GE Minds & Machines

Jeff Immelt
October 9, 2014

Imagination at work.

Summary

Execution in 2014	A different company

Execution in 2014

Status

+ Execute on financial framework
       On track

+ Achieve 75% Industrial by 2016 & grow EPS
+ Alstom
− Appliances
− Synchrony IPO

+ Invest in restructuring to drive Industrial earnings
✓ $4B+ since 2012
✓ 2014 restructuring > gains (~$.09)

+ Disciplined & balanced capital allocation
✓ Dividend +16%
✓ Synchrony split ... shares to <9.5B

A different company

1. __Much__ better portfolio

2. __Tangible__ technology advantage

3. __Superior__ global position

4. __Way ahead__ on analytics

5. __Culture of simplification__

Portfolio transformation

GE earnings mix
(Operating earnings[-a])

	2003	2013	2016F
Specialty Finance (GE Capital)	56%	47%	~25%
Premier Infrastructure (Industrial)	44%	53%	~75%
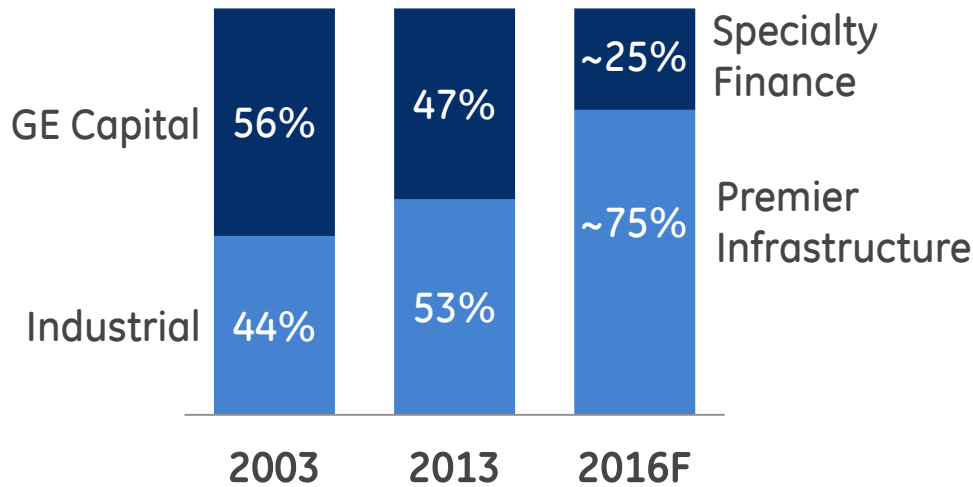
Actions taken

Rebuild Industrial

Dist. Power	Water
Life Sciences	Av. Systems
Renewables	Power Conv.
Oil & Gas	Services + IT

Divest

Media	Insurance
Plastics	Reinsurance
Silicones	Global consumer
Supply	Red assets
Appliances	

Actions taken in 2014 …

ALSTOM

- ✓ Acquiring Power & Grid
- ✓ Strong synergies
- ✓ Targeting close in '15

GE Appliances

- ✓ Sale to Electrolux for $3.3B
- ✓ Continued use of GE brand
- ✓ Targeting close in '15

synchrony FINANCIAL

- ✓ Completed 15% IPO in 3Q
- ✓ Well received by market
- ✓ On track for split-off

(a- Continuing earnings adjusted for non-operating pension income/(expense) in 2003 and 2013 of $1.6B and $(1.7)B respectively

GE Industrial enterprise advantages

GE businesses

Power & Water

Aviation

Oil & Gas

Healthcare

Transportation

Energy Management

Enterprise scale

Technology/NPI (GRC)

Growth markets (GGO)

Service & Analytics (Services Council)

Lean structure (Simplification)

Performance

Organic growth > peers

Margins at ~17% by '16

Returns at ~17% by '16

Consistent earnings growth
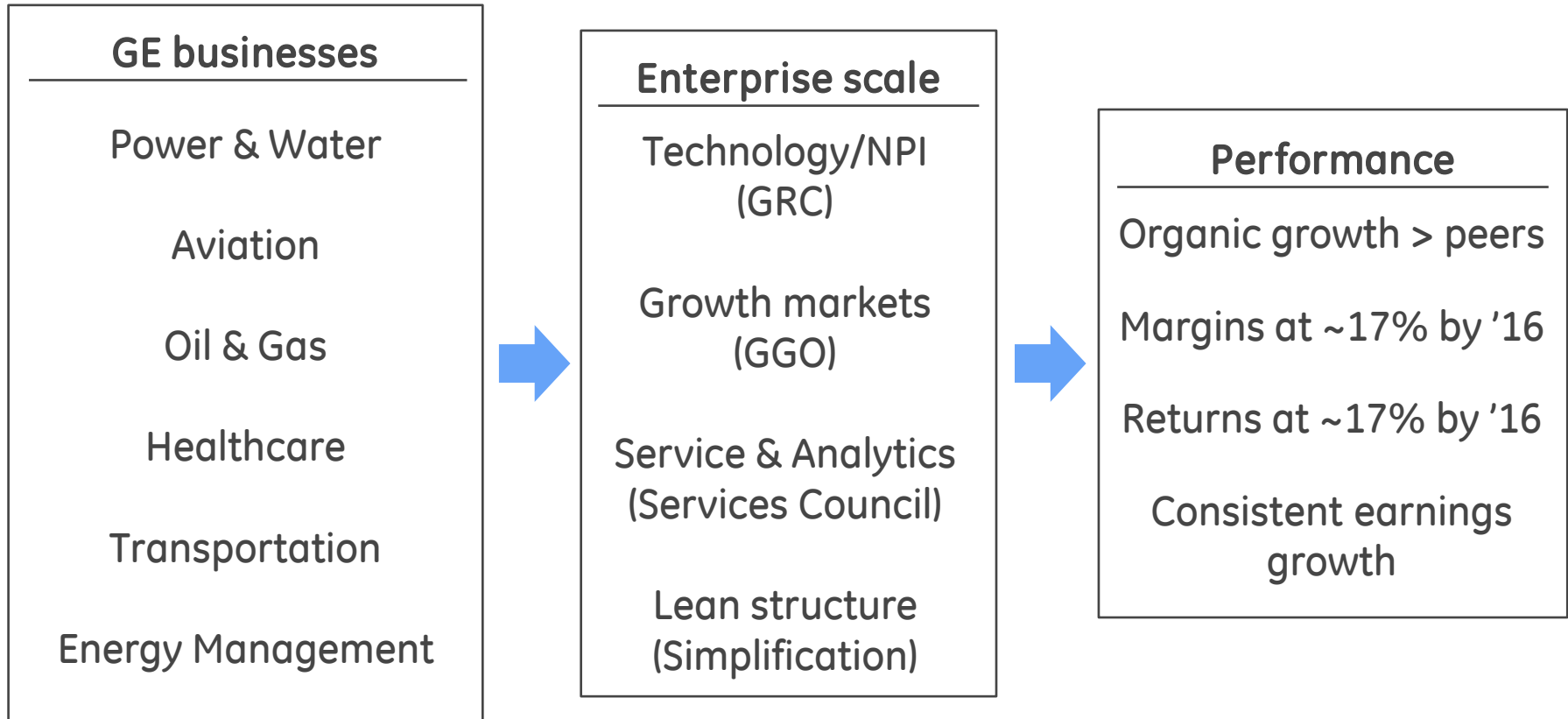
All businesses benefit from GE's enterprise scale

Leadership in technology

($ in billions)

R&D spend

$5.2 — 2012
$5.5 — 2013
=/− — 2014E

% of revenue: 5% (2012), 5% (2013), =/− (2014E)
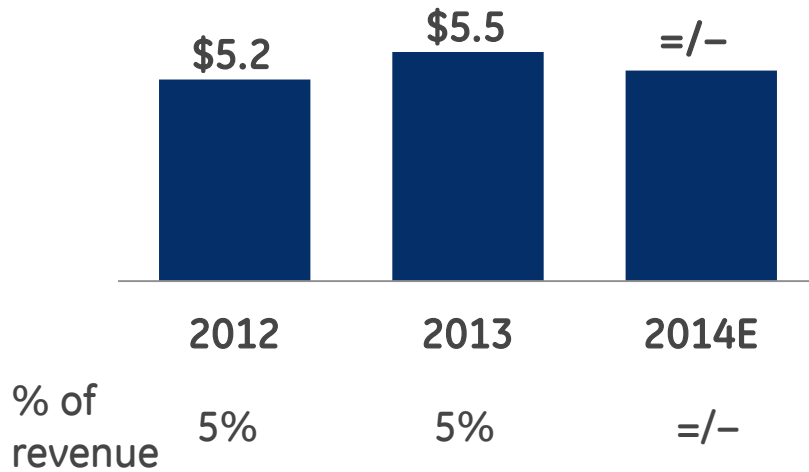
- ✓ Best-in-class next gen products
- ✓ Advanced manufacturing solutions to grow margins
- ✓ Leadership across core & new product markets

Key wins

HA gas turbine

World's largest & most efficient H-class … 61.4% in combined cycle; 13 units in backlog

Tier 4 loco

First to market … 1,000+ Tier 4 compliant locos on order for 2015+

LEAP

Won 77% of all narrowbody competitions since launch

20k psi

Industry's first 20,000-psi … reliable performance in ultra-deep water

Revolution CT

Image quality & capability from low dose

FastWorks driving speed & efficiency

Innovation for cost & speed

Aviation product cost

Changing the traditional learning curve

Start Lower

Accelerate Faster

Traditional

Redefine Entitlement

Yr. 1 2 3 4 5 6
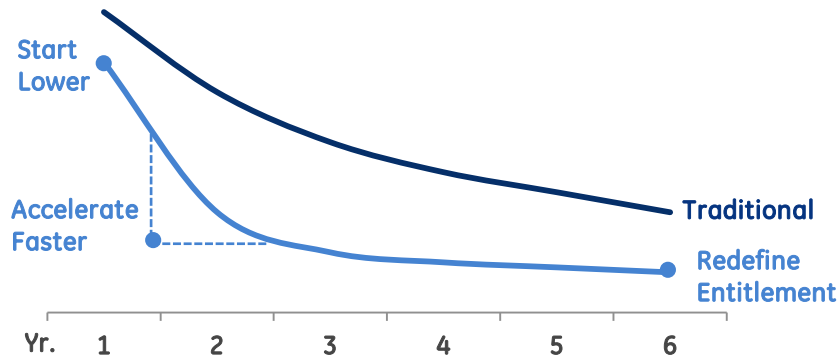
Product cost focus areas

- ✓ Lean labs & additive technology
- ✓ Data in the factory
- ✓ Services delivery cost
- ✓ Sourcing relationships/make vs. buy
- ✓ Footprint and organizational focus

Driving cost ↓ with analytics

GE's analytics advantage …

	2013	2014E	2015F
Full flight data (# of flights)	15k	3.4M	~10M
Data Volume (Tera Bytes)	2	340	1,500
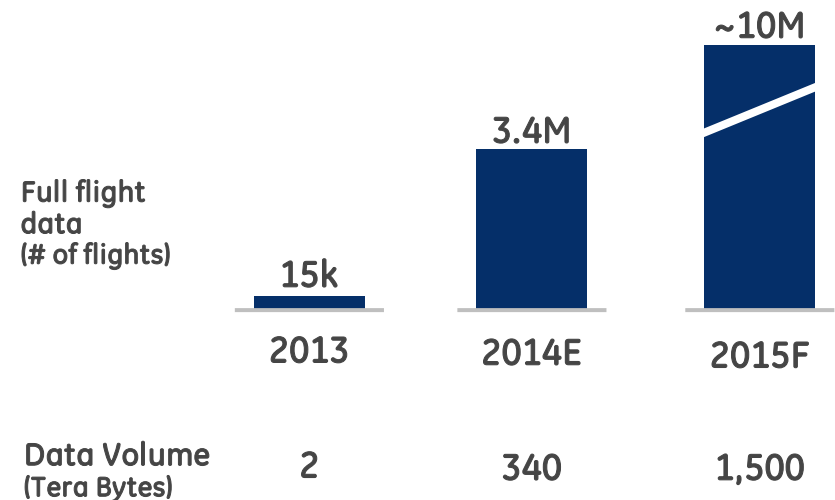
Segment by severity of operations **+** Segment by part performance **=** Customized maintenance cycle

Scalable across other businesses

Accelerating in growth markets

($ in billions)

Driving growth

Growth market orders

	'10	'13	'14E	Post-Alstom
	$29	$46	++	++

% of total

| 36% | 44% | + | + |

+ Premier scale & reach
+ Best capability

17% AAGR
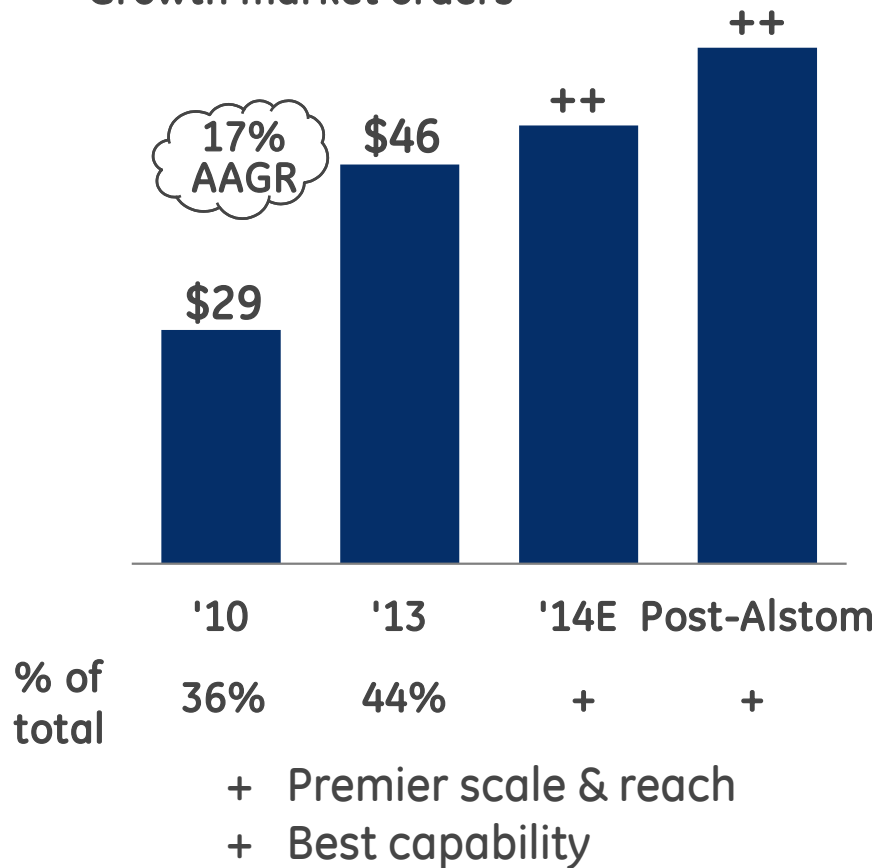
Strategic imperatives

1 Be first mover in localization
  ✓ Plant new flags

2 Invest in local capability
  ✓ Leadership
  ✓ Manufacturing strength
  ✓ GRC & innovation
  ✓ Customer support

3 "Connect the dots" of GE
  ✓ Healthcare & Oil & Gas lead
  ✓ Every facility "multi-product"
  ✓ Best partners, brand & risk management
  ✓ Financing knowledge

Simplification

I'm in.

