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CONNECTIVITY

The silver bullet to energy transition

GE Vernova Portfolio of Businesses

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12 BUSINESSES

1. Digital
2. Energy Financial Services
3. Gas Power
4. Grid Solutions
5. Hybrids Solutions
6. Hydro Power
7. LM Wind Power
8. Nuclear
9. Offshore Wind
10. Onshore Wind
11. Power Conversion
12. Steam Power

7K GAS TURBINES INSTALLED

52K WIND TURBINES INSTALLED

180 COUNTRIES

70K EMPLOYEES WORLDWIDE

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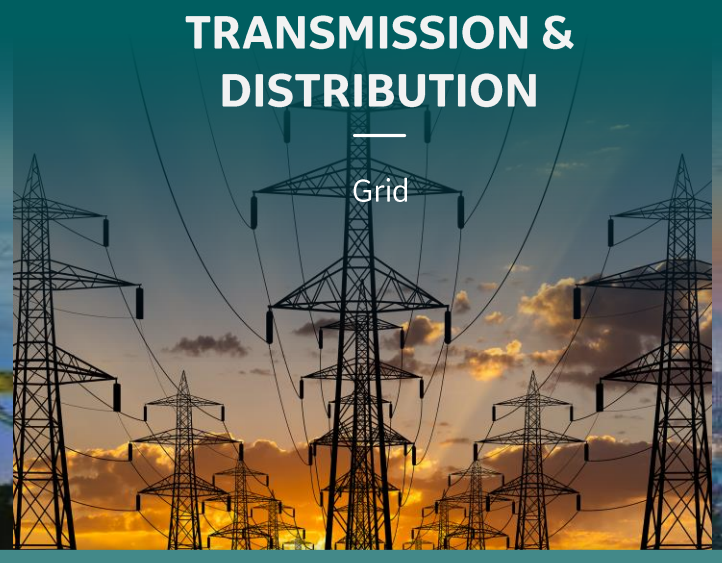
OIL & GAS

Power Generation and Oil & Gas

GENERATION



TRANSMISSION & DISTRIBUTION

Grid

INDUSTRIAL AND CONSUMERS

Manufacturing

CUSTOMERS, CAPABILITIES, AND MASSIVE DATA ACROSS THE ENERGY SYSTEM

300+ customers globally
30 billion points per day, 22 years of data online
1.1M ANALYTICS executions per day
~1K plants monitored remotely

1000+ customers globally
30% of global Distribution utilities use Grid Software
40% of global Transmission utilities use Grid Software
29% ADMS global market share by meters served

20,000+ customers;
500,000+ installations in automation alone;
~40 years of manufacturing data.

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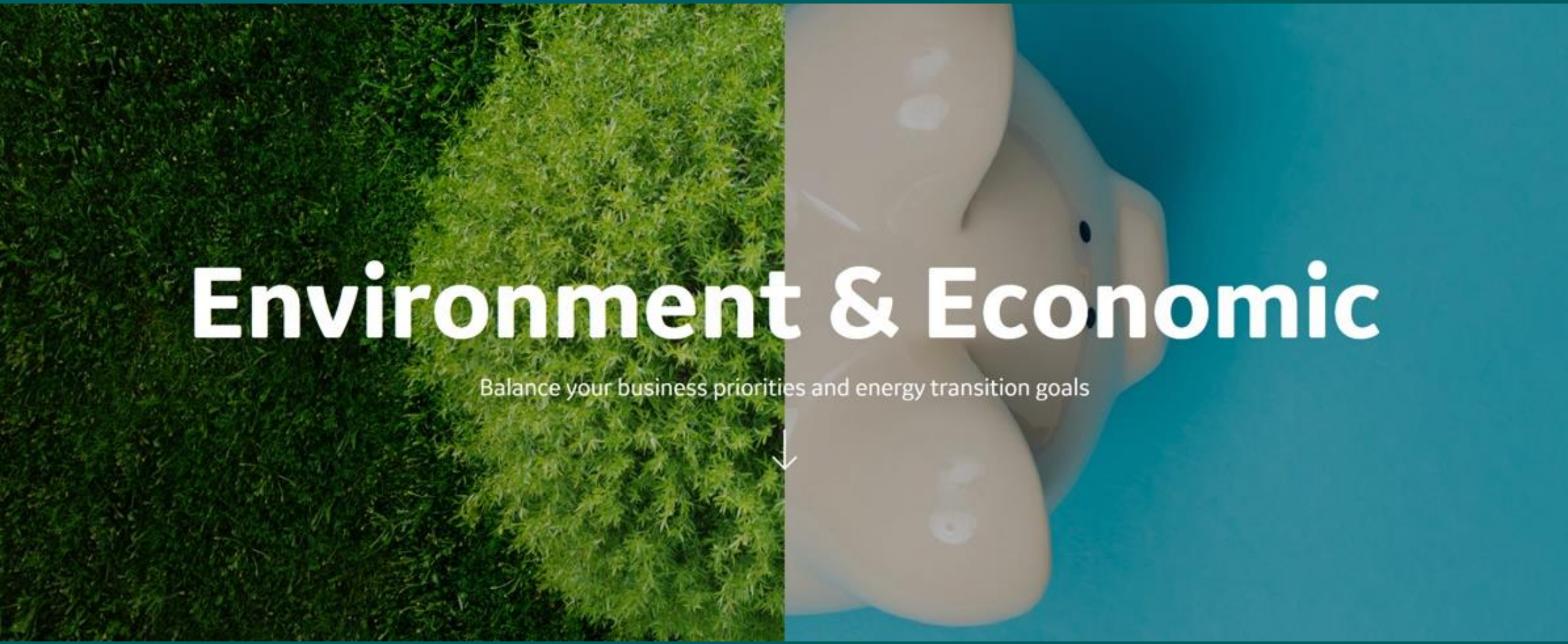
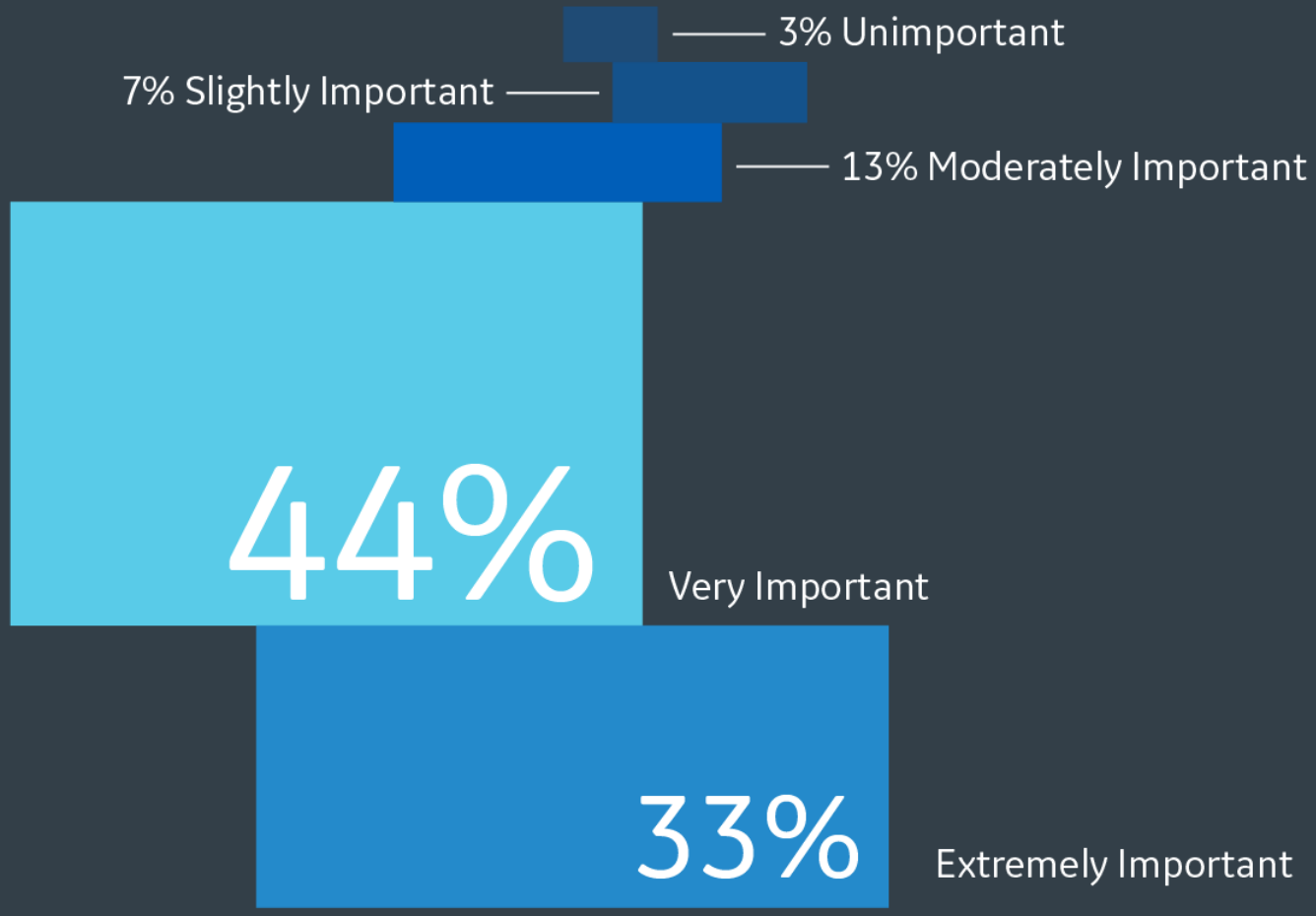


https://www.ge.com/digital/reuters-et

How important is digital transformation to a successful energy transition?



