



Navigating Uncertainty with a New Digital Industrial Model

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Imagination at work



WHAT WILL DATA AND SOFTWARE MEAN FOR THE FUTURE OF OUR INDUSTRY



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Global trends...extraordinary times

3B

GROWTH IN
GLOBAL
POPULATION
BY 2050

65%

GROWTH IN
GLOBAL GAS
DEMAND
FROM 2010 TO 2040

50%

OF DEMAND FOR
NATURAL GAS WILL BE
MET BY
LNG IMPORTS
OR LOCAL PRODUCTION OF
UNCONVENTIONAL GAS
BY 2040

40+

YEAR AGING
INFRASTRUCTURE
IN MANY MARKETS

International Energy Agency Market Report - January 2015
EXXONMOBIL - The Outlook for Energy: A View to 2040



DEMAND FOR ENERGY WILL CONTINUE TO RISE DESPITE CURRENT VOLATILITY

With critical industry challenges



Price
Volatility



Workforce
Turnover



Operational
Islands

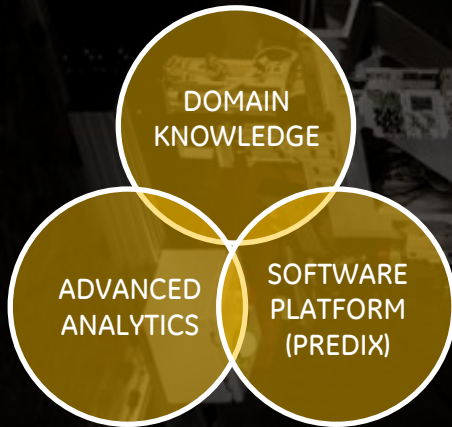


Safety
Risks



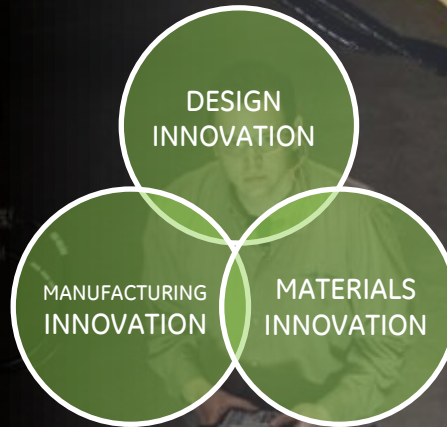
Navigating Uncertainty in the Digital Era

INDUSTRIAL INTERNET



- Industrial data growing at 2x other data
- Most complex data set

ADVANCED MANUFACTURING



- New paradigm = manufacturing technology + material innovation
- Digital thread

OPEN INNOVATION WITH CUSTOMERS & COLLABORATION ECOSYSTEM
... TECHNOLOGY ACCELERATION



This is the Digital Industrial Revolution

The Industrial Internet is a deep meshing of the digital world with the world of equipment and machines. It is enabled by advanced computing, data analytics, low-cost sensing and new levels of connectivity, all permitted by the internet.

WHAT HAPPENED WHEN 1B PEOPLE BECAME CONNECTED?

Redefining business models:

Ads | Entertainment | Retail

WHAT HAPPENS WHEN 50B MACHINES BECOME CONNECTED?

Redefining productivity

Employees | Assets | Systems



GE's Predix

The software platform for the Industrial Internet



Machine Centric

Connect, make machines intelligent, and optimize them from anywhere in the network



Industrial Big Data

Optimized for real-time, large-scale analytic and asset management



Modern Architecture

Rapidly deliver consumer grade Industrial Internet apps with a cloud-agnostic platform



Resilient & Secure

Protect industrial data and control access to machines, networks and systems

Operational Technology (OT) leaders: underserved by today's IT platforms



What does it mean for Oil & Gas?