Lean management	Do fewer things better … with less structure	*World-class structural cost*
+		
Speed & competitiveness	Get faster & smarter & more efficient in everything we do using FastWorks	*More NPI faster with less investment*
+		
Commercial intensity	Connect every job to winning in the market while empowering the commercial team & holding them accountable	*Global market success*
+		
Digital capability	Modernize our information technology so we can achieve the speed & efficiency our scale should allow	*Accelerate margin enhancement*

World's most competitive company

Lower cost

($ in billions)

Industrial SG&A % sales
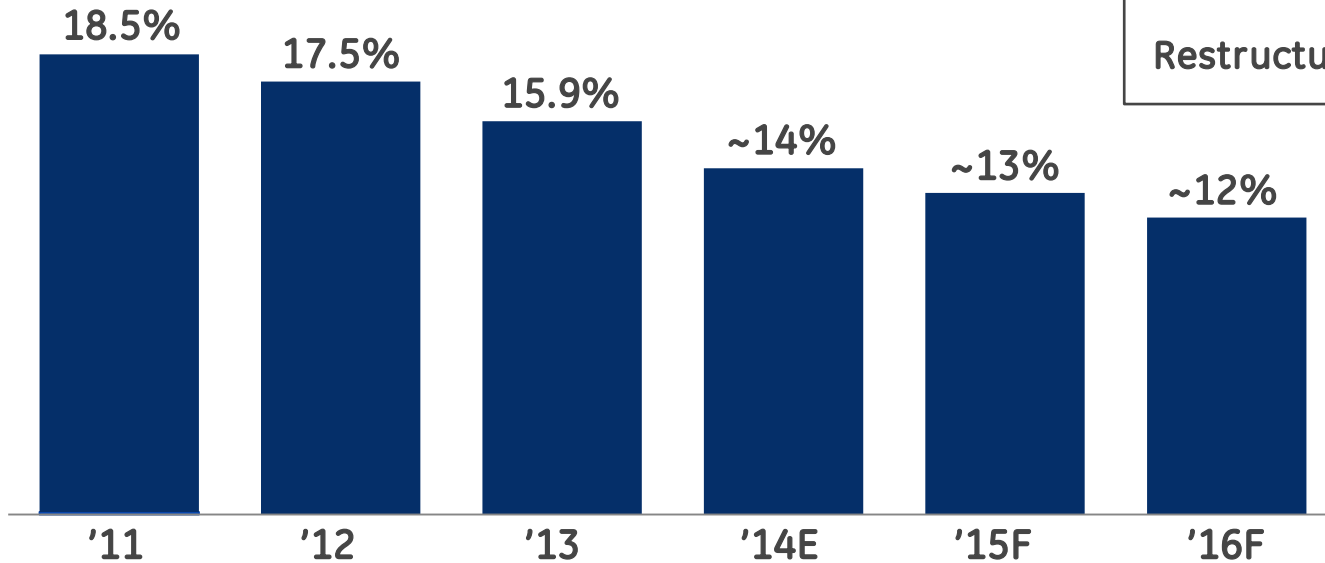
'12-'14E investment	
Gains	~$2.5
Restructuring	~$(4.3)

Bar chart values:
- '11: 18.5%
- '12: 17.5%
- '13: 15.9%
- '14E: ~14%
- '15F: ~13%
- '16F: ~12%

Enablers:

ERP → 90% reduction

Shared services → 65% penetration

Corporate → $500MM cost out

+

- # of P&Ls
- Layers/span
- Product cost

Technology is evolving
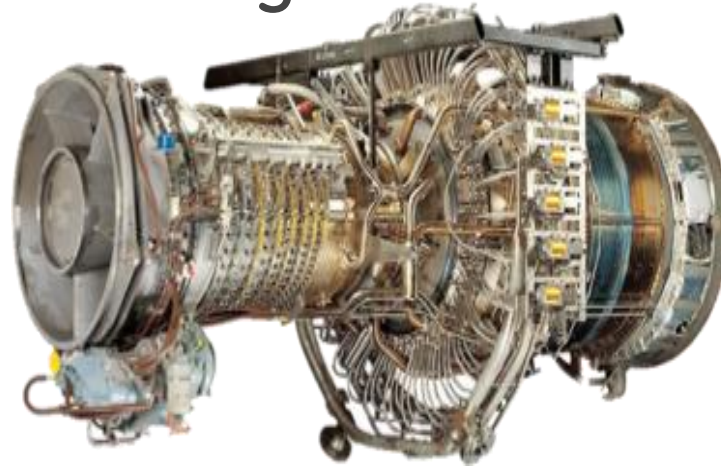
PHYSICAL

Multiple materials in complex systems... hundreds of patents in each product

Operating with high efficiency & durability in extreme conditions

+

ANALYTICAL

1 gas turbine compressor blade monitoring potential: 500 gigabytes per day

Key messages

① Combination of physical & analytical drives <u>next evolution of services</u>

② Customers will <u>value data</u> because it improves their <u>efficiency</u>

③ <u>GE is well positioned to lead</u> this wave of change

④ <u>Investors will benefit</u> through services growth & margins + product share + IT-driven efficiency

Transforming services

Big iron

80's

- Partners & field technicians

Repair

90's

- Science applied to repairs & upgrades

CSA

00's

- Risk sharing service contract

Analytics

Today

- Asset & operations optimization

Driving customer outcomes

	Power of 1%	Annual impact[a]
Airlines	1% fuel	$2-3B
Utility	1% fuel	$4-5B
Oil & Gas	1% uptime	$5-7B
Healthcare	1% productivity	$4-5B
Transportation	1 mile velocity	$1-2B

> **Small changes in … fuel, maintenance, uptime, productivity, flexibility, safety, labor effectiveness … have a big impact on profitability**

GE leadership

| What it takes to win | GE advantages |

Installed base

- Connected IB
- Physics/materials
- Smart devices
- Global reach

→

- ✓ Large high-tech installed base
- ✓ Customer trust & connection … ~$180B services backlog
- ✓ Deep domain knowledge

Have

+

Enabling technologies

- Sensors
- Service robotics
- Connectivity

→

- ✓ Large research capability
- ✓ Industry partnerships
- ✓ Collecting 50MM data elements

Have

+

Data & analytics

- Software capability
- Industrial big data
- Operating platform
- Security

→

- ✓ Attracting new talent … "horizontal capability"
- ✓ Connecting domain & data … CSA
- ✓ Operating platform in place (Predix^{TM})

Investing

GE has all essential elements

Improving the service model

Asset optimization	Operations optimization	CSA productivity
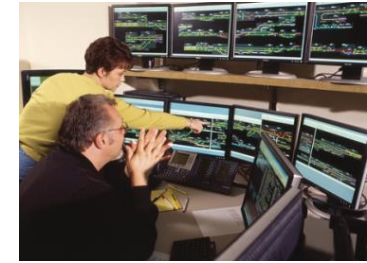
Focus of innovation

Maximize performance with no unplanned downtime	Increased system efficiency across GE & non-GE assets	Optimize material & repair cycles across IB

How we execute

CSA revenue + Connected asset value ($/IB) + Software/ outcome sales	Data-driven execution

Investments 2010-14

1. Make versus buy … build internal team
2. Launch new offerings … Predictivity™
3. Build on existing CSA relationships … "win-win"
4. Develop a broader ecosystem

Asset performance management

ADVANCED CONTROLS

Virtual "fence"
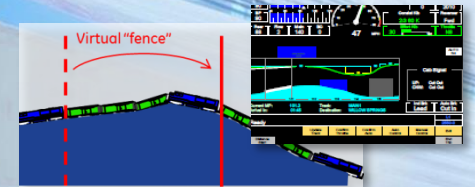
Auto Train Operation
✓ 10% fuel savings

SERVICE ROBOTICS

Productivity, safety
✓ Remote monitoring
✓ Tough environment

SENSORS/ANALYTICS

On-site oil analysis
✓ Predict remaining life
✓ Prevent road failures

AUTOMATED DECISIONING
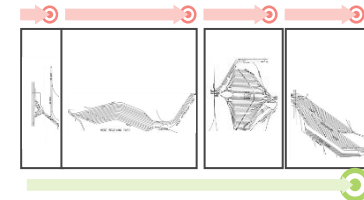
Optimize yard ops
✓ Reduce dwell 10%
✓ Depart on time up 50%

Impact: for GE … $/IB, productivity;
for customers … velocity, productivity

Impacting GE's 1%

GE's 1%

IT investment ($2B+/year)	$94B of cost	**Impact**

IT
investment
($2B+/year)

+

Analytics
&
security

$94B of cost

$12B of working capital

$20B of P&E investments

Impact

Reduce structure

Lower product cost

Improve margins

Enhance engineering
productivity

Faster & safer
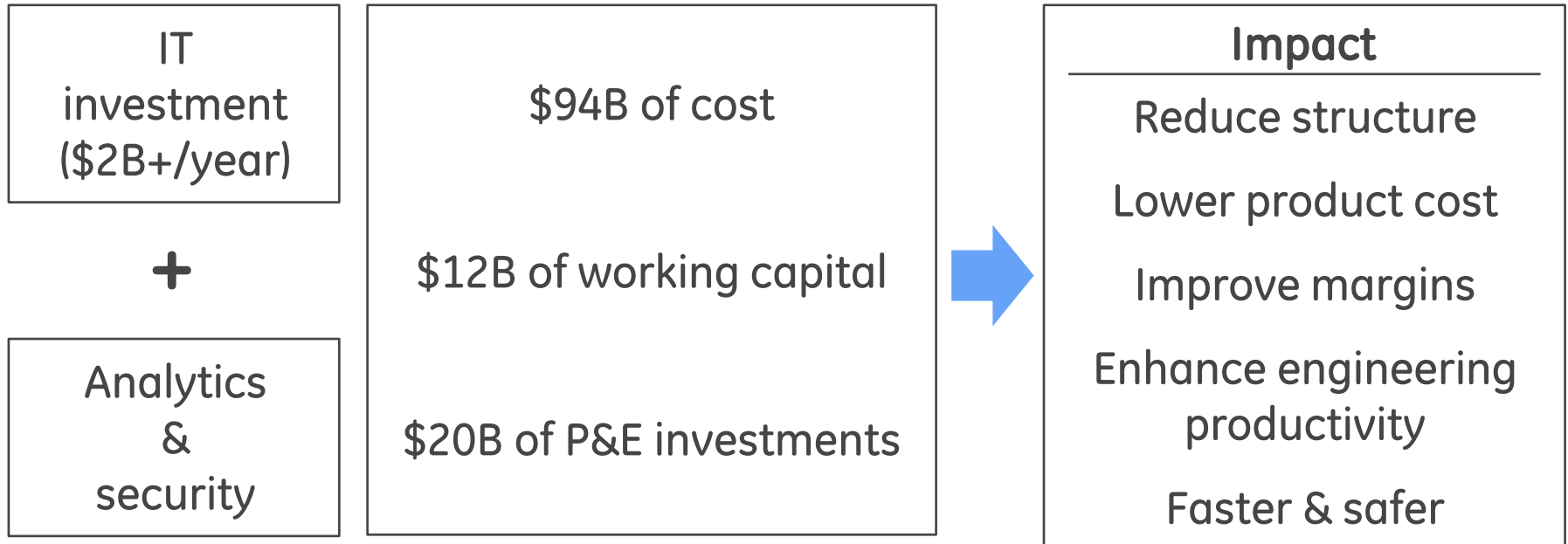
Every Industrial company → a Software & Analytical company

Investor value

Services franchise

~$180B

Historic performance
Revenue growth ~5% Margin expansion ~50 bps. Limited by IB growth

~$45B

~30%

Backlog   Revenue   Margins

+
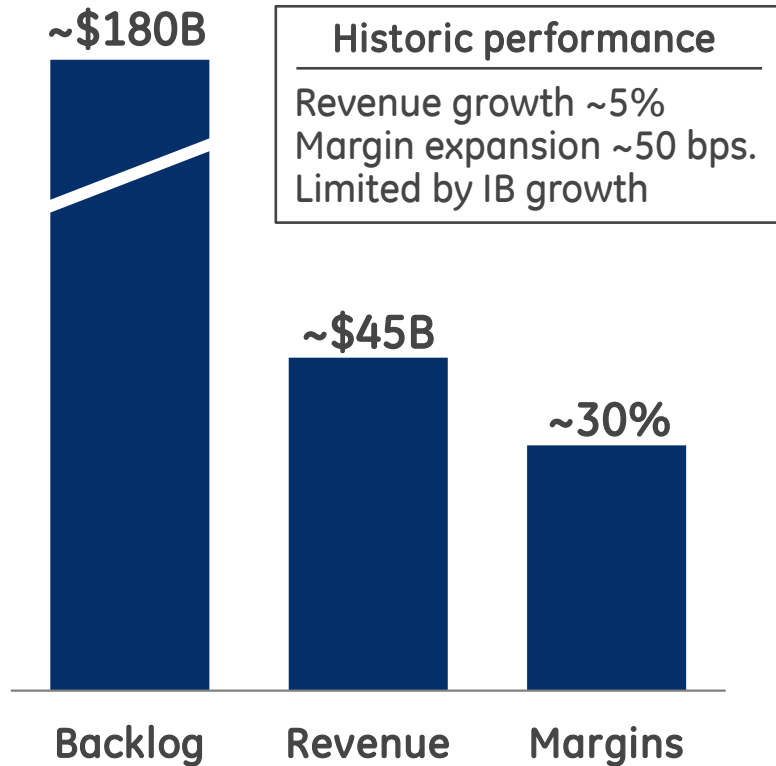
Value creation

① Increase services growth rate
+ More $/installed base
+ $0.8B Predictivity™ solutions revenue growing to $4-5B
+ Penetrate aged GE fleet
+ Grow beyond the GE IB

② Improve services margins
+ CSA productivity
+ Improve quality

③ Potential for industry value
+ Scale beyond GE installed base

Software & analytics accelerate services growth, margins, & returns

Services overview

Services growth

($ in billions)

Revenue
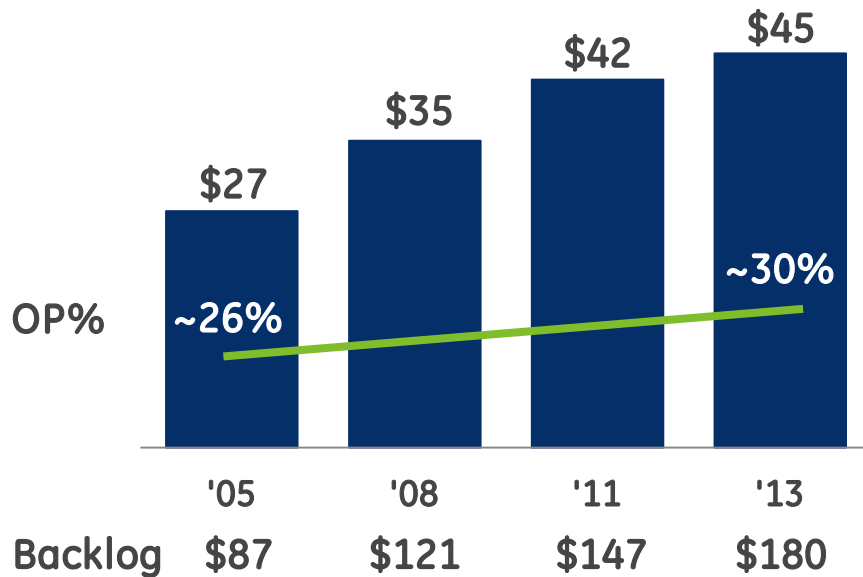
	'05	'08	'11	'13
Revenue	$27	$35	$42	$45
OP%	~26%			~30%
Backlog	$87	$121	$147	$180