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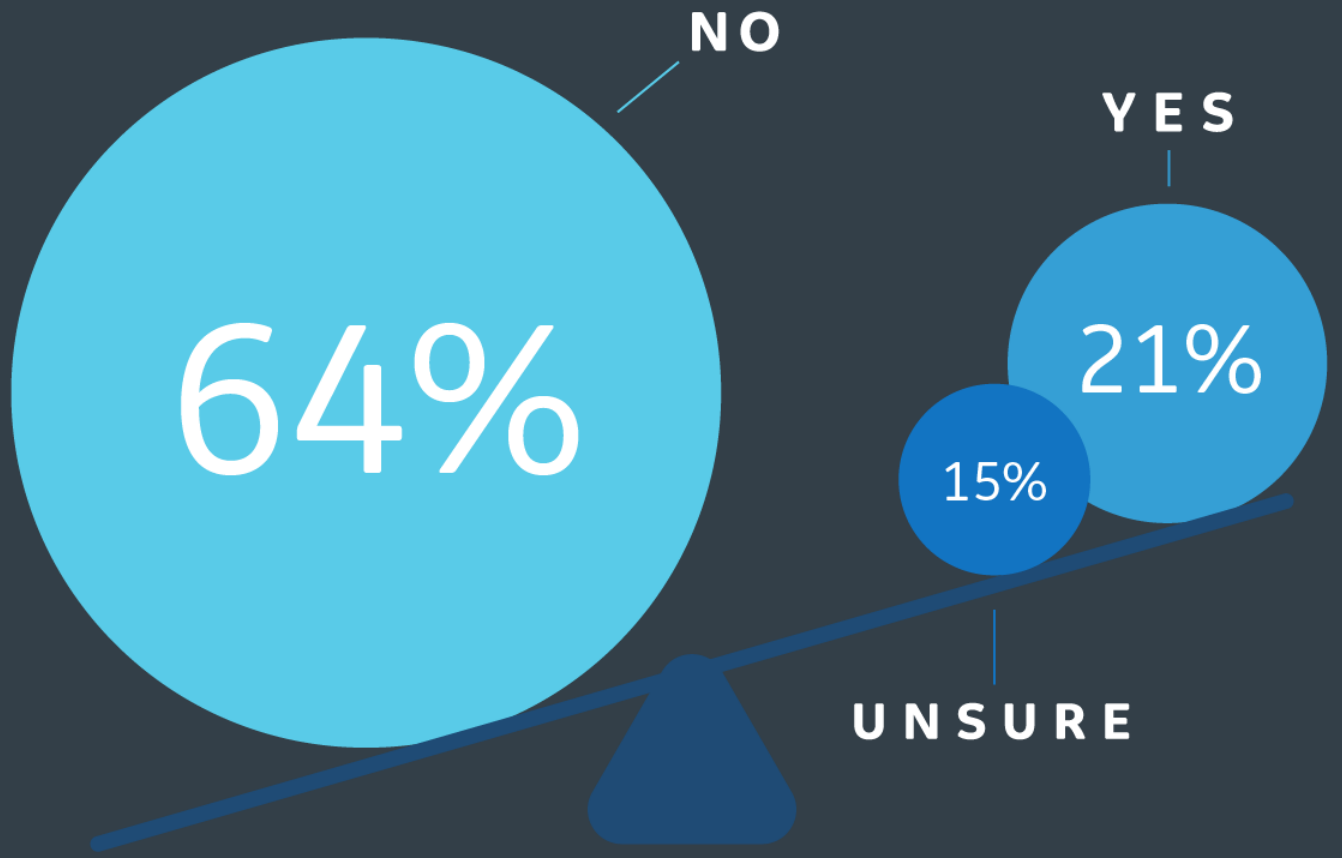
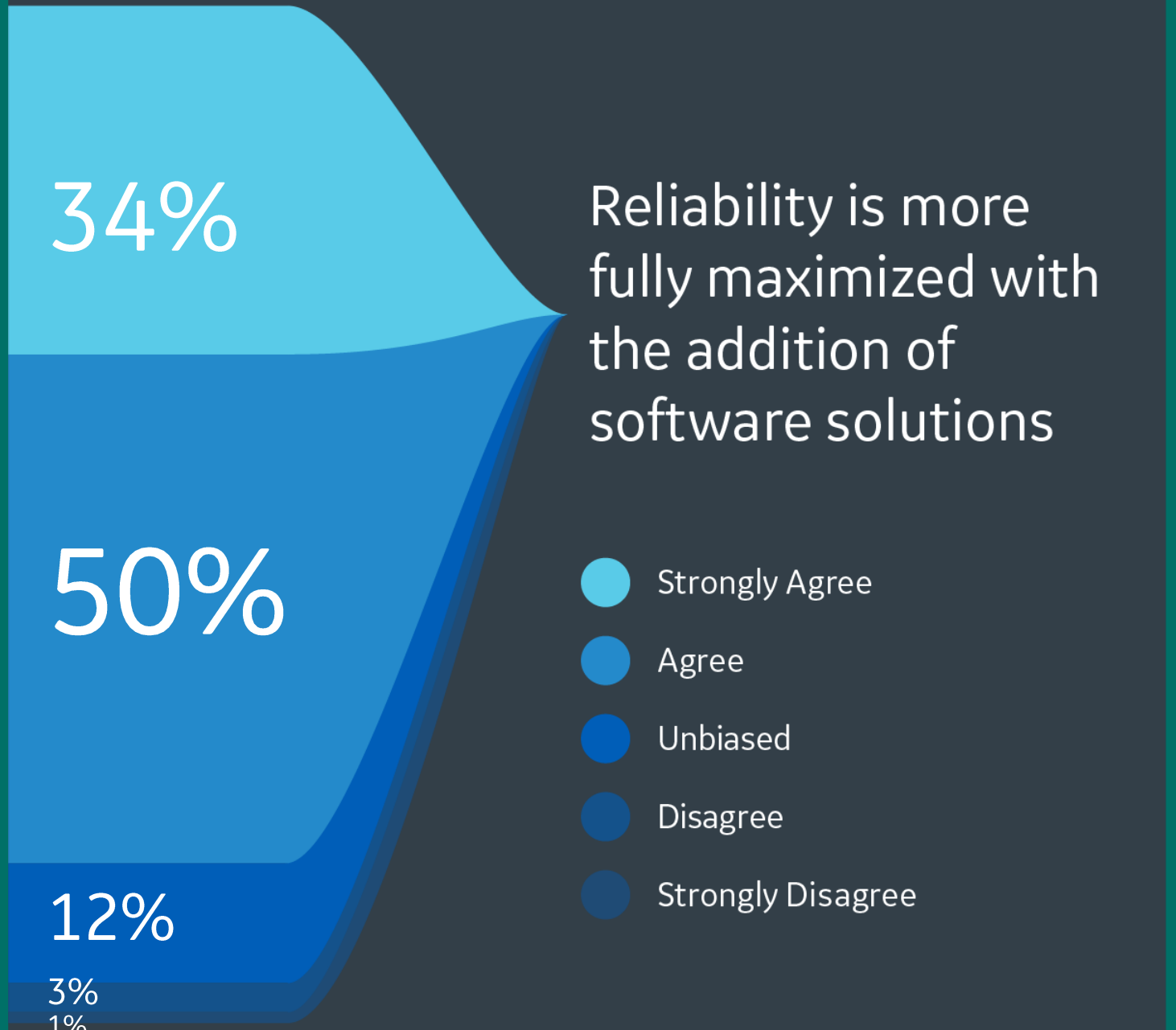
Is it possible to deliver the energy transition without rapidly increasing digital transformation?