$$\Delta s = \frac{v^2(t) - v_0^2}{2a_t}$$

$$\frac{\Delta t'}{\Delta t} = \frac{U(r) \equiv - \int_{r_0}^r F \cdot dr + U}{\sqrt{1 - \beta^2}}$$

$$\bar{p}_s \equiv \frac{P}{V} = \frac{Mg}{V} = \bar{\rho}g$$

$$x' = \frac{x - v_{tr}t}{\sqrt{1 - \left(\frac{v_{tr}}{c}\right)^2}}$$

$$T = \frac{2\pi}{\omega} = 2\pi \sqrt{\frac{l}{g}}$$

$$\mathcal{I} \equiv \sum_{i=1}^N M_i r_i^2 \frac{dU}{dx} = -F(x)$$



GET CONNECTED
GET INSIGHTS
GET OPTIMIZED





REAL SOLUTIONS IN USE TODAY IN THE REGION

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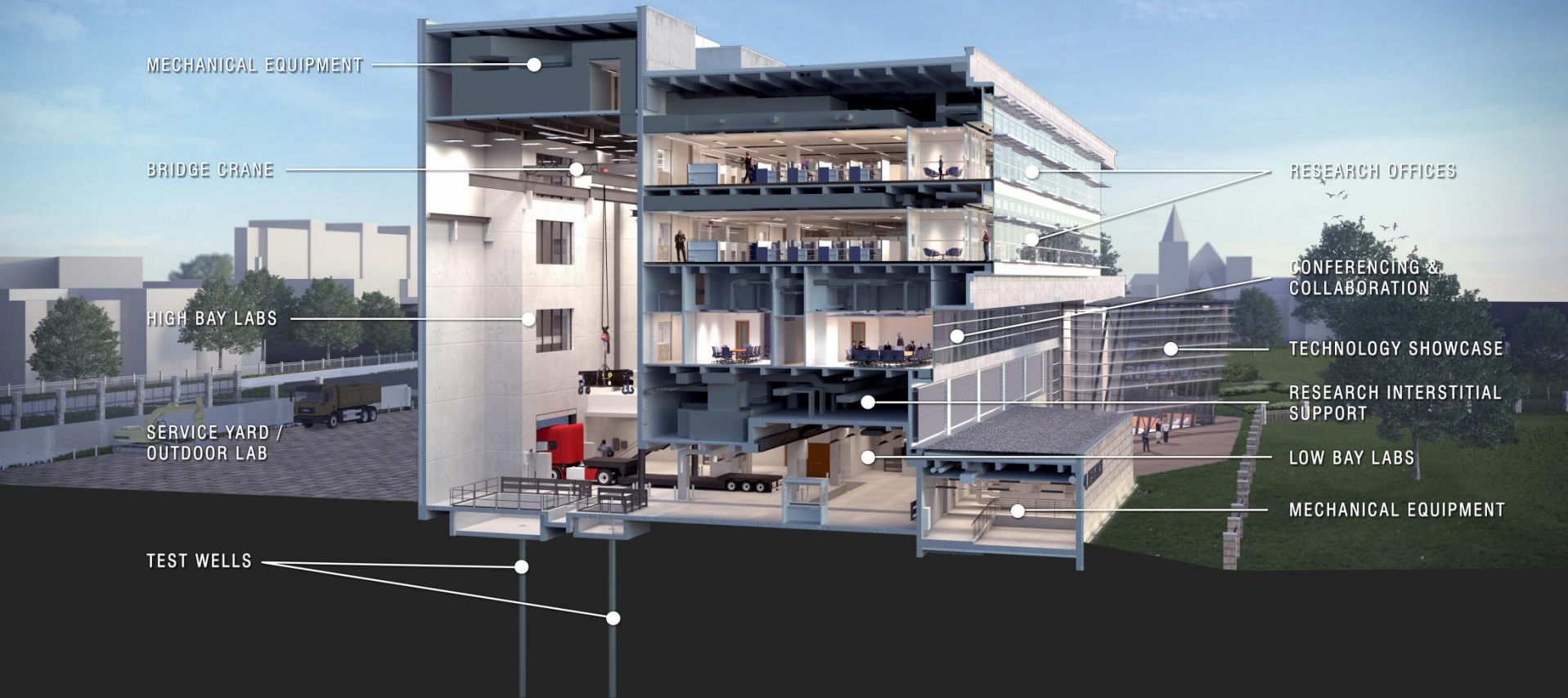
The GE Global Oil & Gas Technology Center

130 technical professionals
\$125MM investment
Summer 2016 completion date
9th global research site
Locally designed and locally built