GE advantages

+ Installed base   + Footprint & scale

+ Technology   + Software COE

+ CSA model   + Fleet data

Services imperatives

1 **Deliver on customer value**
+ Link services to outcomes
+ Global deployment

2 **Grow $/installed base**
+ Drive analytics & Predix^{TM} value
+ Penetrate aged installed base

3 **Expand margins**
+ Leverage analytics to manage performance
+ Invest in productivity tools

4 **Improve service execution & delivery**
+ Enhance commercial capabilities
+ Increase field services capability

5 **Spread ideas across GE**

Services Council

Cross-business initiatives

Hardware & domain expertise

Software/ analytics based

Data + Outcomes

- Core growth
- Operations
- Tools + process
- CSA excellence

- Predix™ + Cloud
- Predictivity™ solutions
- Strategic alliances + BD

- ✓ 20+ services leaders
- ✓ Teams aligned to 9 themes
- ✓ Quarterly executive updates … operational rigor

Spreading ideas …

Healthcare → Inspection technology

- Parts inspection & measurement
- Condition-based maintenance

Aviation → Repair technology
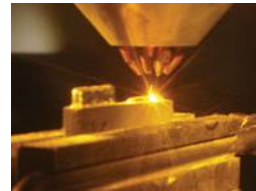
- Additive manufacturing
- Robotic welding
- Advanced coatings

Power & Water → Global footprint

Pune, India

- Multimodal – service & repair shops
- Customer training centers

Driving differentiated advantage

Enabling technologies

Service Robotics

Productivity, safety
+ Repetitive tasks
+ Tough environment

Sensing & Controls
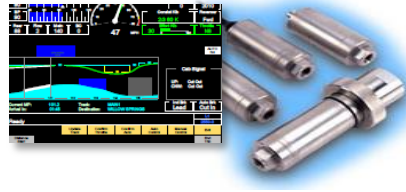
High tech, integrated
+ Lower fuel usage
+ Higher efficiency

Advanced Manufacturing

Automated, adaptive
+ Productivity
+ Less downtime

Inspection

Deployable, fast, accurate
+ More digital data
+ Less downtime

Repair

Additive, new materials
+ Repair vs. scrap
+ Longer service life

Mobile Tools

Connected, digital
+ Instant expert access
+ Lower service costs

Launch & learn ... then accelerate to all GE businesses

Increase value of CSA

$180B Services backlog

Benefits for Customers

Monitoring & diagnostics

- ✓ Optimized asset performance
- ✓ Predictive analytics – lower downtime

Fuel efficiency

- ✓ More output
- ✓ Lower costs
- ✓ Lower emissions

Hardware & software upgrades

- ✓ Better payback on hardware upgrades
- ✓ Instant software upgrade capability

Benefits for GE

Condition-based work scope

- ✓ Shorter duration outages
- ✓ Less material usage

Mobile & analytical tools

- ✓ Ask an Expert – COE
- ✓ Field Service productivity

Material productivity
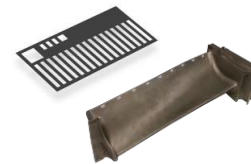
- ✓ Analytics driven parts life extension + performance
- ✓ Repair vs. scrap

Segment services dynamics

(Services revenue, $ in billions)

Power & Water

$12.5

2013
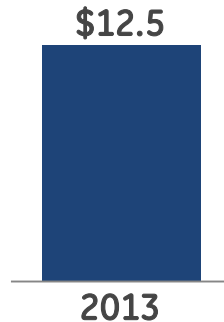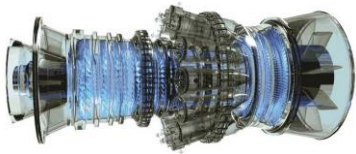
+ Continued AGP growth
+ Upgrades & analytics
= Europe

Aviation

$10.8

2013
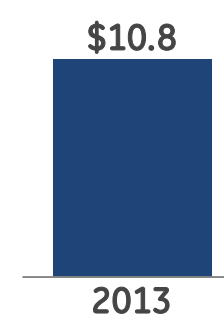
+ Sustained passenger growth
+ Improving airline profitability
+ Upgrades & analytics

Oil & Gas

$8.3

2013
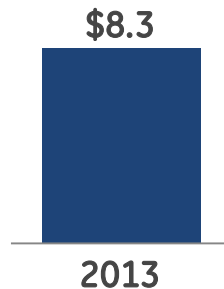
+ Strong Subsea
+ M&C improving
+ Analytics penetration

Healthcare

$8.0

2013
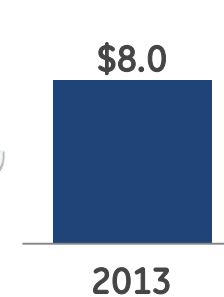
+ Growth markets strong
+ Improving HCIT
− Developed challenging

Energy Management

$2.1

2013
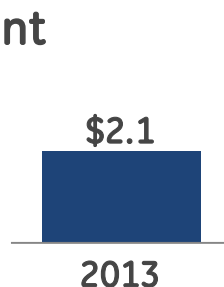
+ Marine offshore
− Mining & motor repairs

Transportation

$2.8

2013

+ North America utilization
+ Analytics penetration
− Mining parts

Presentation

Common capability: Software COE   Bill Ruh

                                     Analytics commercialization   Kate Johnson

Business execution:

Strategy overview | Power & Water   Paul McElhinney

Customer outcomes | Healthcare   Jan De Witte

Examples of analytics | Aviation   Kevin McAllister
  driving growth & | Oil & Gas   Brian Palmer
  productivity | Transportation   Pete McCabe
Competitive advantage |

Common capability: GE's 1%   Jamie Miller

Software & Predix™

Bill Ruh

- VP, Global Software Center
- 3 years with GE
- 32 years of industry experience

Kate Johnson

- VP, GE Commercial Officer
- 1 year with GE
- 15 years of industry experience

The Industrial Internet

1 **Internet**

Hyper connectivity: a living network of the world's machines, data & people

2 **Brilliant Machines**

Increasing system intelligence through embedded software ... advanced sensors, controls and software applications

3 **Big Data**

Democratization of data ... high frequency, real-time data

4 **Analytics**

Predictive algorithms ... physics-based analytics ... deep domain expertise on big industrial data

5 **People at work**

Connecting people at work or on the move; Supporting more intelligent design, higher service quality operations, & safety maintenance

Software outlook

Opex is becoming a deciding factor for IT investments as 80% of budget is allocated to managing and running complex technologies.
Source: Gartner

Advanced analytics and analytical applications expected to see double digit revenue growth.
Source: Gartner

APM market category expected to reach $300B by 2020.
Source: Gartner

Customer survey: Importance of Big Data analytics relative to other priorities

Category	Highest priority	Within the top 3 priorities	Within the top 5 priorities	Not a top priority
Aviation	61%	29%	10%	
Wind	45%	45%	6%	3%
Power Generation	31%	63%	6%	
Power Distribution	28%	56%	16%	
Oil & Gas	31%	56%	9%	3%
Rail	40%	47%	10%	3%
Manufacturing	42%	45%	9%	3%
Healthcare	29%	41%	24%	6%

Highest priority   **Within the top 3 priorities**   **Within the top 5 priorities**   **Not a top priority**
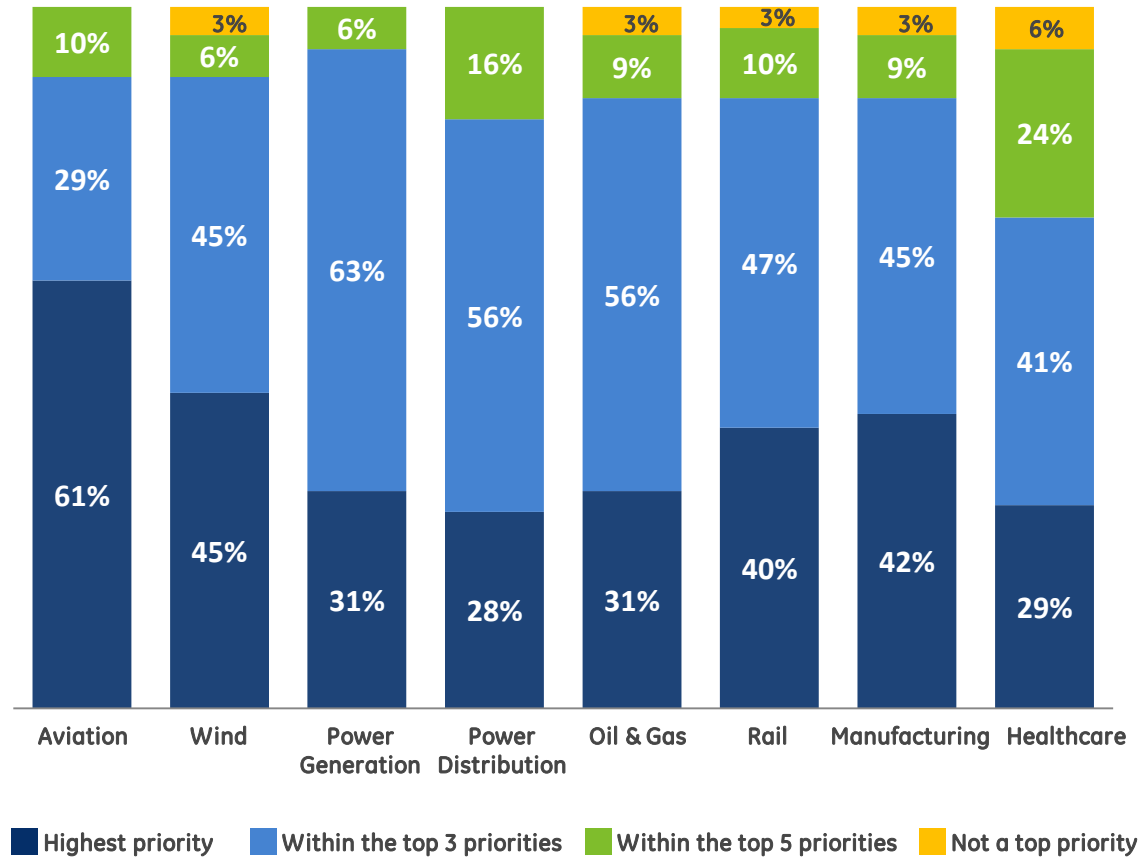
Source: Accenture 2015 Trend Report, Gartner Big Data Survey

Industrial customers' perspective
Survey of GE's customers regarding applications

WHAT functionality is most valuable?

Real-Time Operator Intelligence	70
Remote Monitoring & Diagnostics	66
Condition-Based Maintenance	59
Asset Lifecycle Management	49
Schedule Optimization	43
Energy Management	42
Process Control Automation	38
Field Force Automation	32
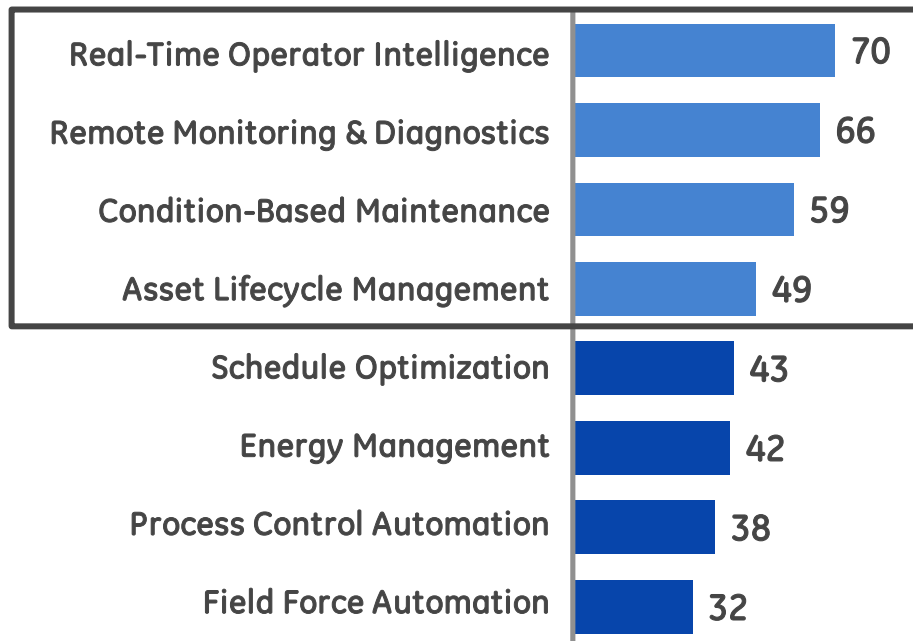
HOW do you want to consume it?

Tailor Pre-Built Applications	85
Have A Systems Integrator Build Your Apps	54
Build My Own Custom Apps	15
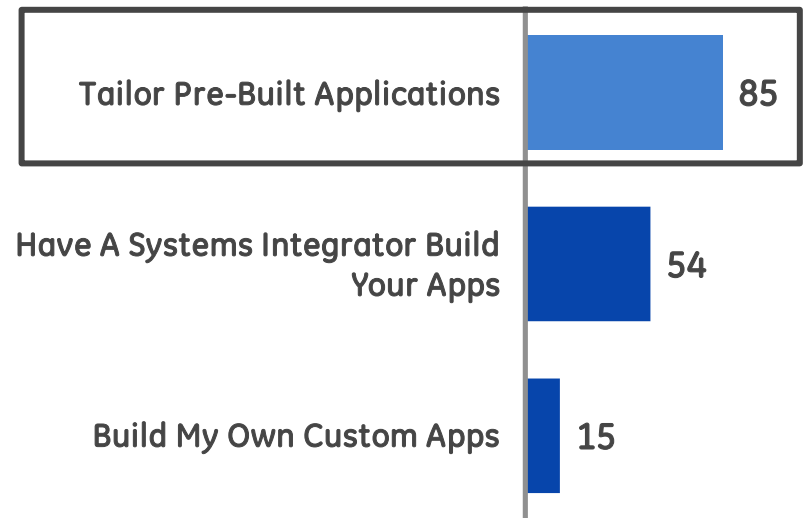
Asset performance management is *the* killer industrial app

What industrial customers want

"Link up all my assets and devices"

Software Defined Machines (SDMs)