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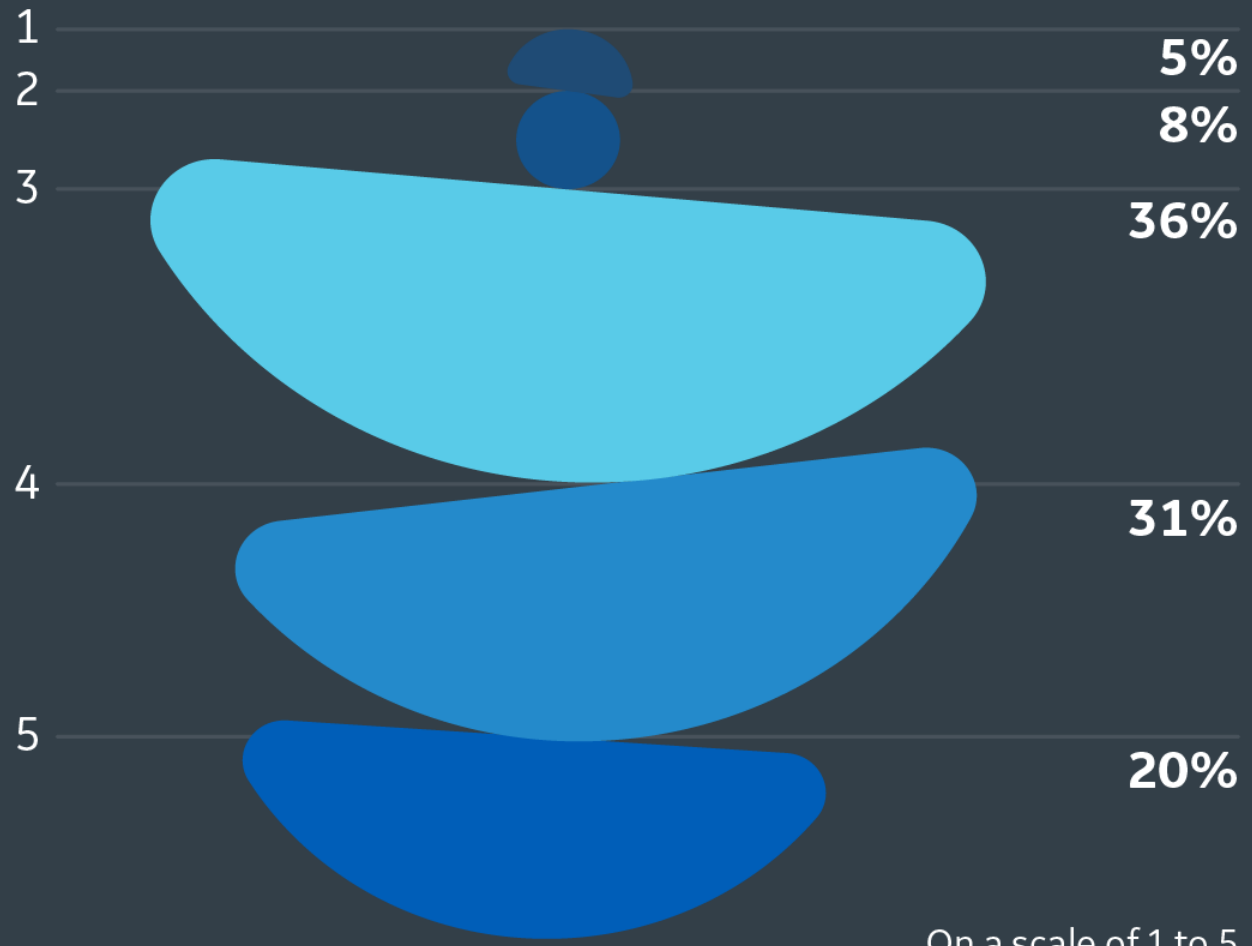
In your opinion, to what degree is your organization embracing new software and software change?



On a scale of 1 to 5
(1 = Not at all, 5 = As much as possible)

Digital Tools for the Energy Transition

Perform while Transforming

What digital tools are being invested in to assist with Energy Transition?

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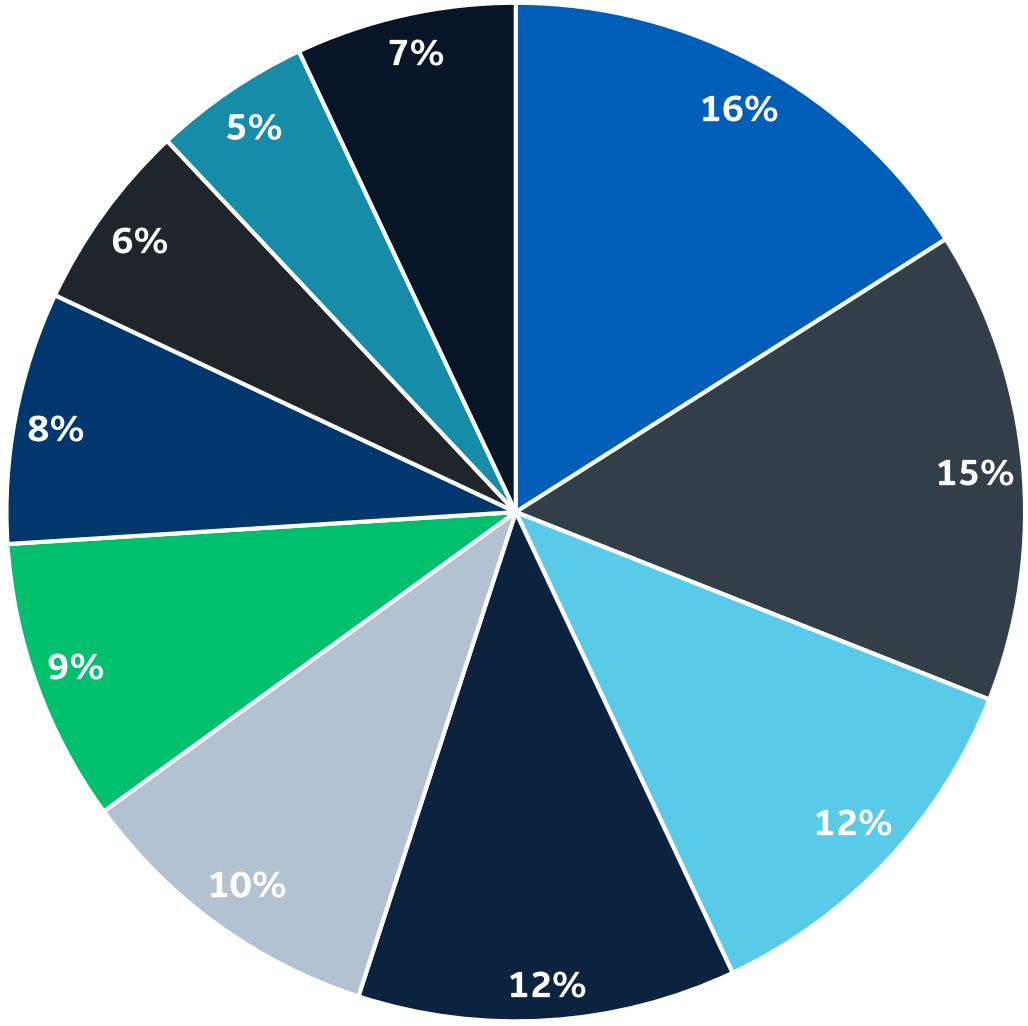
- Predictive Analytics Software
- Remote Operations Software
- Mechanical Integrity / Operational Maintenance Software
- Workforce Management Software
- Emissions Reduction Software
- Asset Strategy/Criticality Software
- Carbon Predictions/Accounting Software
- Health Condition Monitoring
- All
- None or Other



Digital Maturity Model for the Energy Transition

	Operationalize the Plant		Operationalize the Process		Transform the Enterprise
Environmental	Emissions Management	+	Carbon Optimization	+	Carbon Performance Management
			Measure, optimize and monetize carbon		
Performance	Operations Performance Management	+	Intelligent Plant	+	Autonomous First
			Boost plant and fleet profitability		
Planning & Risk	Asset Integrity	+	Connected Risk Management	+	Extended Planning & Risk
			Reduce asset investment risk		
Operations	Asset Management	+	Asset + Supply Chain	+	Circular Operations
			Drive efficiency and productivity		
Maintenance	Prevention & Predictive Maintenance	+	Prescriptive Maintenance	+	Total Predictive Maintenance
			Improve availability and maintenance precision		

Market Forces

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01
Greenhouse Gas Accounting
Driving pressure to achieve net zero