Architect Rendering

An office built around a lab

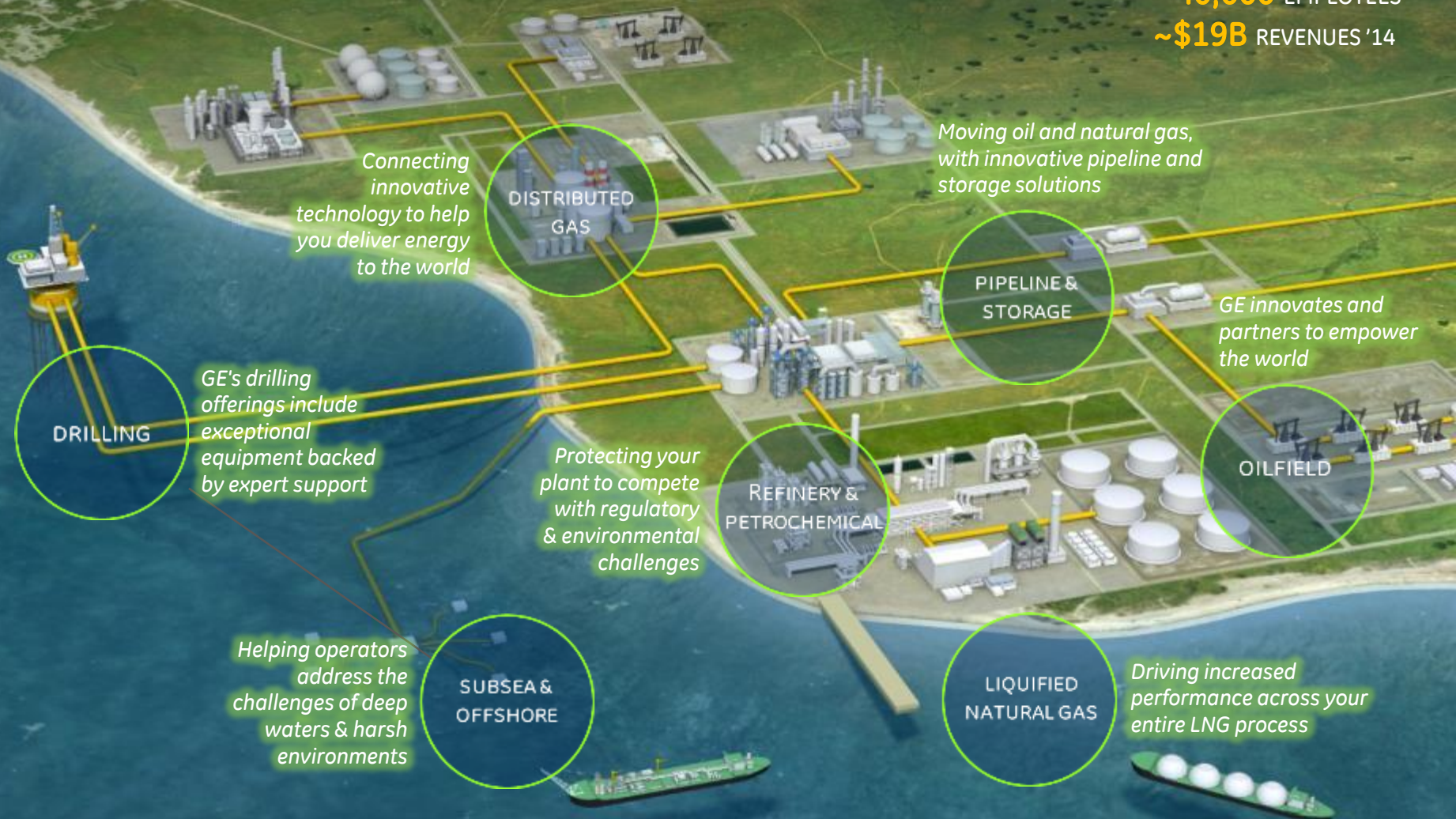


“GETTING DEEP INTO THE ROCK”

Technology and service solutions across the industry

~40,000 EMPLOYEES

~\$19B REVENUES '14



BRINGING TOGETHER THE DIGITAL AND PHYSICAL WORLDS