SDM — **GE Assets** enabled by Predix™ Machine SDM

SDM — **Non-GE Assets** enabled by Predix™ Machine SDM

Industrial Apps

REAL-TIME OPERATIONAL INTELLIGENCE	CONDITION-BASED MONITORING
ASSET LIFECYCLE MANAGEMENT	MONITORING & DIAGNOSTICS
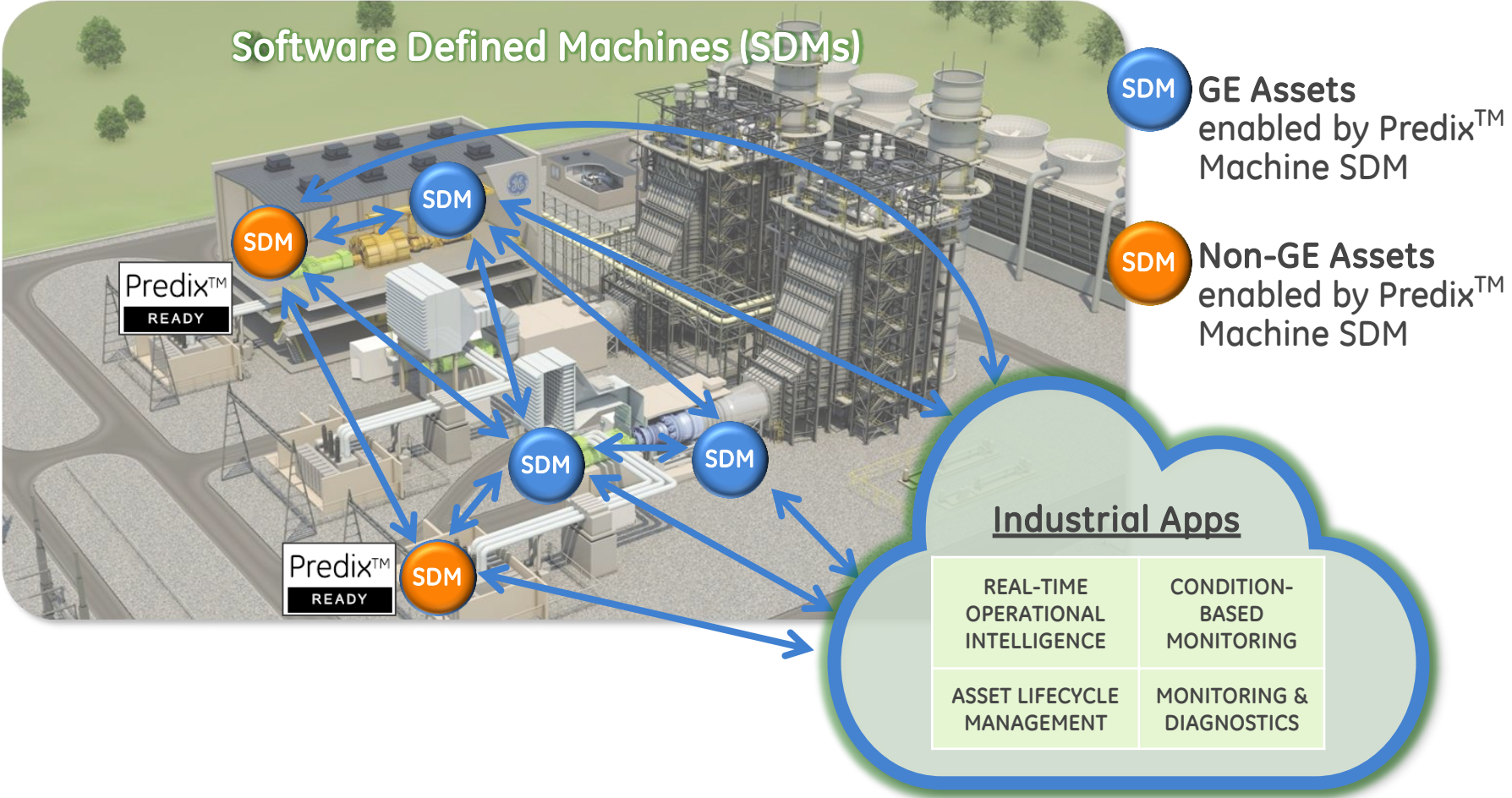
Predix™ powers Asset Performance Management (APM)

Predix™ ... the GE advantage

Predix™ Platform

Predix™ Experience

Predix™ Machine	Predix™ Net

GE

Non-GE

Predix™ Asset	Predix™ Insight

Predix™ Core	Predix™ Fabric

Private Cloud   Public Cloud

POWERS

Predictivity™ Solutions

Asset Performance Management (APM)

REAL-TIME OPERATIONAL INTELLIGENCE	CONDITION-BASED MONITORING
ASSET LIFECYCLE MANAGEMENT	MONITORING & DIAGNOSTICS

Operations Optimization

INSIGHT	PROCESS INTEGRATION
AUTOMATION	COLLABORATION

TRANSFORMS

Insights into value

Potential Savings: **77 gallons** of fuel and **1,628 lbs. of CO_2** per approach

10% increase in network velocity, **50% reduction** in expired crews & significant improvements in **on-time performance**

Improving **safety and productivity** across **15K miles** of interstate natural gas pipelines

Up to 4% increase in power output across **283 wind turbines** ... **40+ GWhr** annual increase

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Commercially available* to connect more machines, more data & more people

* Release in 2015

Predictivity™ ... app factory

Development process

| Agile & Extreme Programming |

+

| Design Center for delivering compelling user interface |

+

| Co-innovation process to design, build, transfer and iterate |

+

| Cyber security Blue team to build and Red team to test |

90-120 day service engagement to production roll out

Asset optimization (28)

Operations optimization (14)

Productivity tools (77)

Approach

Actionable insight on equipment based on physics and analytic modeling with industrial data

Outcome based process improvements to plants, pipelines, fleets, fields, facilities, grids, shops
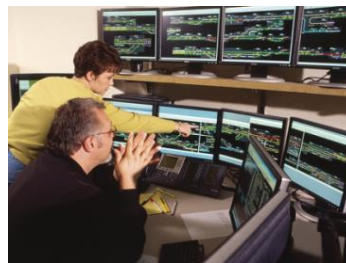
Increase service throughput, efficiency, and quality at optimized cost of delivery

Delivering industry apps at speed and scale

World-class Software & Analytics organization

Investing in Leadership Talent

SW Research	Product Dev.	Software CTO
Colin Parris (IBM)	Brad Surak (SAP)	Harel Kodesh (Microsoft, Start Up Veteran)

+

Co-located SW CTOs for business alignment

Aviation
D. Bartlett (IBM)

O&G
J. Demesa (Siemens)

EM
J. Stone (SAP)

P&W
G. Bell (ServiceSource)

HC
E. Eryurek (GE)

Trans.
S. Chotai (HP)

World-class technical resources

+

~10,000 — **Biz**

1,000+ — **COE**

- ✓ Computational & analytics scientists
- ✓ Platform developers
- ✓ Software engineers

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1 Four deep core competencies ecosystem
- Cyber, UX, Data Science, Agile development

2 Leading edge platform + world-class ecosystem

3 Advanced research for building the future

4 Advanced process to drive adoption & enablement

CONNECTED COMPETITIVE ADAPTIVE

Software Site — Technology & Ecosystem — Organization

Wurldtech: protecting critical infrastructure

About: A GE Company acquired in May 2014 providing top cyber talent

Capability: Assess, protect & certify critical infrastructure from cyber attack

Key Customers: 4 of 6 top global O&G companies; 9 of top 10 automation vendors

Secure & certify industrial products	Assess products & operations for vulnerabilities	Protect operational environments
✓ Security enhancements delivered through Predix^{TM} and GE Products ✓ Certify GE and non-GE products and customer environments	✓ Identify vulnerabilities in OT products (GE and 3rd party) ✓ Assess and prioritize risks for system operators	✓ Achilles Industrial Next Gen Firewall to inspect and control Industrial network traffic ✓ Leverage industry leading threat intelligence

World-class cyber security to operate assets + operations safely

Industrial internet ecosystem

Industry Ecosphere

Partnerships & Alliances
Intel, AT&T, AWS, Cisco, others
→ Co-development & go-to-market

Venture Capital
ThetaRay, Mocana, Frost
→ Accelerate innovation & success

Mergers & Acquisitions
Wurldtech, Austin Digital
→ Acquire capability to fill gaps

Strategic Moves
Pivotal, Softbank, Industrial Internet Consortium
→ Establish interoperable & scalable solutions

Open Predix™ beyond GE

Connected devices **+** Data Under Management **+** Performance Applications

GE will sell

1 Predix™ Machine Services
Connect assets regardless of vendor or vintage and provide value-added services

2 Predix™ Data Services
Aggregate and analyze data to produce actionable business insights

3 Predix™ Asset Services
Sell horizontal apps that maximize return on assets and people

Positioned to create value

Competitive advantage

GE

50B
Machines will be connected on the internet by 2020

2X
Industrial data growth within next 10 years

$1T*
Connected Machines managed by GE

*replacement value

10M
Sensors collecting

50M
Data Elements

$20B
Potential Annual Customer Savings
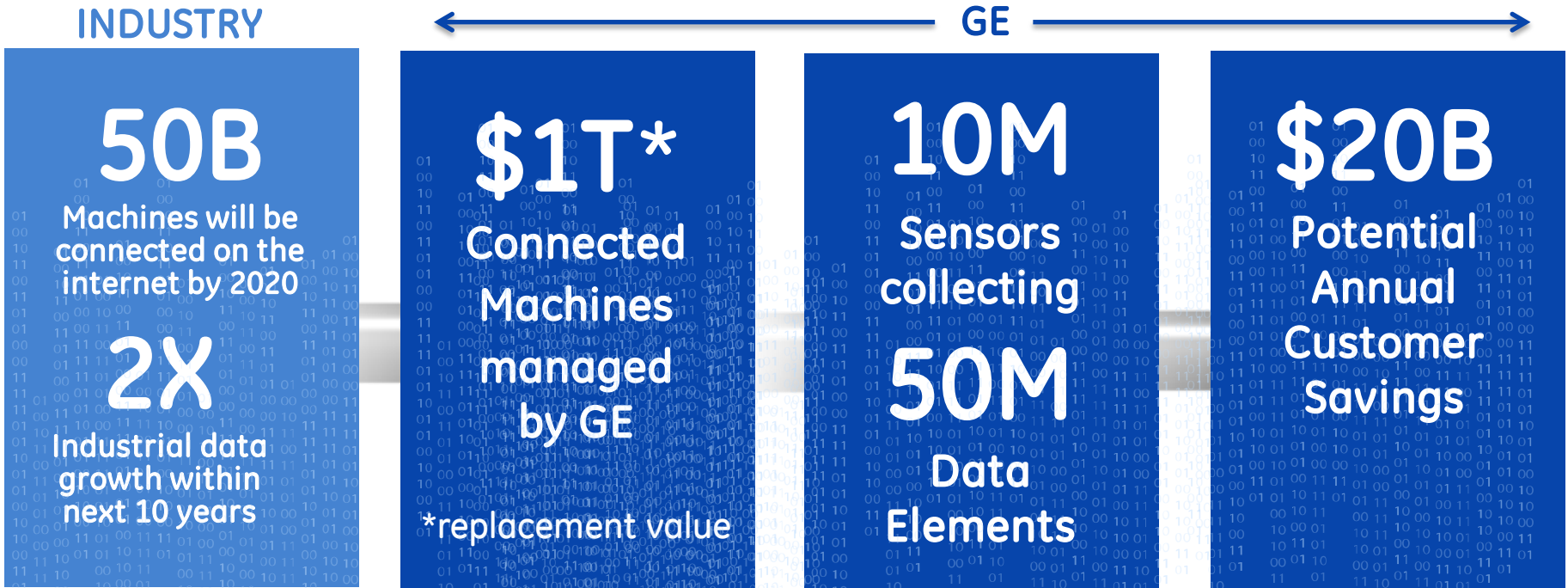
Big Iron + Big Data = Big Outcomes

New ways to sell Services

1	**New Buyers and Influencers**
2	**Making Markets, Different Economics**
3	**Co-creation & Agile Development**

4	**Solution Architecture**
5	**Value Based Deal Shapes**
6	**New Industry Ecosystems**

GE Commercial Center of Excellence

Needs → Target → Architect → Close

Qualification & Pipeline Management

Hire/Train
Community of Experts

Sales
Process

Enablement
Toolkit

Accelerating time to value across channels

GE O&G Example

	Upgrade value in CSAs	APM Subscription Services	Enterprise Analytics Projects
	ReliabilityMax™	FieldVantage™	Intelligent Pipeline™
Offering:	RM&D in CSA, upside and productivity	Per well subscription	Enterprise SW deal, solution co-creation
Market Opportunity:	$2.7B	$2B	$600MM
GE Sales Model:	Existing Services sales team	New standalone software sales specialists	New outcome sellers + existing service sales team
Sales acceleration:	Expert SWAT teams to support deal	SW experts, compelling offer, target one outcome to land and expand	Ecosystem partners, SW COE app factory

Measuring commercial success

Services revenue

+

~5%
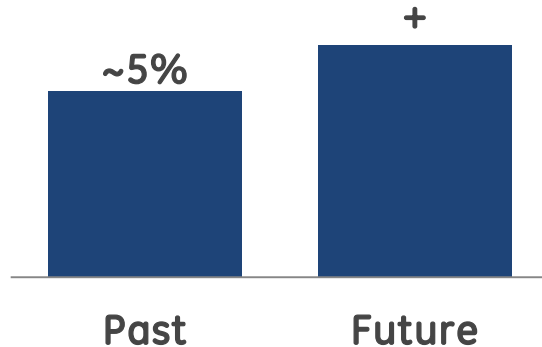
	’13	’17F
Assets under management	$1T+	++
Predictivity^{TM} solutions revenue	$0.8B	~$4-5B
Services backlog	$180B	++

Past   Future

- Adding more value to existing service relationships … training team to get more out of the installed base

- Creating new revenue streams and building new commercial skills and incentive plans to accelerate growth

  ✓ Outcome sellers, solution architects, product management & marketing

- Cultivate ecosystem to help accelerate commercially with access to CIO/CTO relationships and system integration skills

Power & Water

Paul McElhinney

- President & CEO, Power Generation Services

- In current role since May 2014

- 26 years with GE

Power & Water Services

($ in billions)

Key metrics

Revenue

	'13	'14E
Revenue	$12.5	+
Backlog	$53	+
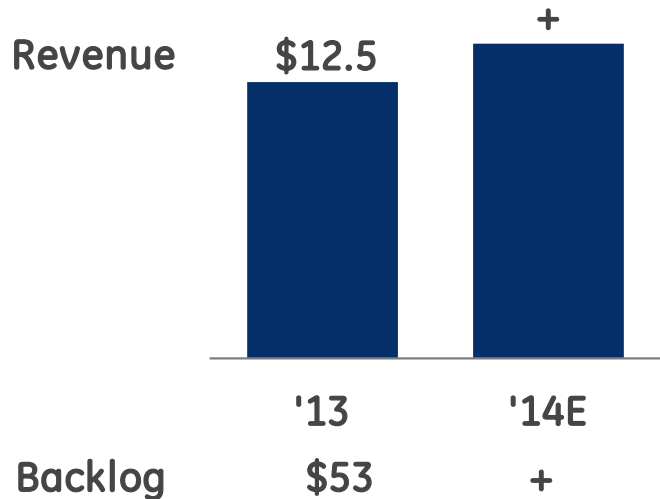
Installed base dynamics

✓ Unit growth up ~2.4X from 2008

✓ Strong DP & Wind growth... up ~1K/year

✓ ~4,000+ gas turbines in service

Services imperatives

1 Deliver on customer value
+ Develop flexible solutions
+ Reduce customer operating cost

2 Grow $/installed base
+ Maximize impact of Alstom alliance
+ Invest in new service offerings

3 Expand margins
+ Tech upgrades & software solutions
+ Outage excellence

4 Improve service execution & delivery
+ Improved customer service levels
+ Optimize field service & repair network

Growing services & delivering greater customer value

39

Global power industry is facing complex challenges...
Offering innovative solutions to address customers' needs