02
Investor Pressure
Demanding to produce and achieve net zero targets across all industry segments

03
Regulatory Squeeze
Driving regulation to disclose emissions across industries and regions

04
Software Tools are Lacking
Unrealistic and do not track nor manage a net zero strategy

GHG DATA MUST LINK DIRECTLY TO OPERATIONS AND NET ZERO STRATEGY

Environmental Social Governance
Share Price and Access to Capital

Product Carbon Intensity
Increased Value for Products Sold

Access to Carbon Markets
Climate Finance to Reduce

Industry Pain Points

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DATA COLLECTION

AUDITING

OPERATIONAL IMPACT

01 Heavy reliance on front-line EHS to collect buried GHG data – no single enterprise system

02 Manual and intensive audit process – zero change recourse, lots of re-work, high risk

03 No central enterprise system aggregating usable data to action plans – Operations can't reduce carbon inventory; Commercial teams can't message low carbon intensity

CURRENT INDUSTRY TOOLS LAG REALITY

It's difficult for enterprises to track & manage to your net zero strategy

Transform with CERius for Carbon Management

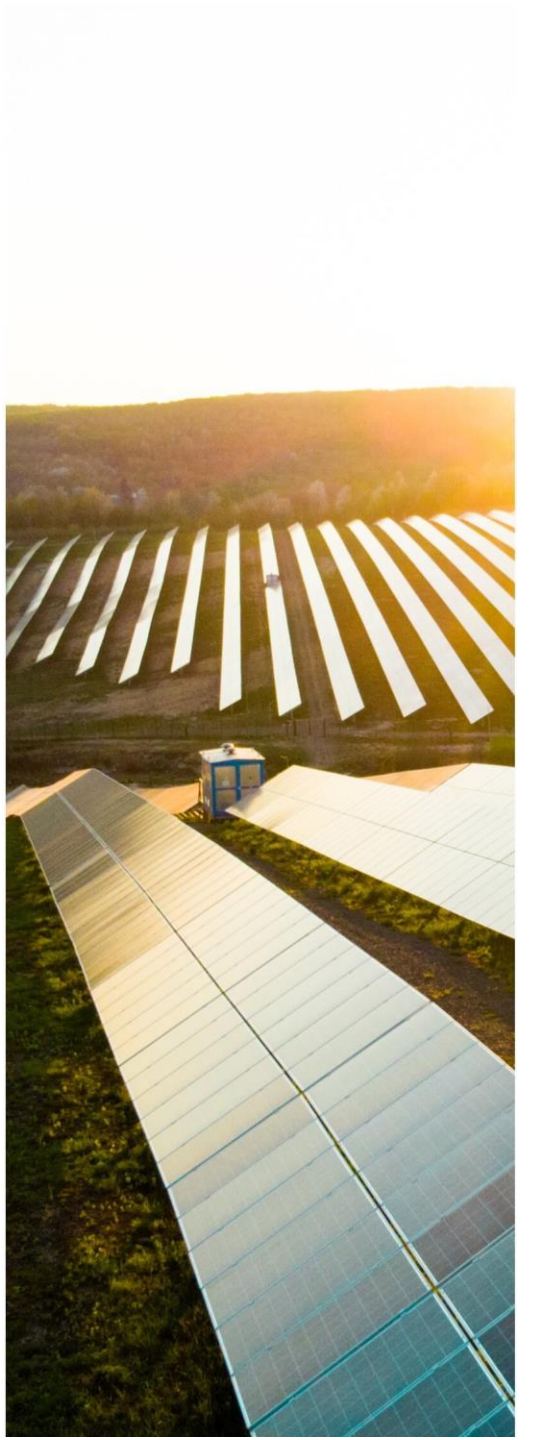
Measure, manage, and operationalize insights to reduce carbon emissions

*product in development

- **Collect**
- **Report**
- **Monitor**
- **Strategize**

Fleet Orchestration

Reduce uncertainty with improved forecasting to achieve economical, clean and reliable power generation.



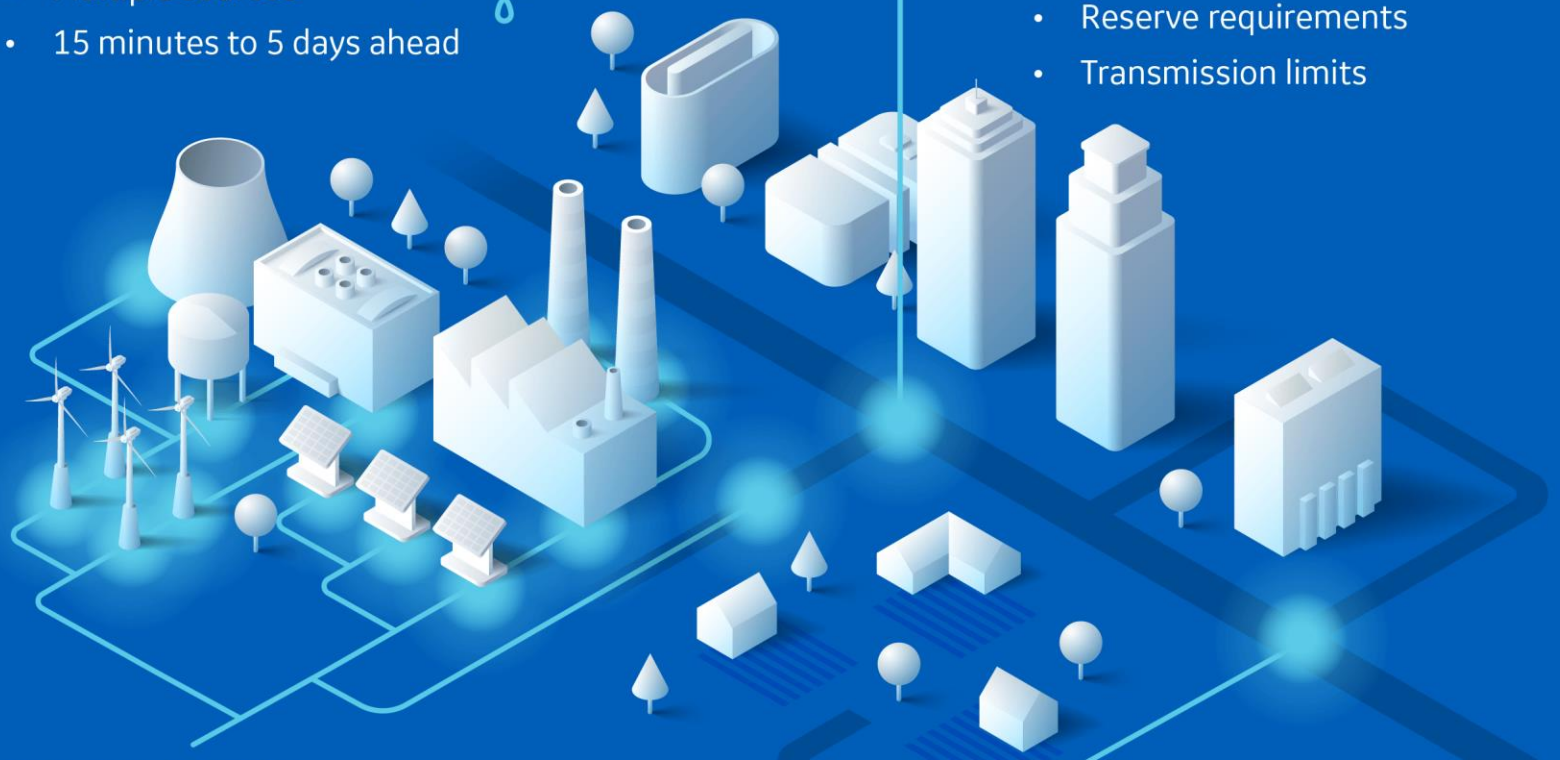
Solution: An Intelligent Fleet

WEATHER

- Multiple sources
- 15 minutes to 5 days ahead

CONSTRAINTS

- Energy market conditions
- Configurable inputs
- Reserve requirements
- Transmission limits



CAPACITY

- Digital Twins of each facility
- Availability and probability informed renewable generation predictions

DEMAND

- AI/ML predictions
- Visibility into DER/BTM assets*

STOCHASTIC UNIT COMMITMENT OPTIMIZER

- 15 minute, day, and week ahead recommendations
- Integration with Energy Management System*
- Visibility into how to best navigate the uncertainty of matching generation and demand

UNCERTAINTY

- Variability is captured from all inputs
- Fast solution architecture allows model to factor in the impact of variability

