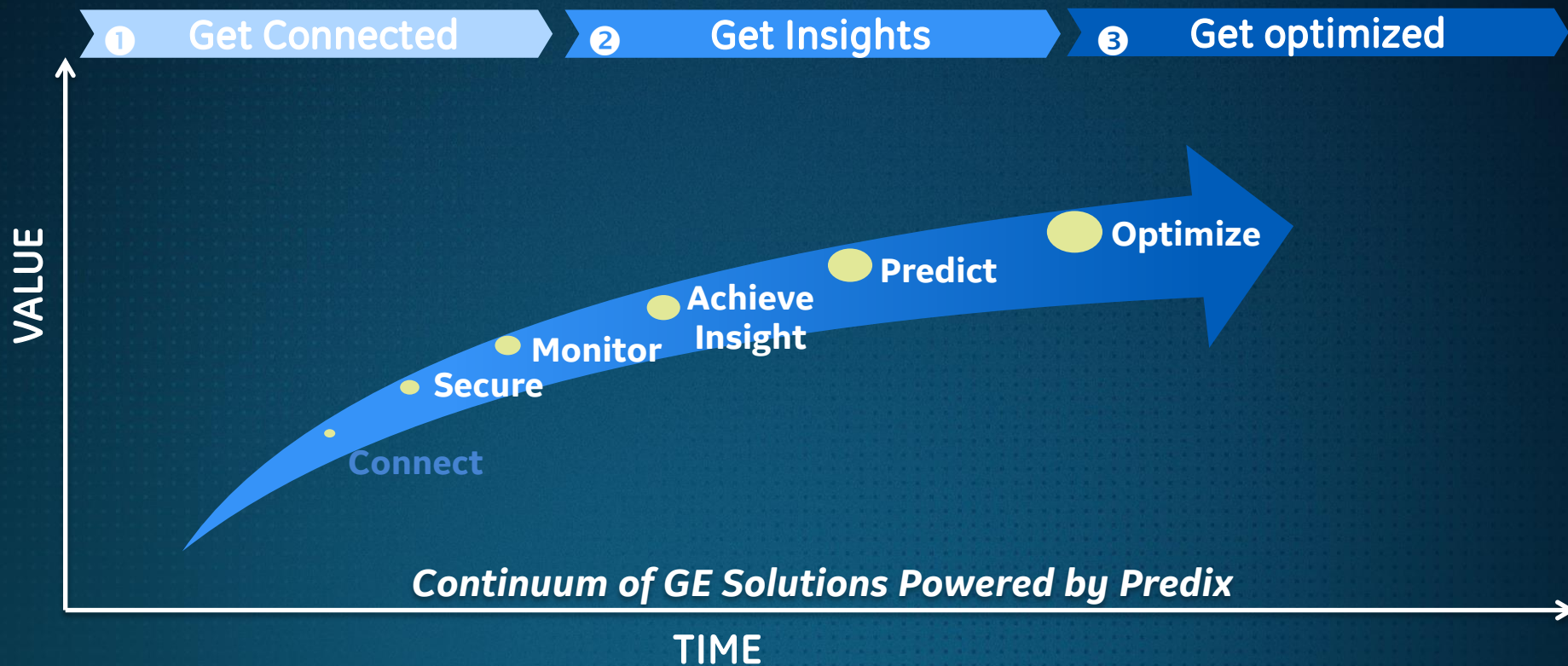
**Achilles  
Certifications**



**OpShield &  
Threat Updates**

Operate Asset + Operations Safely

# Your Digital Industrial Journey







# Digital Transformation of utility

## Exelon Needs

- ↑ Reliability
- ↓ Production Cost
- ↑ Asset Capability

*"Our industry is on the precipice of a digital disruption, and Exelon is very pleased to partner with GE on several pilot programs that will help us deliver significant benefits for our customers, the industry and the environment"*

*Michael Pacilio, EVP & COO,  
Exelon Generation.*

## GE Solution



ASSET PERFORMANCE  
MANAGEMENT



OPERATIONS  
OPTIMIZATION



PREDIX

## Across Fuel Sources