~60%+
Increase in US natural gas price since 2012

~(30)%
Thermal capacity ↓ in Europe since "08

~15 years
Average age of ~4K global GE gas turbines

Customer challenges

- Fuel price uncertainty
- Increasing regulation
- Slow demand growth
- Aging installed base

GE Predictivity™ solutions & industry benefit*

Output — ~$7B

Availability — ~$2B

Efficiency — ~$8B

Flexibility — ~$1B

Reliability — ~$2B

*Based on 10 year NPV

Improving customers' outcomes while decreasing costs

Investing in technology

1 **Advanced Gas Path (AGP)**
- ✓ Industry leading output … up to +6.4%
- ✓ Industry leading efficiency … up to +1.8%
- ✓ Extends asset & parts life … 96K hours
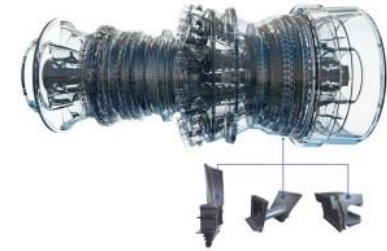
2 **Dry Low NOx 2.6+ (DLN)**
- ✓ Reduces NOx emissions by 40%
- ✓ Delivers industry leading flexibility
- ✓ Increases maintenance intervals to ~1,250 starts

3 **Op Flex**
- ✓ Delivers flexibility to ↓ costs & ↑ revenue
- ✓ Reduces start up time & fuel consumption
- ✓ Expands fuel source opportunity
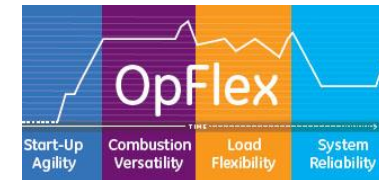
Addressing multiple customer value levers

Power FlexEfficiency™: Advanced Gas Path

Expanding the operating envelope

Output (MW)

+

Op Flex

AGP

7FA.03
baseline

−

Ambient Temperature +
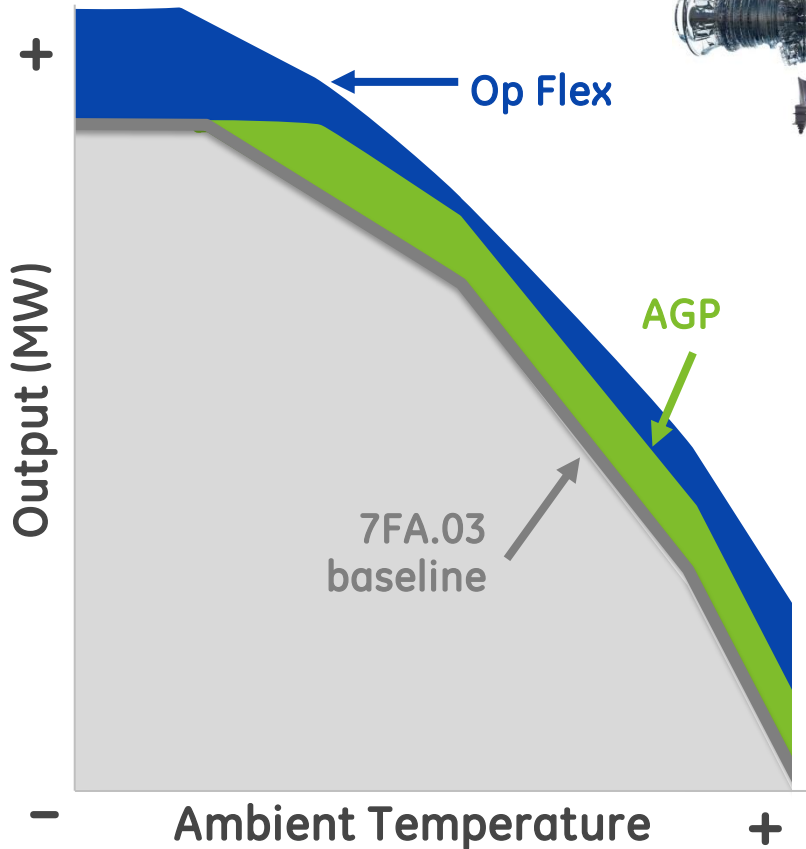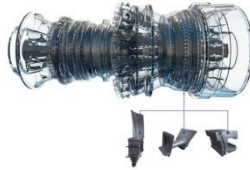
Improving customer outcomes

Average Customer Annual Value Per Unit ($MM)

$3.0

Op Flex

$1.7

AGP
(Hardware)

AGP
Predictivity™
Solution
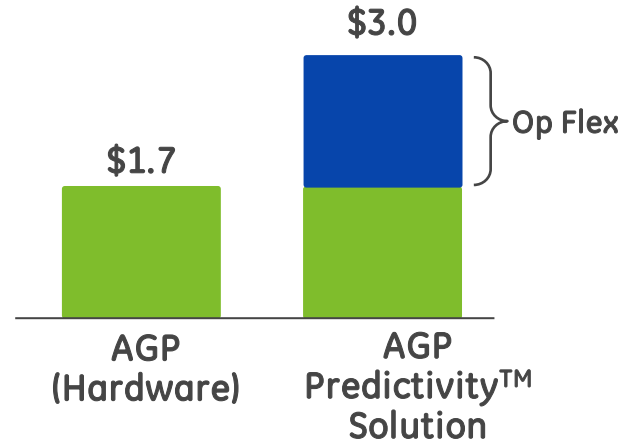
✓ 125+ AGPs with software sold to date

✓ 650,000+ operating hours to date

Combining hardware and software ... creating 2X the value

Wind PowerUp … generating more output

1 **Customer opportunity**

Opportunity for up to 20% more profit from up to 5% more output

2 **Software enabled**
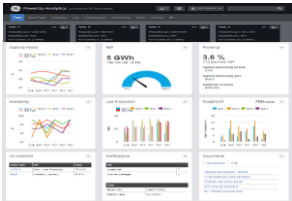
A performance based, cooperative approach with a holistic view of the assets, system and network

3 **Flexible platform**

Flexible payment options aligned to customer needs

Proven results

e·on

Customer Outcome: Up to 4% increase in power output across 283 wind turbines … **40+ GWhr** annual increase

"The PowerUp system offers a great chance for owners like us who are investing literally billions of dollars in this market to try and get more production out of existing assets. GE took a lot of risk out of this for us."

– Patrick Woodson, CEO, E.ON Climate & Renewables

Scale out

+1,400 turbines under contract since launch

edp   firstwind   CLEAN ENERGY. MADE HERE.®   ENERTRAG

Healthcare

Jan De Witte

- President & CEO, Healthcare IT

- In current role since 2011

- 15 years with GE

Healthcare Services

($ in billions)

Key metrics

Revenue

$8.0   =/+

'13   '14E

Backlog $11   +

Installed base dynamics

✓ Emerging markets infrastructure build
✓ Mature markets quality upgrades
✓ ACA & Enterprise Solutions ↑ IT penetration

Services imperatives

① Deliver on customer value
+ Asset and workflow optimization
+ Analytics around EMRs & Devices

② Grow $/installed base
+ Quality and analytics offerings
+ Solutions architecture & delivery

③ Expand margins
+ Remote service & SaaS models
+ Field services productivity

④ Improve service execution & delivery
+ Remote monitoring technologies
+ Field force deployment optimization

Delivering value = higher quality outcomes at lower cost

Healthcare industry shifting to value-based care
GE software, analytics and services are uniquely positioned to help

29%
Healthcare spend wasted each year

$260B
Annual value creation through healthcare IT

59%
US lives covered in value-based care model by 2015

Customer challenges

- Diagnostic quality
- Patient-centric care
- System profitability
- Chronic Disease Management

Clinical Quality

Financial Performance

Operational Efficiency

Configurable Workflows

Integrated Care Solutions ... turning data into actionable insight
Improving healthcare outcomes

GEHC Software portfolio positioned along main outcome drivers for care systems

Integrated Care Solutions

Enterprise Imaging	Care Delivery Management	Population Health Management	Financial Management	Operations Management
Workflow	Ambulatory Care	caradigm	Revenue Cycle	Workforce optimization
Archiving	High Acuity Care	Analytics	Risk assessment	
Visualization	Cardiology	Care coordin.	Margin analytics	Asset Management
		Engagement		
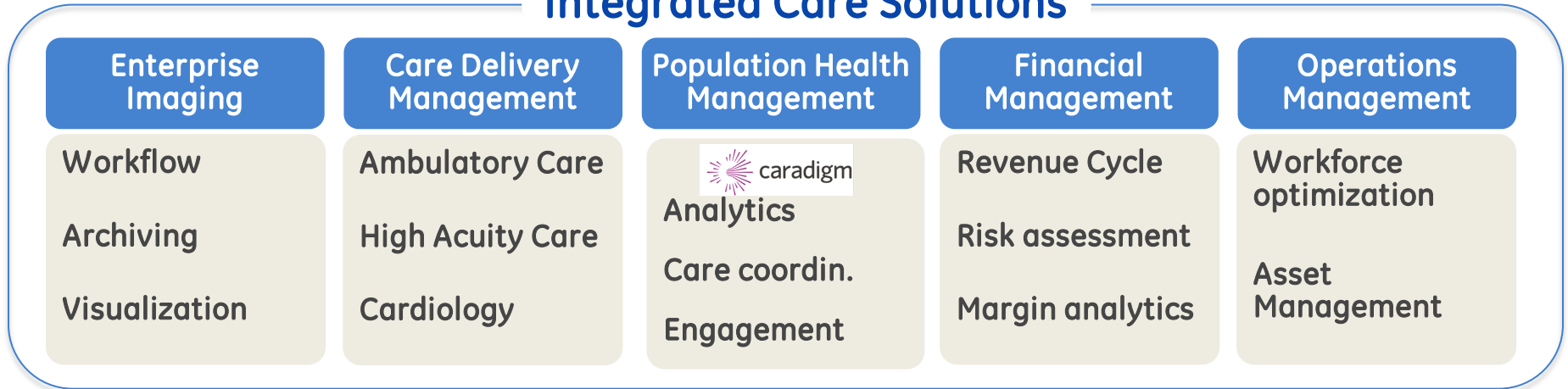
| Diagnostic speed & confidence | Productive care pathways | Wellness & chronic disease management | Risk & margin management | Cost/workforce optimization |

Large **GE device footprint** generating clinical data **+** **HCIT domain** in clinical workflow & analytics **+** **SW CoE/Predix**™ capabilities

Providing caregivers the right actionable insight – when & where they need it

47

Enterprise Imaging
Improving diagnostic workflow in the cloud

Customer Challenges

19% Time spent gathering data

35% Cases diagnosed incorrectly

Workflow velocity ↑

Diagnostic confidence ↑

→ Care quality ↑

Cost ↓

Cloud Case Exchange: Centricity™ 360

~$2B segment by '18, growing 25%+
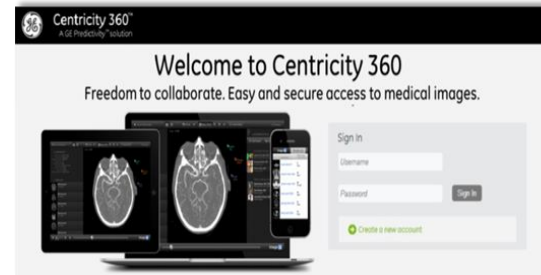
30% ↓ turn-around time

3% ↓ duplicate exams

Customer value: $10MM+ cost ↓ p.a.

Image-as-a-Service lifecycle value: $20MM+

Solution Architecture

Clinical Collaboration & Advanced Analytics

Imaging Cost Control

+

Archive

Workflow

Sample Customers

ars — Agence Régionale de Santé

EMRAD

AGÈNCIA VALENCIANA DE SALUT

Community Hospital of the Monterey Peninsula

VÄSTRA GÖTALANDSREGIONEN SÖDRA ÄLVSBORGS SJUKHUS

gcs sis Martinique

Operations Management
Optimizing workforce productivity with API Healthcare

Customer Challenges

54% Hospital operating cost spent on labor

Matching care-giver capacity & patient need →

Care quality ↑

Labor productivity ↑

Workforce management

~$2B segment by '18, growing 12%+

20% ↑ Workforce productivity

80% ↓ Overtime wages

Customer value: $4MM cost ↓ p.a.

Workforce-mgmt. services lifecycle: $4MM+

Solution Architecture

Real-Time Analytics

+

Time & Attendance

Staffing & Scheduling

HR & Payroll
Labor & Patient Workflows

Sample Customers

Advocate Health Care

STANFORD HOSPITAL & CLINICS

Dignity Health

DukeMedicine

VIDANT HEALTH™

ANDERSON Regional Medical Center

Population Health Management
Lowering the cost of chronic disease

Customer Challenges

STROKE
Every year, around 150,000 people in the UK have a stroke.

HEART DISEASE
Coronary heart disease (CHD) is preventable yet kills more than 70,000 people and 110,000 people have a heart attack in England every year.

RESPIRATORY DISEASE

DIABETES
The UK saw a 74% rise in diabetes cases around the start of this decade.
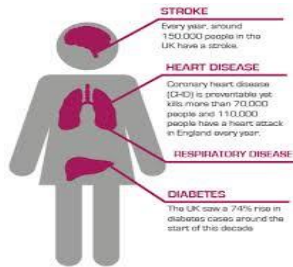
75 Cents of every healthcare dollar spent on chronic disease

Proactive intervention ↑

Care protocol compliance ↑

Chronic disease treatment cost ↓

Caradigm Analytics & Care Mgt.

~$30B segment by 2025, growing 19%+

25% ↑
Patients per care manager

40% ↓
Hospitalization for chronic patients

Customer value: $5MM+ cost ↓ p.a.

Caradigm lifecycle value: $18MM+

Solution Architecture
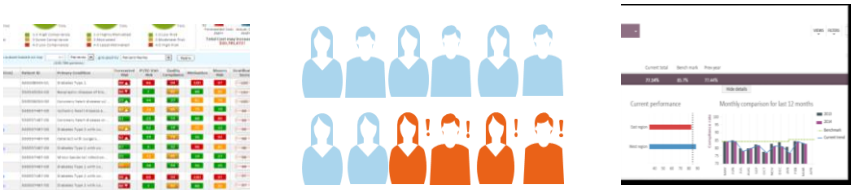
Analytics ⟶ Risk Cohort ⟶ Care Mgt.