*GE Grid Product

Extent of cloud-first strategy adoption

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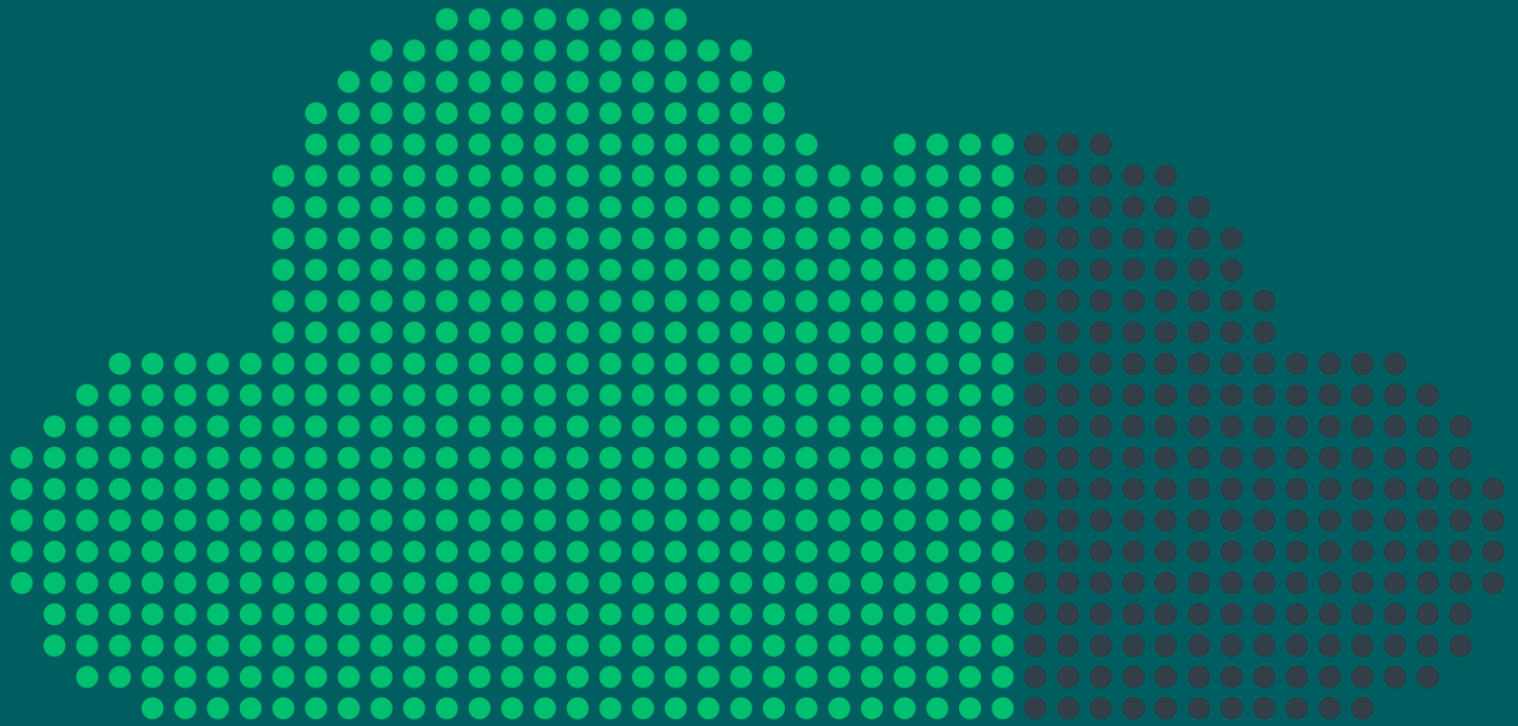
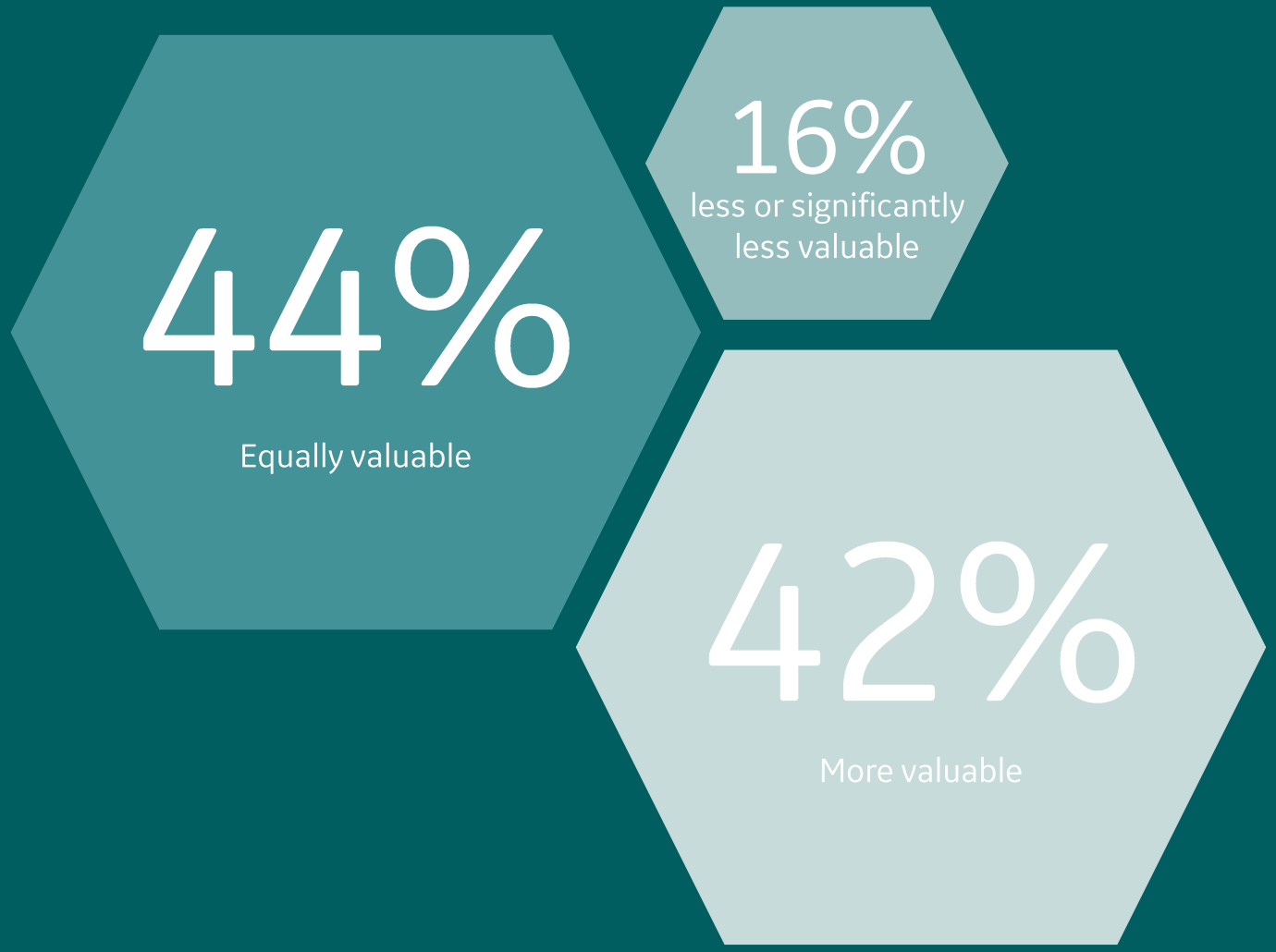


71%

Are completely or somewhat committed to a cloud-first strategy

Is composable software more valuable than point solutions?



All respondents tended to view composable software, which allows users to assemble components as needed, as equally (44%) or more (42%) valuable than point solutions.

