Innovation in GE Oil & Gas
GE Innovation for over 130 years

1879, Carbon Filament Incandescent Lamp – Edison invents the 1st

1895, World’s largest Electric Locomotive – GE puts electricity to work

1910, 1st Hotpoint Range – improving life in the kitchen

1920, Portable X-ray Machine – suitable for dental & portable use

1921, the Magnetron – key element for World War II radar systems

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1941, entering the jet age – GE builds 1st US jet engine

1969, one step on the Moon – supplying technologies for 1st manned landing

1986, Lighting the Statue of Liberty – providing products & funding to relight national treasure

1998, Lightspeed™ CT Scanner – 1st capture multiple images simultaneously

2002, Wind Power – GE enters the wind power business

2014, CFM-LEAP engine, with GE invented ceramic matrix composite & 3 printed metal parts – both jet engine first

2015, 9HA Gas turbine – the largest & most efficient gas turbine in the world

2003, Evolution Locomotive – GE introduces new fuel-efficient locomotives

2010, WattStation™ Charging electric vehicles at home or on the road

2013, MultiOymx – Advanced cancer diagnostics to see & study cancer in new ways

2014, Predix – GE’s software platform for the industrial internet

2009, Vscan™ – Handheld ultrasound technology extends the reach of healthcare

2012, Durathon™ Battery – Next-generation battery developed at Global Research

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GE imagination at work
Major trends of the next industrial era

Industrial Internet

- Software
  - Domain knowledge
  - Advanced analytics
  - Software Platform (Phoenix)

Advanced Manufacturing

- Software
  - Design innovation
  - Manufacturing innovation
  - Materials innovation

Open innovation

Technology Acceleration

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

- Innovating with customers
- Collaboration ecosystems

- New paradigm = manufacturing technology + materials innovation
- Digital thread
HARNESSING THE INDUSTRIAL INTERNET TO DRIVE:

- **RELIABILITY**: Increase availability and longer asset life
- **COST REDUCTION**: Lower operating costs with greater efficiencies
- **RISK MITIGATION**: Lower operations and financial risk
- **PROFITABLE GROWTH**: Greater operational control yields greater profits
5-10% DOWNTIME faced in today's oil & gas industry

$150MM AVERAGE COST OF DOWNTIME in a mid-size LNG facility

$7MM PER DAY IN LOST REVENUE for an offshore well out of commission
IMPROVED PRODUCTION with big data analytics

6 - 8% IMPROVED PRODUCTION with big data analytics

AVERAGE WORLD OIL RECOVERY today

35% AVERAGE WORLD OIL RECOVERY today

YEARS OF GLOBAL PRODUCTION equivalent to 1% improvement in recovery

3 YEARS OF GLOBAL PRODUCTION equivalent to 1% improvement in recovery
Where GE is driving innovation

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Reduced Environmental Impact
Efficient and Optimized Operations
Improved Resource Recovery
Monetization and Network Reliability
Partnering, Collaboration, and Policy

Diesel Replacement
Water Management
Fugitive Emissions
Controls & Inspection
Electrification

GE Imagination at Work
THE GE STORE

Driving Competitive Advantage Across Our Businesses

Governed by culture and simplification

Supported by GE Capital:
- Financing infrastructure investments
- Access GE - providing services & industry-specific expertise

GLOBAL RESEARCH CENTER
GLOBAL GROWTH ORGANIZATION
SOFTWARE CENTER OF EXCELLENCE
CULTURE & SIMPLIFICATION

POWER & WATER
Combustion science & services installed base

AVIATION
Advanced materials/manufacturing & engineering productivity

HEALTHCARE
Diagnostics technology, software & first-mover in growth markets

TRANSPORTATION
Engine technology & growth market localization

OIL & GAS
Services technology & first mover in growth markets

ENERGY MANAGEMENT
Electrification, controls & power conversion technology

APPLIANCES & LIGHTING
LED is gateway to energy efficiency

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APPLIANCES & LIGHTING
LED is gateway to energy efficiency
GE Oil & Gas is inventing the next industrial era in the oil and gas sector. In our labs and factories, and in the field, we constantly push the boundaries of technology to solve today’s toughest operational & commercial challenges.

We have the skills, knowledge and technical expertise to bring together the physical and digital worlds to fuel the future.
Imagination at work.

We drive enterprise advantages that benefit the entire company, through what we call the “GE Store.” It means that every business in GE can share and access the same technology, markets, structure and intellect.

TECHNOLOGY SOLUTIONS DESIGNED TO DRIVE LONG-TERM SUSTAINABILITY
Imagination at work

We go where you go and operate side-by-side in 120 countries.

The closer we are to our customers, the quicker we can anticipate and solve their challenges.
Imagination at work.

Fueling the future means fueling our people’s futures. They are masters of what they do and their search for progress is relentless.

We invest in them and give them the responsibility to do what they do best.
GE’s efforts to support the development of the industry at the end of the age of easy oil, while it faces the biggest talent shortage in its history, focus on two channels:

**Technology**
- ORegen/UOR/FOR
- Subsea factory/BOP
- LNG/CNG/Shale
- Artificial Lift

**People**
- Developing local capabilities
- Oil & Gas University localized program
- Talent secondment program with partners

Supporting the growth of China
WE FUEL THE FUTURE.

We push the boundaries of technology to bring energy to the world.