Sample Customers

GEISINGER HEALTH PLAN®

Billings Clinic

OCHIN

Virtua

UW Medicine

RUSH HEALTH

Source: National Diabetes Fact Sheet

Software enabling productivity in service process

Call Generation
(Planned & Unplanned)

Diagnose

Deploy

Repair/Fix

Close/Debrief/Bill

Performance Monitoring

Workforce Planning & Dispatch

- ✓ 110k GEHC devices connected remotely
- ✓ MR … 900 data points monitored per machine; 30k alerts/year proactively fixed
- ✓ Improves GE productivity while minimizing customer down-time

- ✓ Historically, up to 40% FE travel time … utilize analytics to optimize allocation
- ✓ Smart dispatch with effective job-skill matching
- ✓ Optimize field force capacity and response time to customers

Healthcare Services margins improving

Aviation

Kevin McAllister

- President & CEO, Aviation Services

- In current role since May 2014

- 25 years with GE

Aviation Services

($ in billions)

Key metrics

Revenue

Backlog $97   +
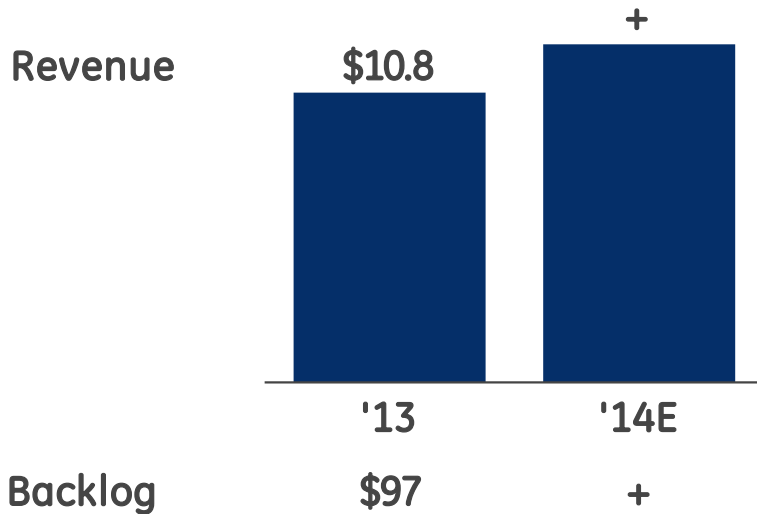
Installed base dynamics

✓ Commercial IB … 34,000 engines

✓ Young … 46% haven't had 1st shop visit

✓ Fuel cost driving investment … GE well positioned … 787, 737MAX, A320NEO, 777X

Services imperatives

1 **Deliver on customer value**
+ Lowest cost of ownership
+ Predictivity™ outcomes

2 **Grow $/installed base**
+ Win/win providing technology upgrades and analytics

3 **Expand margins**
+ Time-on-wing for GE and customers
+ Cost productivity … for GE

4 **Best service execution and delivery**
+ Position to support service entry for next-gen products

Solid growth fundamentals

Environment

Passengers
IATA, RPK % YoY

5.3% **5.2**% **5.8**%

Utilization
Avg. cycles/ day, % YoY

-1% **0.9**% **0.2**%

Departures
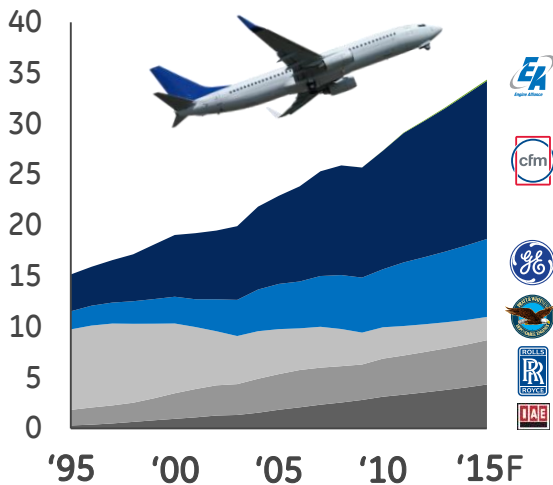GE and JV-powered flights (MM)

20 **21** **22**

2012 2013 2014E

Source: IATA & GE analysis

Departures

Number of departures
(MM)

2 **of** **3** daily flights
powered by GE or GE JVs

Shop visits

4% CAGR

'13 '15F '20F
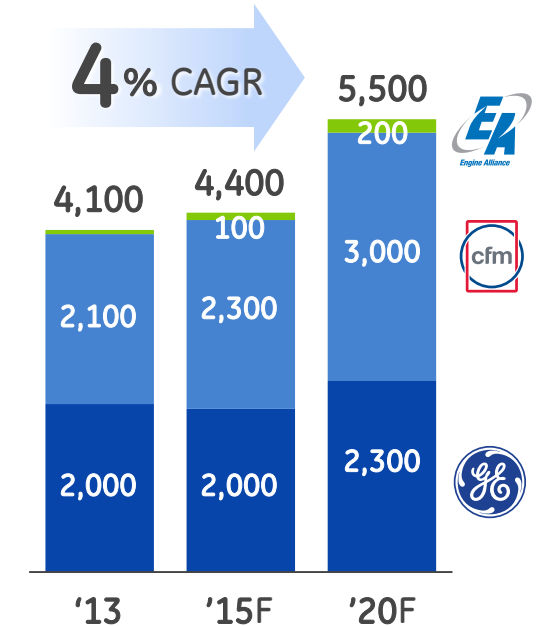
46% have not
had 1st shop visit

CFM is a 50/50 JV between GE and Snecma
EA is a 50/50 JV between GE and Pratt & Whitney

Solving our customers toughest challenges

Airline direct operating costs	Product and Services strategy	Services analytics offerings
Fuel **40%** $200B/yr	Lead in technology Best-in-class fuel burn and retention	Flight Efficiency Services Performance-based Navigation
Delays and cancellations **8%** $40B/yr	Lead in on-wing reliability	Engine diagnostic and prognostics **+** Intelligent Operations · taleris
Maintenance **9%**	Provide lowest cost-of-ownership through OEM technology	Analytics-enabled workscoping
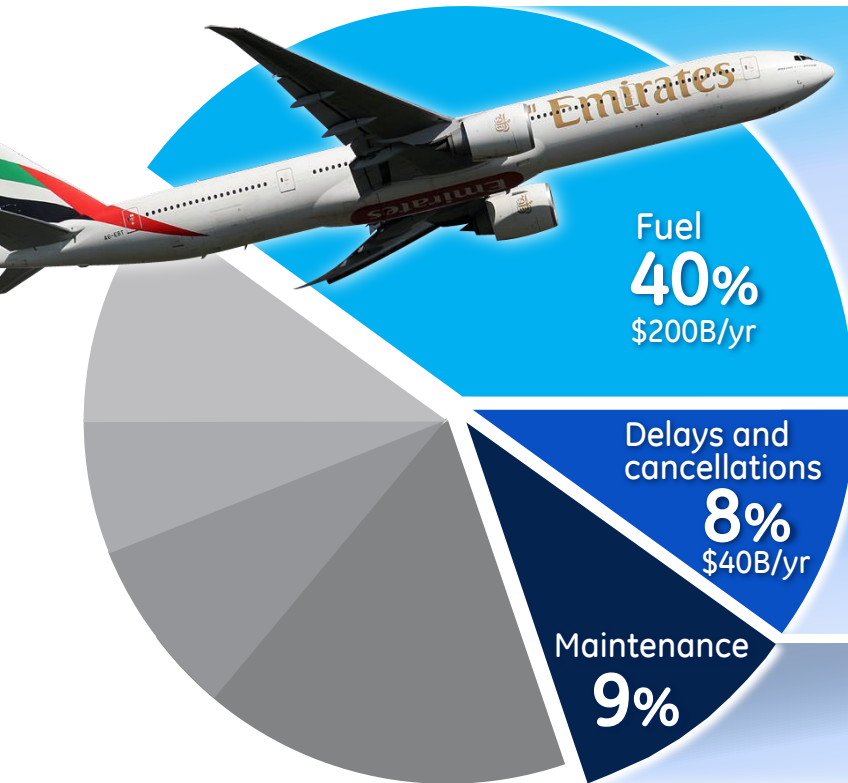
Services technologies ... improving value through the lifecycle

A culture of technology insertion

Installed base ('13)	Upgrades	Fuel Burn improvement	Time-on-wing
CFM56 ('84 EIS) 18,500	**8**	**8%**	**2x**
CF6-80C ('86 EIS) 3,000	**8**	**3%**	**3x**
GE90 ('95 EIS) 1,500	**5**	**2%**	**2x**

+

Tailored to customer wants

Risk transfer
$/hour coverage

Overhaul
Time and material

Materials
New, used and repaired parts

Asset optimization
TRUEngine™ program, diagnostics

Minds & Machines at GE Aviation

"Analytics"   **"Physics"**

1,000+ software engineers
GE Software COE

+

6,300 applied engineers
GE Aviation

Operator A   **Operator B**

Operator A
Derate, dust

Operator B
No derate, dust

Frequency

Tmetal

Takeoff   Climb   Cruise

Threshold

Temperature

Altitude (ft)
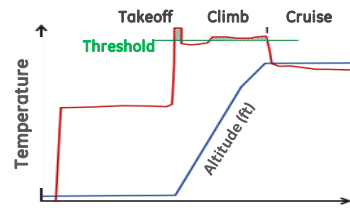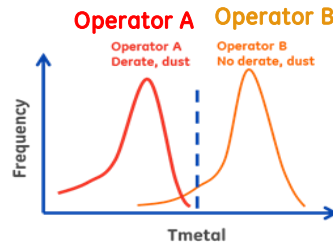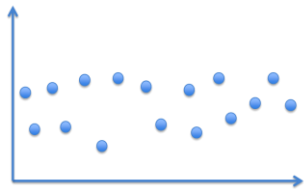
Data
Secure, continuous, accessible

+

Statistics
Unlock trends, segment

+

Physics
Apply engine expertise

=

Customer and GE benefits

↑ Time-on-wing

↑ Reliability and availability

↓ Fuel cost

↓ Repair and overhaul

Lead in on-wing reliability

Applied analytics to detect engines at risk of removal

Cumulative distress (y-axis)

Cycles (x-axis)

- Harsh environment
- Abate
- Segment
- Nominal environment
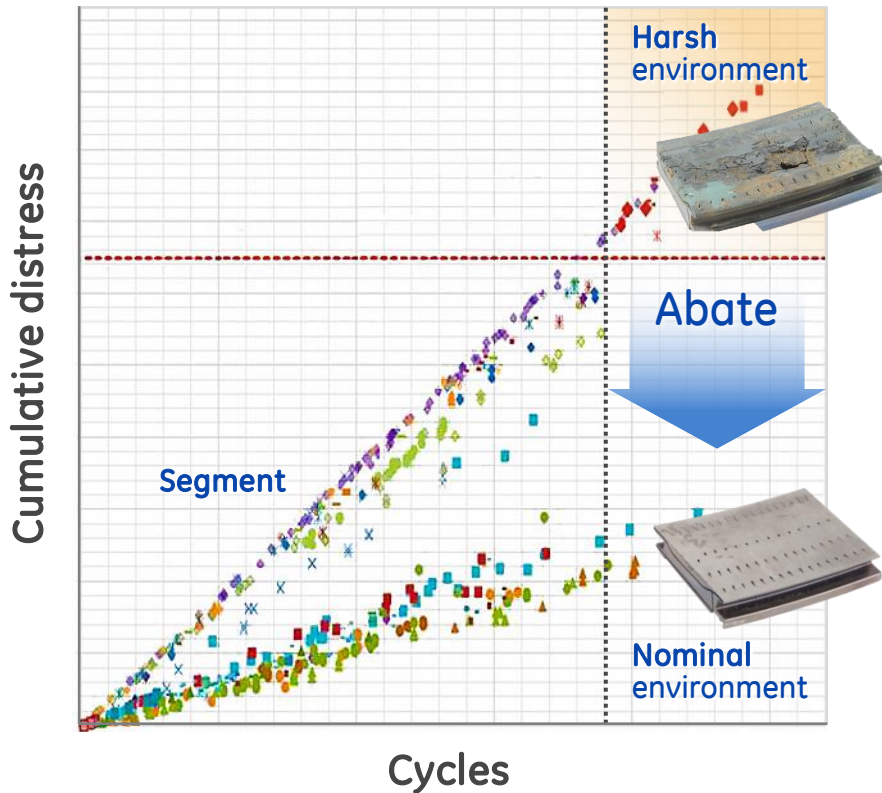
Recent successes …

GE90

120 removals saved

CFM56

40 removals saved

Water wash

$7M/yr

fuel savings at one GE90 operator

CFM is a 50/50 JV between GE and Snecma

Attacking fuel spend with analytics

AirAsia

$30MM/yr. savings

Flight Efficiency Services App

Performance-based Navigation App

Joint marketing ...

In the news

AINonline

Big Data Helps GE Drive Airline Efficiency

by CHARLES ALCOCK

July 16, 2014, 1:10 AM

GE Aviation's Flight Efficiency Services division is using big data techniques to help airlines to improve their profit margins with a particular focus on reducing fuel burn. "Fuel accounts for 40 percent of airline costs with around $215 billion spent on this each year," said general manager Giovanni Spitale. "GE thinks that if machines can talk to each other using the industrial internet [a term coined by GE] we can make better sense of that [fuel consumption]."

Newsletter

GE flight efficiency expertise, data capture and analytics software helps AirAsia save over 1% of their fuel bill each year, on an average one hour flight that's around 250KG of fuel savings.

"Perfect flight" video

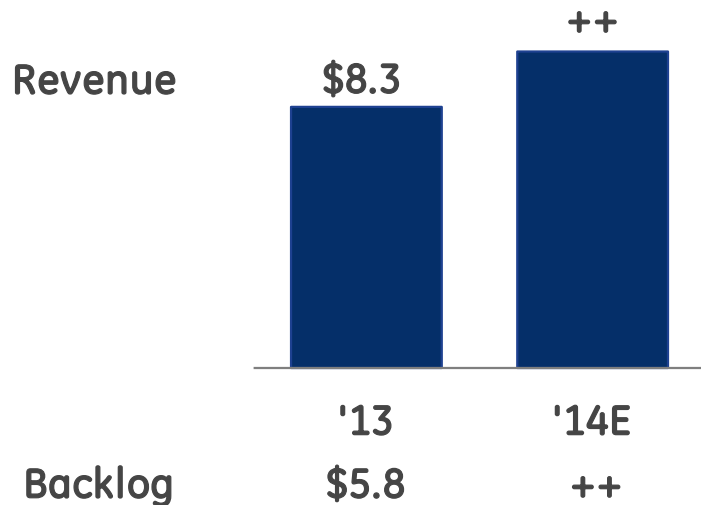# Oil & Gas

Brian Palmer

- Vice President, Measurement & Control Solutions

- In current role since 2010

- 29 years with GE

Oil & Gas Services

($ in billions)

Key metrics

Revenue

	'13	'14E
	$8.3	++
Backlog	$5.8	++

Installed base dynamics

✓ IB growing: TMS and Subsea with 13K+ units
✓ Software investments creating new IB revenue streams in addition to traditional parts and service
✓ New contractual (CSA) offerings developed/launched

Strategic imperatives

1 Deliver on customer value
+ Customer co-creation
+ Outcome based solutions

2 Grow $/installed base
+ Drive analytics & Predix^{TM}
+ Penetrate the installed base

3 Expand margins
+ More software and contract offerings
+ Continue to grow backlog double digits
+ Partnerships to accelerate journey… Meridium

4 Improve service execution & delivery
+ Full lifecycle productivity
+ Simplifying structure

Software & Services as a key differentiator

Oil & gas industry is faced with expanding challenges
GE software, data and analytics are uniquely positioned to help

$800B+
Annual industry CAPEX
(6-8% growth per year)

$150MM
Average annual cost for
mid-size LNG facility due to
unplanned downtime

5-10%
Range of O&G industry's
estimated downtime

Customer challenges

- Increasing complex operations
- Tighter regulations
- Skills gap
- Machines with data potential