Achieving a Composable Ecosystem for Energy Transition

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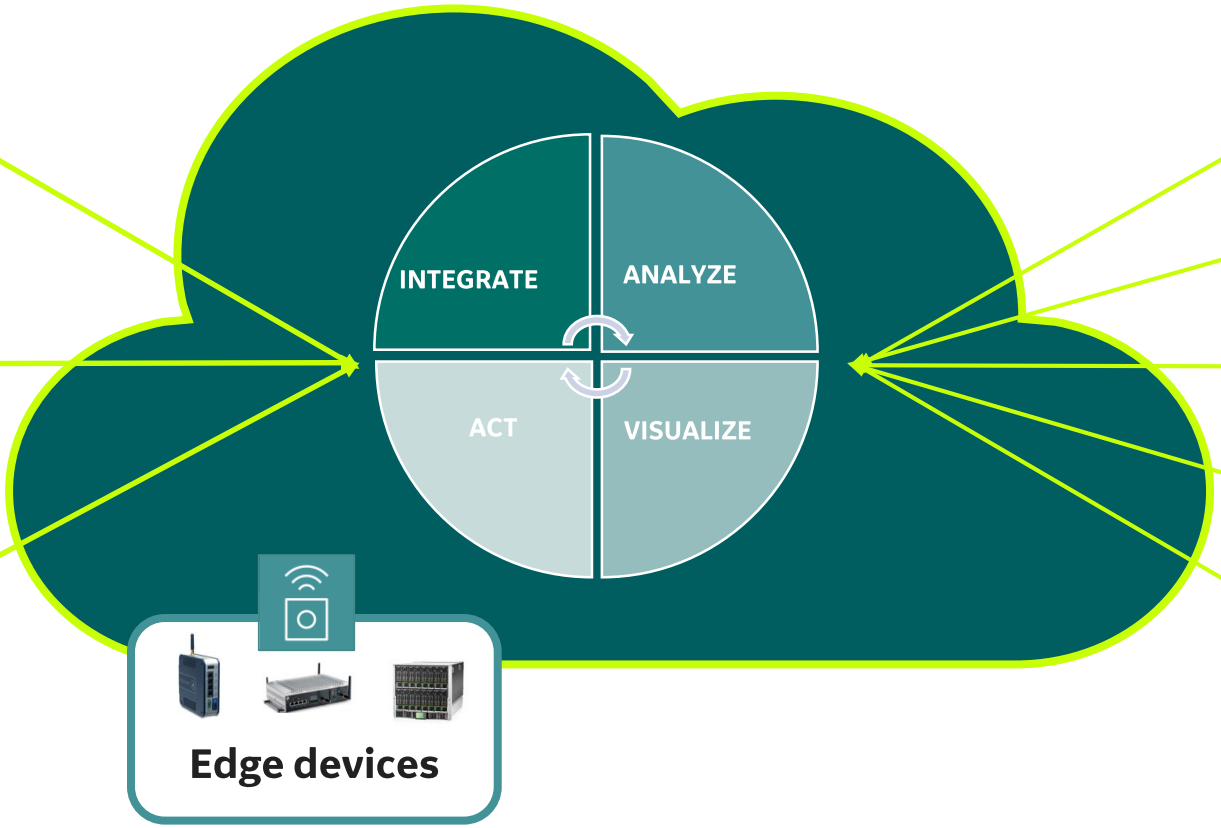
Enterprise Systems Data
- CMMS
- EAM
- Other Enterprise Data

Direct Asset Data
- Controllers
- Sensors

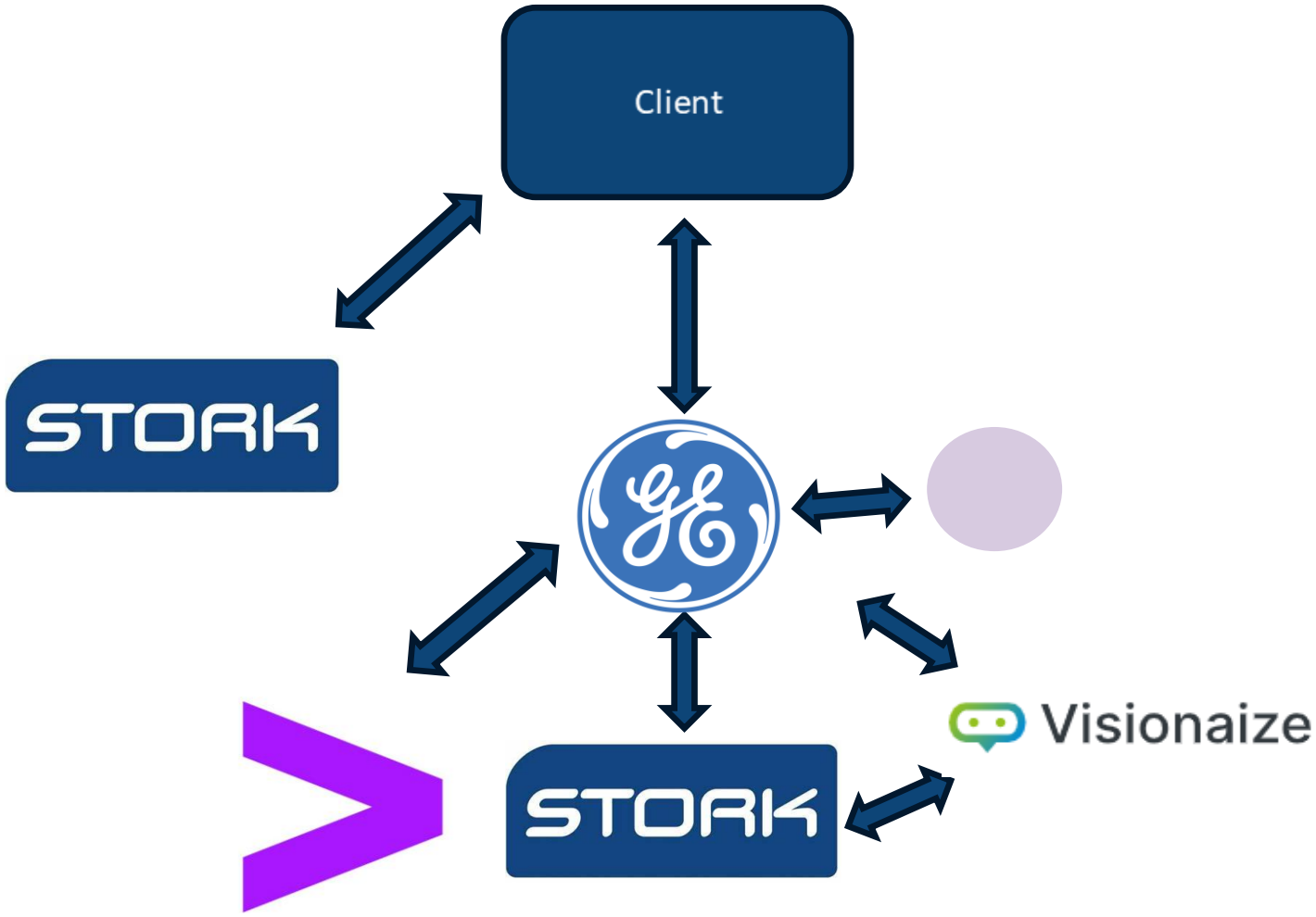
OT Systems Data
- HMI/SCADA
- MES
- Historian



- APM
- OPM
- Fleet Orch.
- Carbon
- Business Apps

Achieving a Composable Ecosystem for Energy Transition

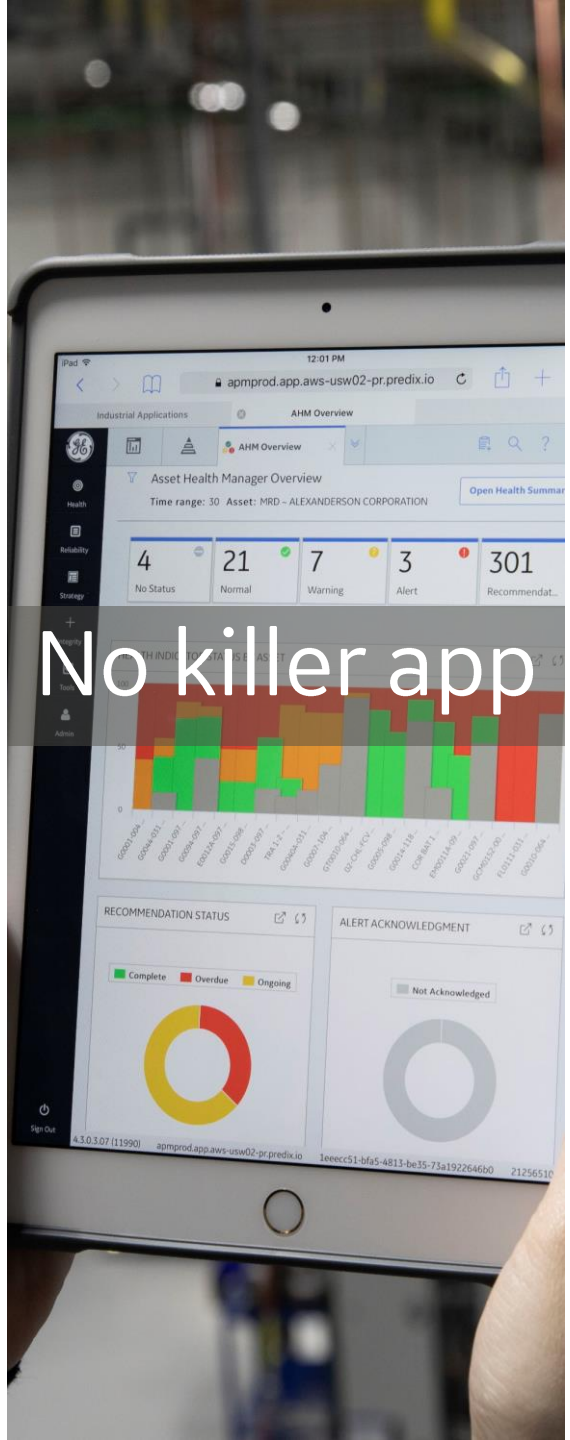
Partners are key contributors to our success



The Energy Transition

needs digital solutions.