Equipment Availability	Equipment Reliability
Operational Efficiency	Production Optimization
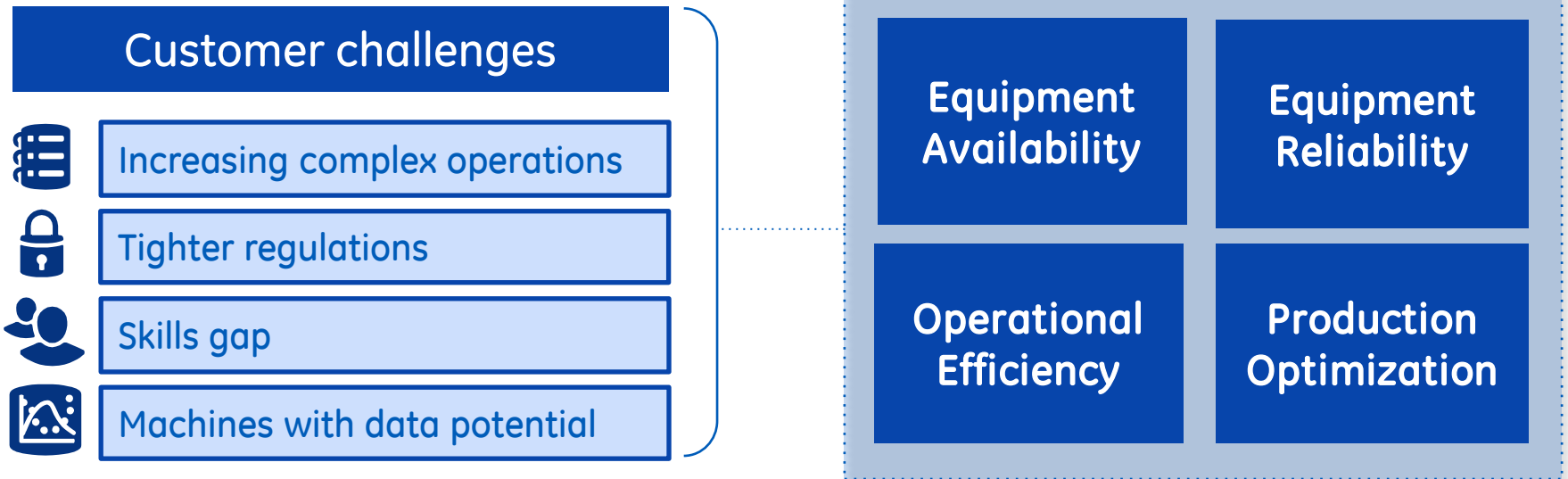
**Industrial Internet ... turning data into actionable information
Enable no unplanned downtime**

Predix™ … Unified Operations
Improved throughput connecting people, machines, and data

machines

people

data

Unified Customer Portal

Customer outcomes

50% Industry retirement rate in next 10 years	7X Industry fatality rate above norm

129,000 Pieces of equipment in operation globally in the industry

Enhanced safety

Increased availability

Operational visibility

Efficient workforce enablement
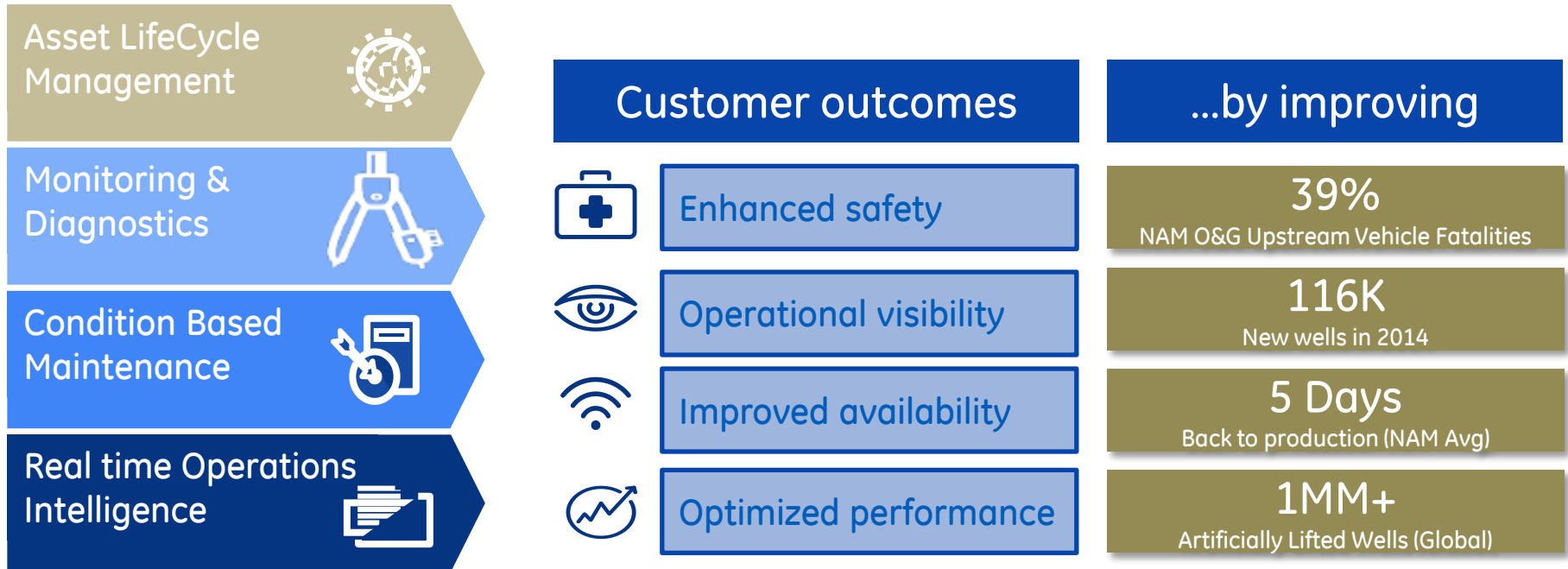
ConocoPhillips

Partnering with to tackle these industry challenges and create a solution that increases production and lowers cost driving improved customer outcomes.

Unified Operations – A customer *co-creation* success story

FieldVantage™ …
Asset Performance Management (APM) for Onshore

Asset LifeCycle Management

Monitoring & Diagnostics

Condition Based Maintenance

Real time Operations Intelligence

Customer outcomes	…by improving
Enhanced safety	**39%** NAM O&G Upstream Vehicle Fatalities
Operational visibility	**116K** New wells in 2014
Improved availability	**5 Days** Back to production (NAM Avg)
Optimized performance	**1MM+** Artificially Lifted Wells (Global)

Solution Overview

- Providing **field level visibility** and **optimization** across multiple forms of artificial lift technologies
- Integrated insights provided through **common, single, scalable platform**
- 2 year **service contract** on 200+ wells

APM – Bringing GE expertise from all industries to deliver system level value

Intelligent Pipeline …
Operations optimization software for pipelines

Customer outcomes

Enhanced safety Proactive versus reactive decisions

Visibility Complete geospatial view and situational awareness

Optimized Ops Effective data driven resource allocation

Efficient O&M Prioritize spending for assets and resources

2TB
of data for every
30K
miles of pipeline

3-4%
annual growth

2MM miles of
pipelines globally

$40B
invested by pipeline
companies per year

First customer

Columbia Pipeline Group ℠

- 5 year **service contract**

- Setting the **industry standards** for pipelines **real-time intelligence**

Moving to proactive solutions with our customers

Services Optimization ...
Creating optimal value for GE equipment customers

Industry Opportunities

$1.4B
Additional opportunity driven by availability and reliability increase (1% of capacity)

GE Productivity Improvements

⬆ Outcome base service bonus

⬇ Inventory through parts flow optimization

⬇ Outage duration/frequency driven by condition-based maintenance

QGC
A BG Group business

Customer Benefits

$ | Zero unplanned downtime

📶 | Increased availability

🕐 | Increased reliability

ΠΠπ | Decreased production losses

Journey to 100% reliability through our Contractual Services Agreements (CSA)
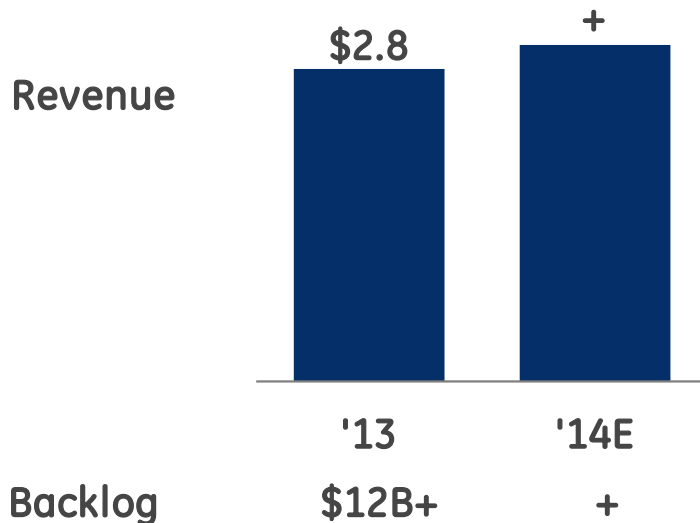
Transportation

Pete McCabe

- Vice President, Global Services & Solutions

- In current role since 2013

- 20 years with GE

Transportation Services

($ in billions)

Key metrics

Revenue

$2.8   +

'13   '14E

Backlog $12B+   +

Installed base dynamics

✓ 1,000+ Tier 4-compliant loco orders

✓ ~650 locomotives un-parking in '14

✓ 450 new locomotives in South Africa

Services imperatives

1 **Deliver on customer value**
+ Outcomes - velocity, fuel, reliability
+ System solutions – RailConnect^{TM} 360

2 **Grow $/installed base**
+ Increase penetration – Parts & Smarts
+ Extend asset life – modernizations
+ Broaden software solutions – rOS

3 **Expand margins**
+ Deploy advanced analytics – Predix^{TM}

4 **Improve service execution & delivery**
+ Enhance commercial capabilities
+ Expand domain & IT project expertise

Railroad industry is faced with expanding challenges
and customers require a solution provider

$80B+
N. American operating revenue (~4% growth)

7 year high
Traffic volumes require unparalleled investment

$5.6B
Annual industrial benefit through 1% improvement

Customer challenges

- Asset utilization
- Capacity limited
- Resource constraints
- Ops. Complexity

LOCOMOTIVE PRODUCTIVITY IMPROVEMENT

CAR DWELL IMPROVEMENT

NETWORK VELOCITY IMPROVEMENT

FUEL EFFICIENCY IMPROVEMENT

RailConnect™360, delivering customer focused outcomes

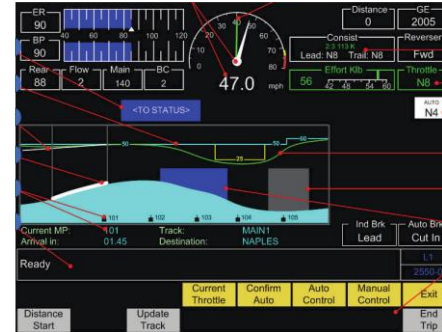Sources: American Association of Railroads (AAR) 2013 industry statistics

Asset optimization – fuel efficiency

Customer Dynamics

- $1M diesel loco/year, 22K GE locos
- Emissions
- Huge operating variation: operators, trains, topography

RailConnect 360 – Trip Optimizer

- Real-time embedded optimization algorithms
- Advanced data acquisition enabling train health monitoring
- Automated train handling reduces wheel & rail wear
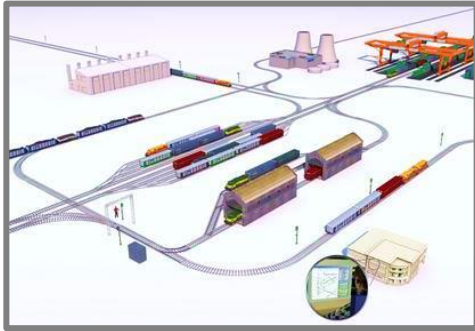
[CSX] Trip Optimizer with CSX

Implementation on 1,500 CSX locomotives:

- ✓ Reduced fuel use by 7% on average
- ✓ Decreased 3rd largest operating expense
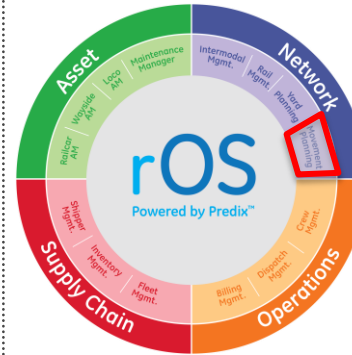 - CSX Sustainability Report 2013

Operations optimization – velocity

Customer Dynamics

- Systems problem ... beyond human capabilities
- Majority single track
- Point solutions have plateaued

## RailConnect 360 - Movement Planner

- Integrated suite of day of operations software apps
- Predix™ platform - connectivity, big data, and security
- Advanced algorithms and automatic routing
- Proven in class 1 revenue service

Movement Planner with Norfolk Southern

Norfolk Southern and Movement Planner*:
- ✓ Automated routing decisions
- ✓ 10%+ increase in velocity
- ✓ 50%+ reduction in expired crews
- ✓ Significant improvement in schedule adherence
- ✓ 1MPH = ~$200MM estimated annual savings in capital & expenses
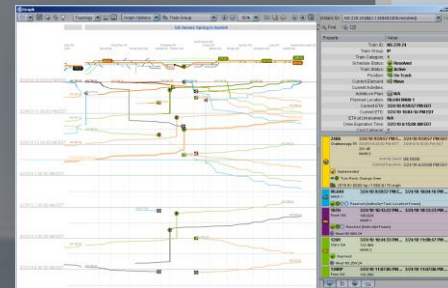
*Based on 3 year study in NS GA division

71

CSA – shared productivity

Lifecycle Cost Dynamics – Engine Overhauls

- 20K+ overhauls in backlog
- OH interval based on average expected condition
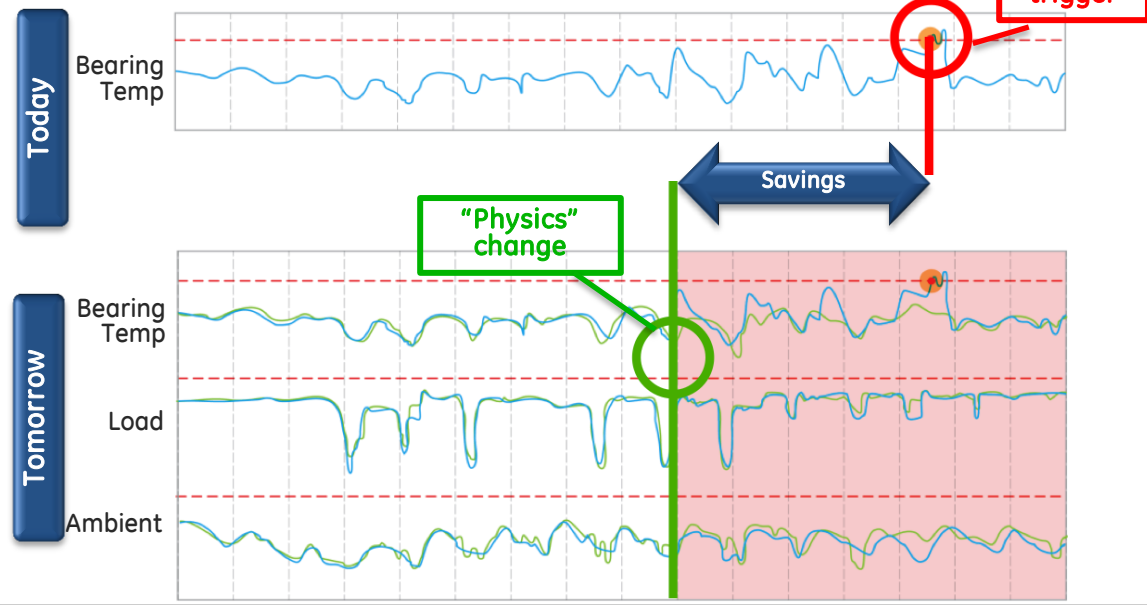- $1B+ capital expenditure in North America every year

RailConnect 360 – Advanced Analytics

(SmartSignal)

- Co-development GE Transportation & GE Intelligent Platforms:
  - Enhanced sensor coverage
  - Improved data acquisition, higher resolution
  - Advanced analytics
- Asset specific insight drives fault reduction and enables CBM

Real Time Engine Performance

Today

Bearing Temp

Alarm trigger

Savings

Tomorrow

"Physics" change

Bearing Temp

Load

Ambient

Impact:
- ✓ Reduced unplanned downtime & avoid road failures
- ✓ Reduce unscheduled material consumption
- ✓ Extended periodicity and associated expenses

GE's 1%

Jamie Miller

- Senior Vice President, Chief Information Officer

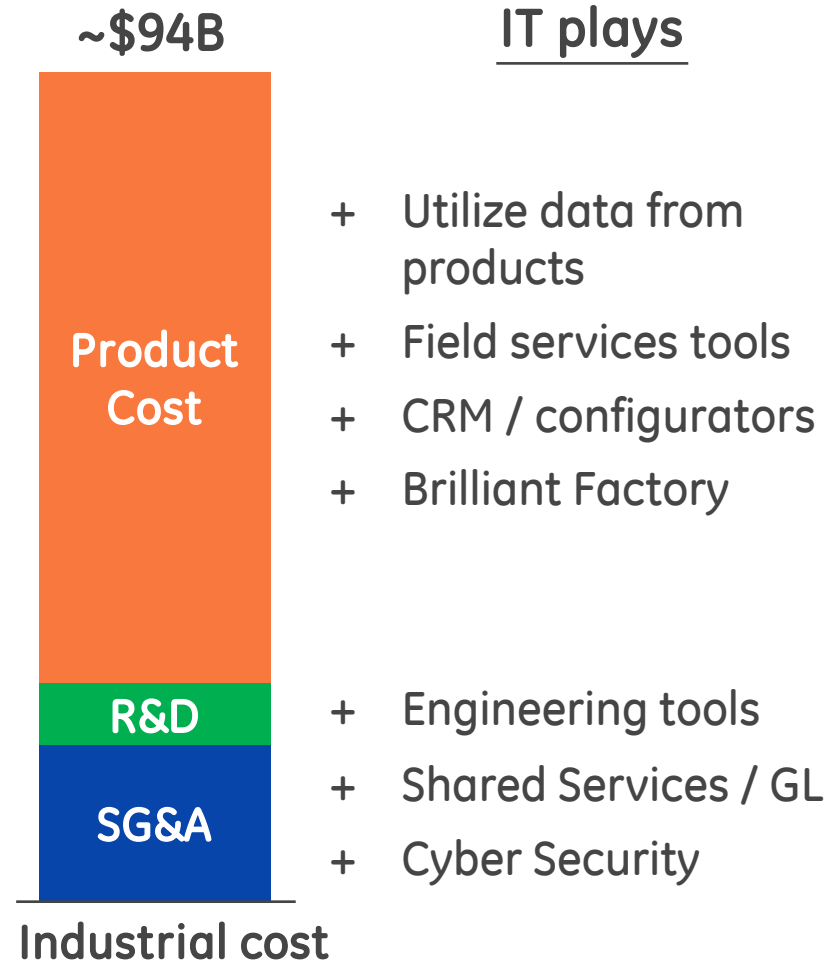- In current role since 2013

- 9 years with GE

Digital opportunity

Simplifying structure

ERP/manufacturing	↓ 90%
Data Centers	↓ 80%
Applications	↓ 30%
Shared Services	65%
Cloud[-a)]	70%

More valuable GE resources with fully integrated approach

Benefits

~$94B

IT plays

Product Cost
+ Utilize data from products
+ Field services tools
+ CRM / configurators
+ Brilliant Factory

R&D
+ Engineering tools

SG&A
+ Shared Services / GL
+ Cyber Security

Industrial cost

Three opportunities to power manufacturing

$63B+
GE manufacturing spend

~400
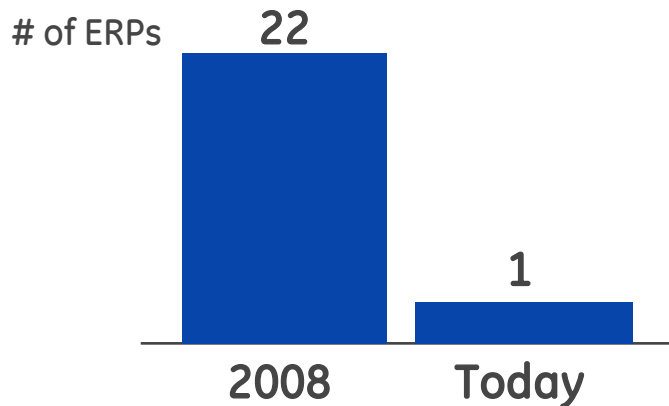Global factories and shops

1 **Digital Foundation**
 – 90% reduction in ERPs

2 **Unlocking Big Data**
 – Sourcing
 – Productivity

3 **Powering the Brilliant Factory**
 – Design for manufacturing
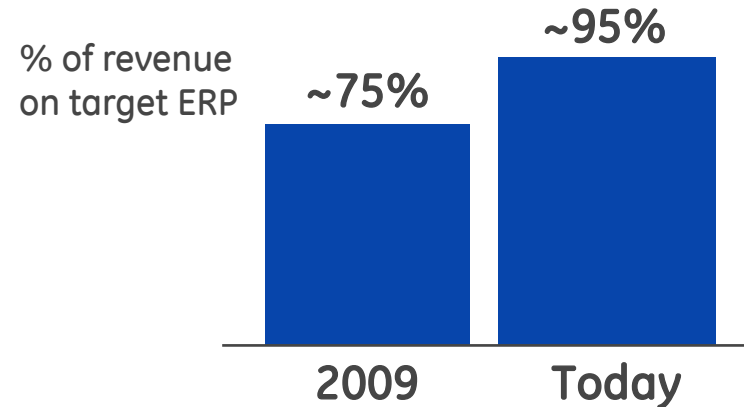 – Sensor enablement
 – Plant/supply chain optimization

Supply Chain Network

Production Feedback Loop

Design Feedback Loop

Virtual Product Design

Virtual Mfg.
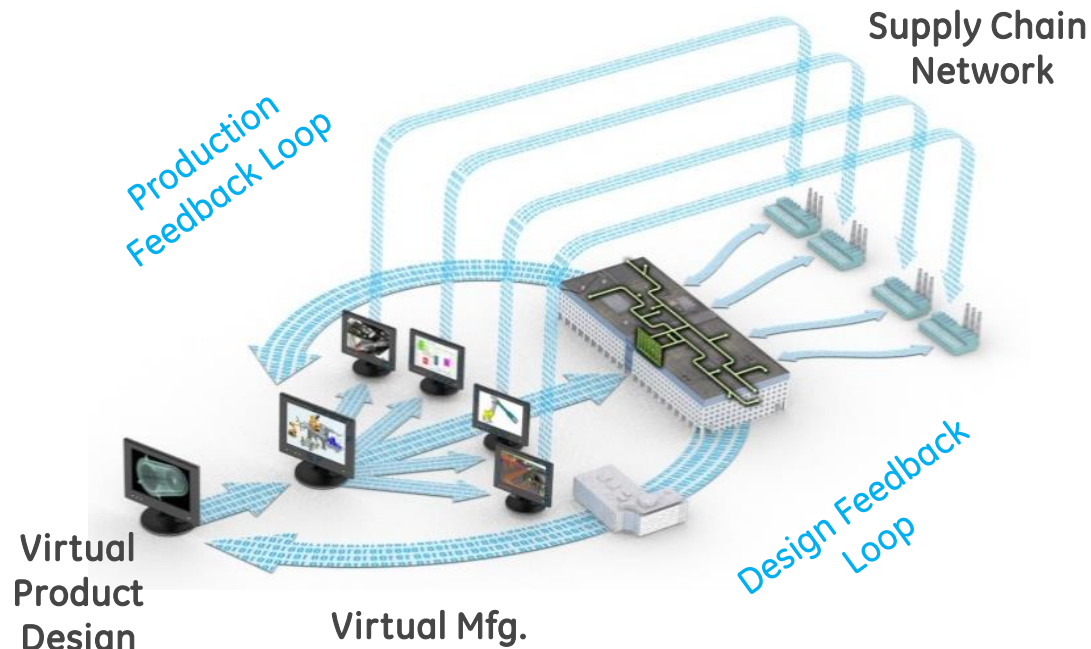
Product Cost: ERP investments paying off

GE Water

of ERPs

	22	1
	2008	Today

✓ SG&A % of sales ↓ ~10 pts.

✓ Past dues ↓ 60%

✓ Finance headcount ↓ 50%

GE Healthcare

% of revenue on target ERP

	~75%	~95%
	2009	Today

✓ Inventory turns 6x → 7x

✓ Shipment on time ↑ 58% → 85%

✓ Foundation for business to deliver $1B+ savings over past 5 years

Today: 219 ERPs → 2016: 34 ERPs

Product Cost: Using big data to run GE

1 O&G data lake, $8B direct materials buy

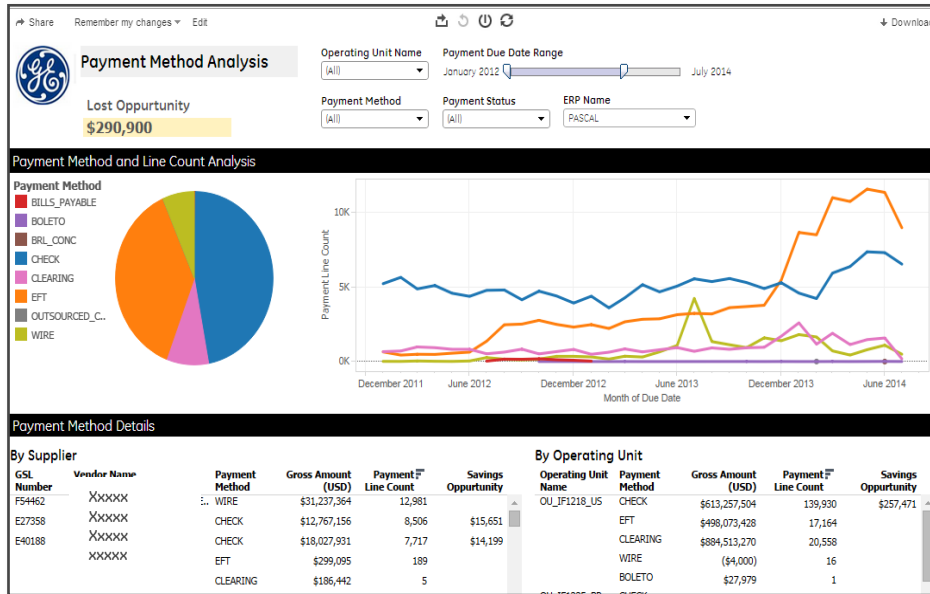| Ingest	Store	Clean	Consume
Real time	*More, cheaper*	*Faster, GE-wide*	*Analytics, Data science*

Oil & Gas

- 23 source systems
- Full visibility – 3 weeks
- Commodity, part, supplier

- Data lake technology
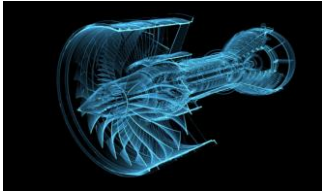- Machine learning for data cleansing
- EM, P&W underway (Alstom)

$60B total material buy across GE … $1B+ cash & deflation opportunities

Product Cost: Technology powering the Brilliant Factory

Aviation Machining

FastWorks approach

Virtual design for manufacturing

Wilmington, NC

- ✓ 30%↓ NPI cycle time
- ✓ Eliminated quality escapes

Transportation Remanufacturing

Sensor Enablement

Grove City, PA

- ✓ ↓ machine downtime
- ✓ 25%↓ opportunity

P&W Nozzle Cell

Factory optimization

Greenville, SC

- ✓ 25%↑ productivity
- ✓ P&E avoidance

20/20 Vision

20%↓ NPI cycle … 20%↑ efficiency
16 pilots launched … Fastworks

Changing the way we deliver Services

Accelerating productivity

Field services optimization

Predictive workscope

Next generation modeling

Advanced technology

Smart Outage: Full deployment at PGS

Predictive Workscope: Aviation 4 customers, full roll-out mid-2015
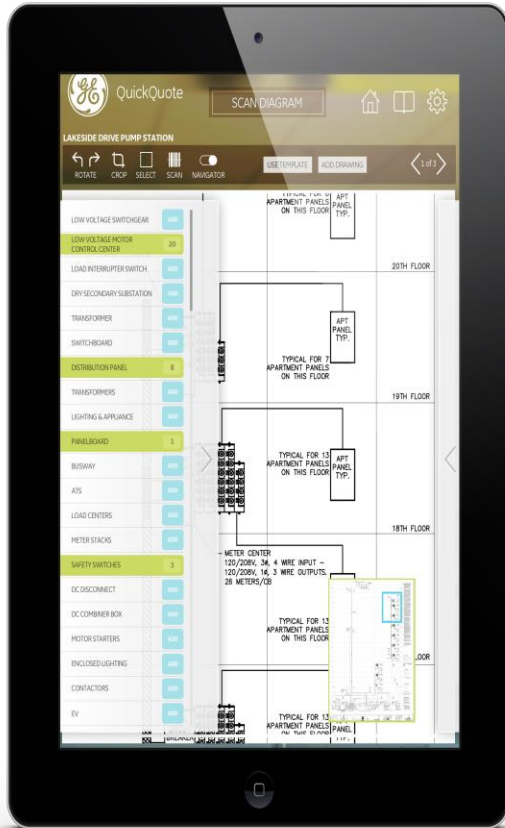

On track for $1B CSA productivity over 3 years and
10%↑ customer uptime

We can do more "S" with less "G+A"

QuickQuote

- ✓ **45% ↑** win rate
- ✓ **80% ↓** in quote time
- ✓ **5,400+ ↓** Sales/Comm Ops hours/week

40K+ GE Commercial FTE

Highly manual, long-cycle-time

More "shots on goal", lower cost

Investing in digital tools for commercial teams

Wrap up

Value for investors

Scale & intellect

GE Software COE

+ COE can accomplish scale ... none of our businesses could do this on their own ... attract talent & spread ideas

+ Advantage to being an early mover ... right partnerships & scale

+ Changing GE Industrial DNA ... greater impact from digital & analytical investments

Return on investment

1 Payback through most reliable revenue source: Services

  + Increase revenue growth

  + Improve margins

  + CSA productivity

2 Funded software & analytics through simplification & reallocation

3 Potential upside beyond the GE installed base

Why GE?

+ More valuable portfolio ... 75% Industrial while growing EPS

+ Tangible evidence of winning NPI ... Tier 4, LEAP, etc.

+ Strong & diversified global footprint ... best-in-class

+ Transforming service for next generation of growth

+ Culture of simplification impacting every part of GE