The Energy Transition



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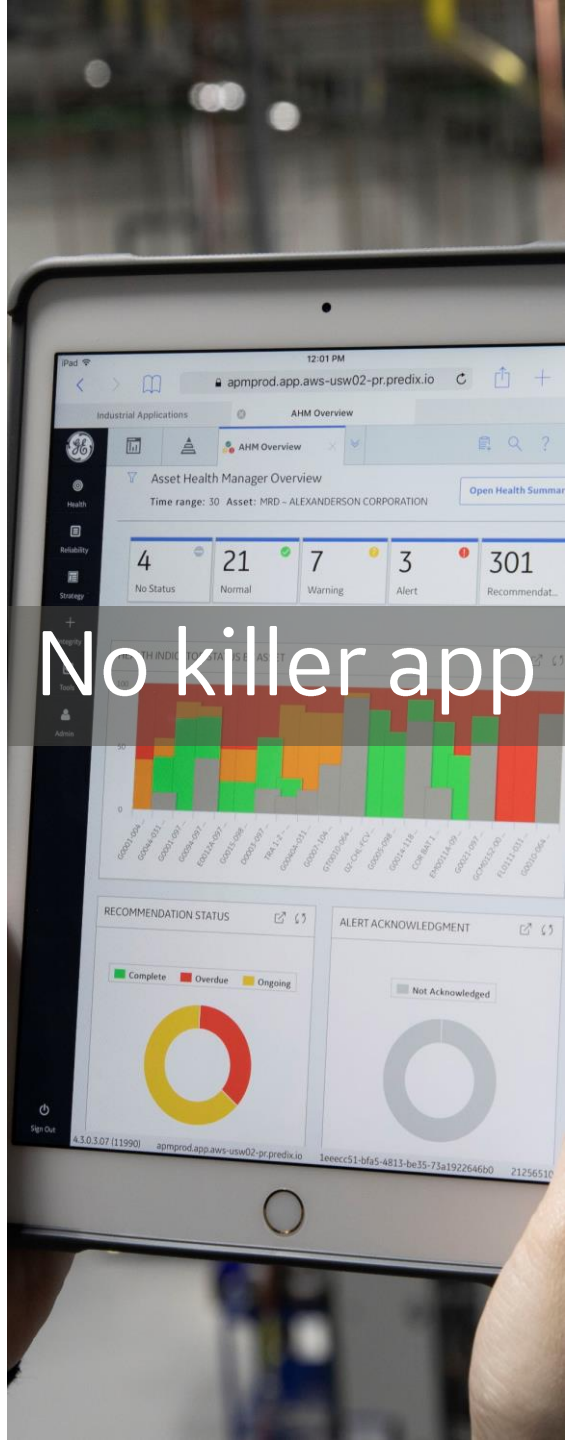
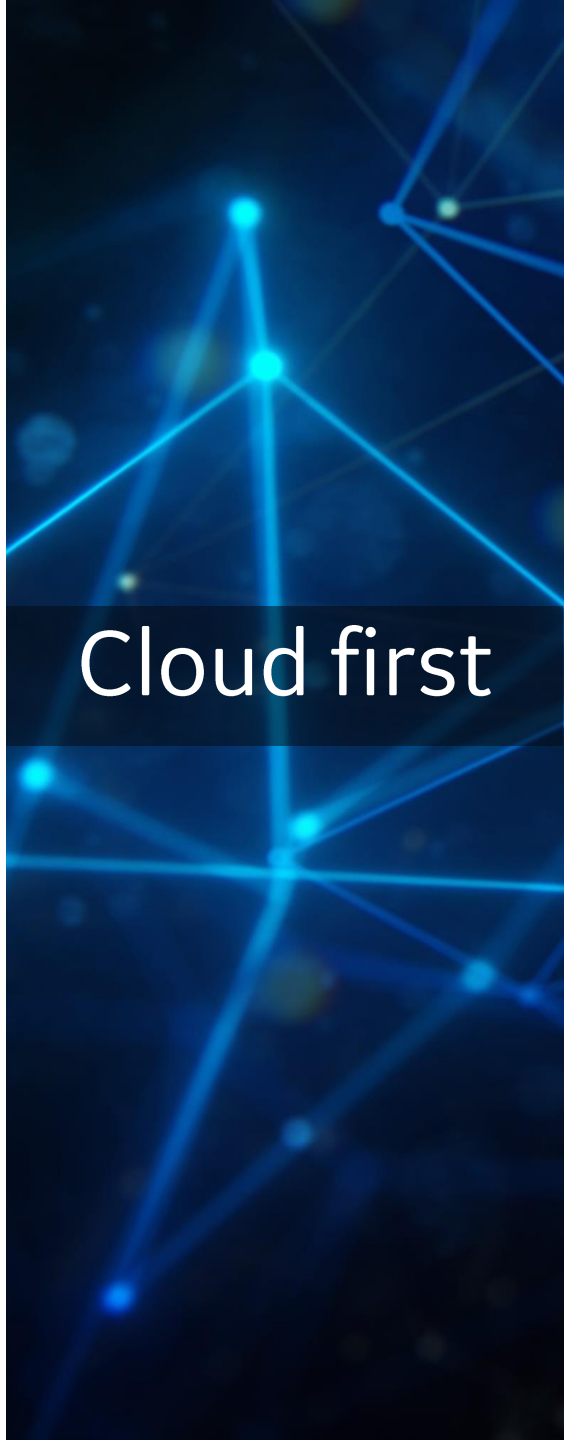
The Energy Transition





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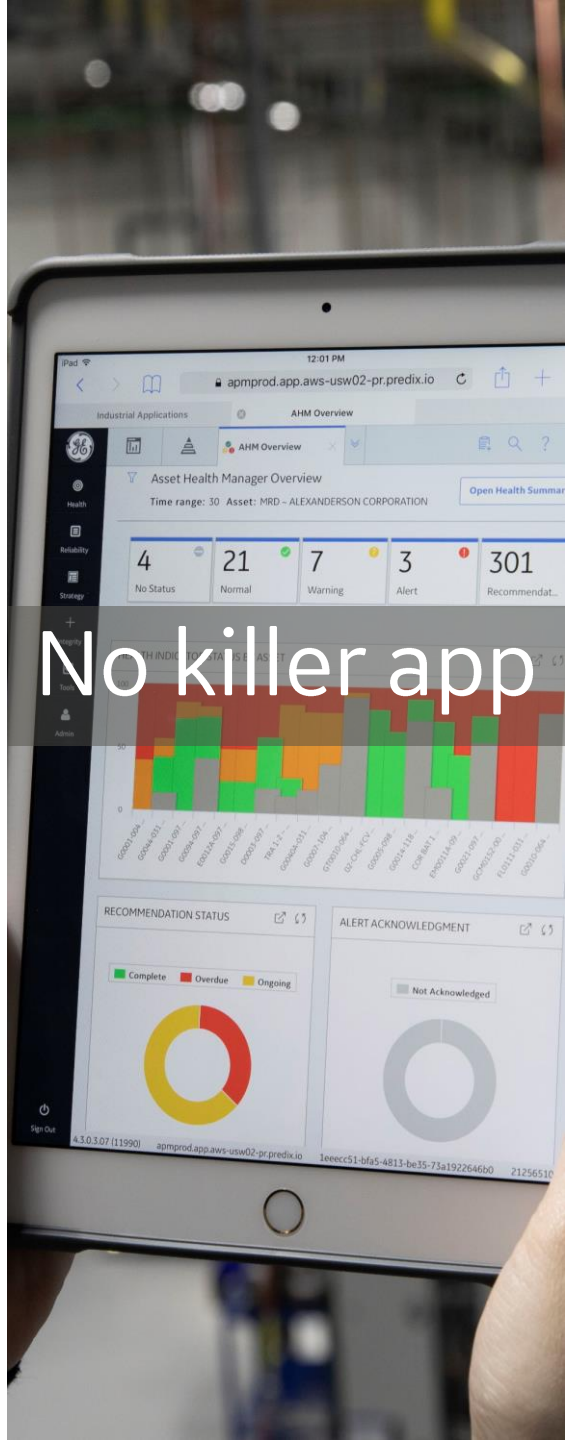
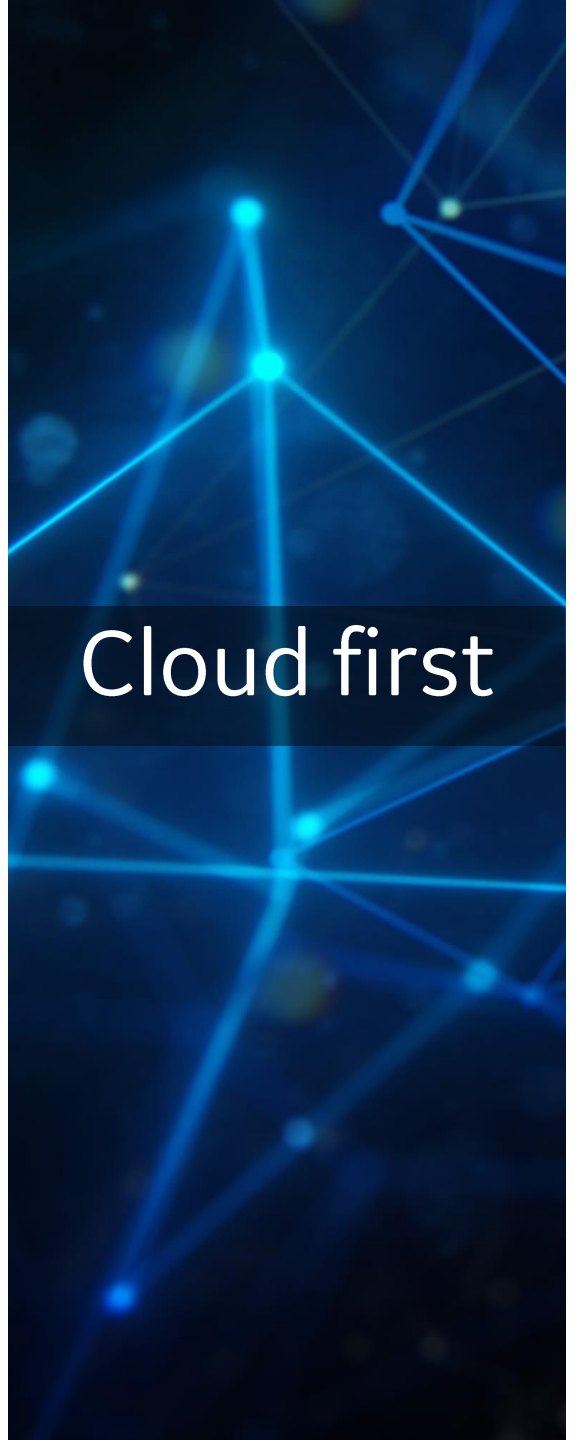
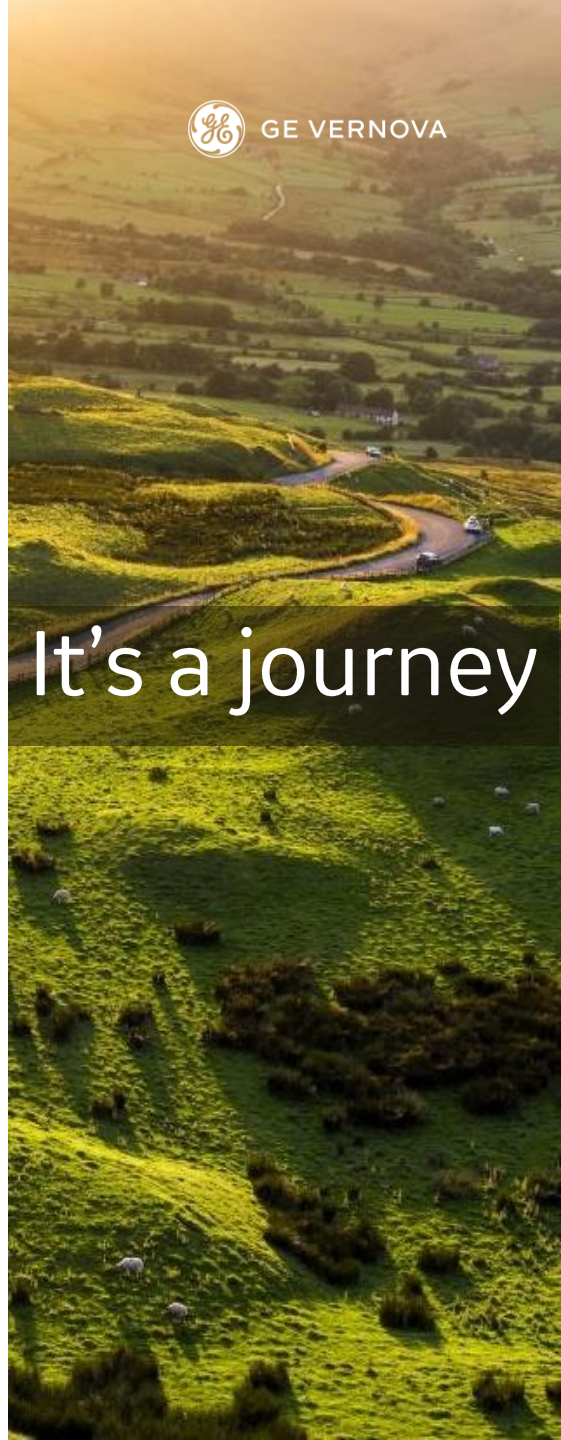
The Energy Transition







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Customer Conference

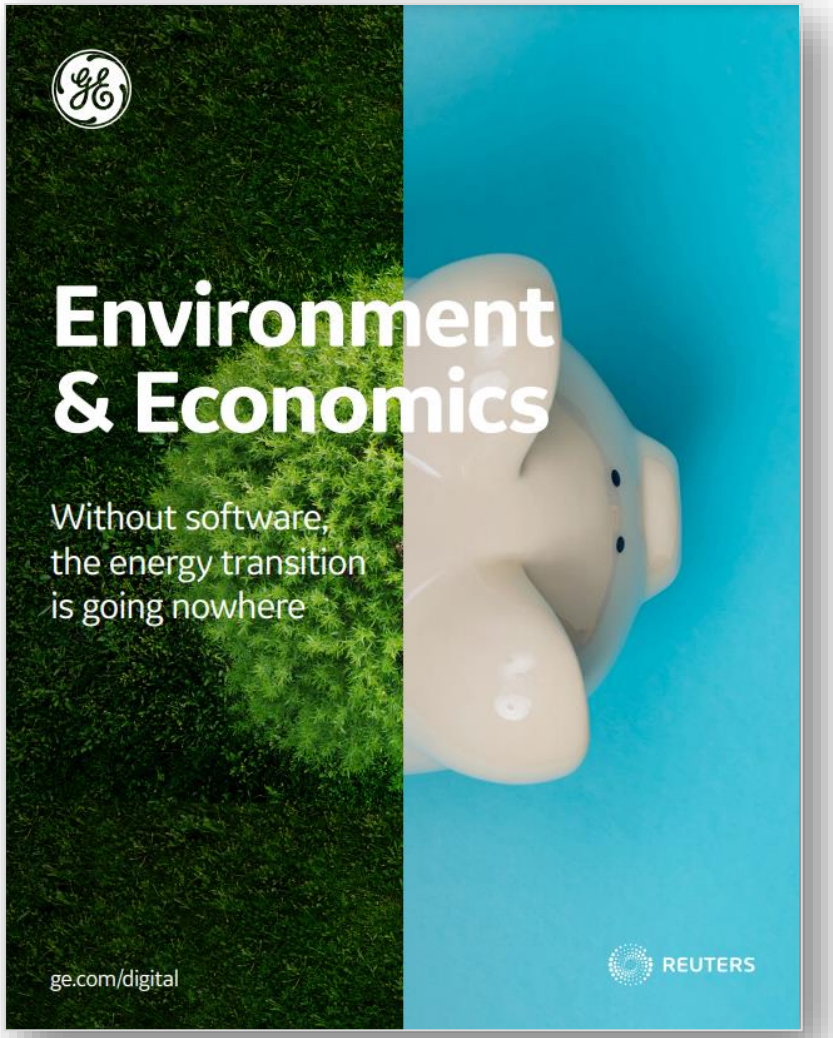
Join Us

2024 TRANSFORM TO TRANSITION

April 23 – 25 **Houston, Texas**

Register now

Thank you



For more on GE Vernova's role in Energy Transition...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