Microsoft

Manufacturing & Resources & Transformational Business Opportunities

Egbert Schroeer, Managing Director, Microsoft
August 5th 2014

Agenda

What we will cover today
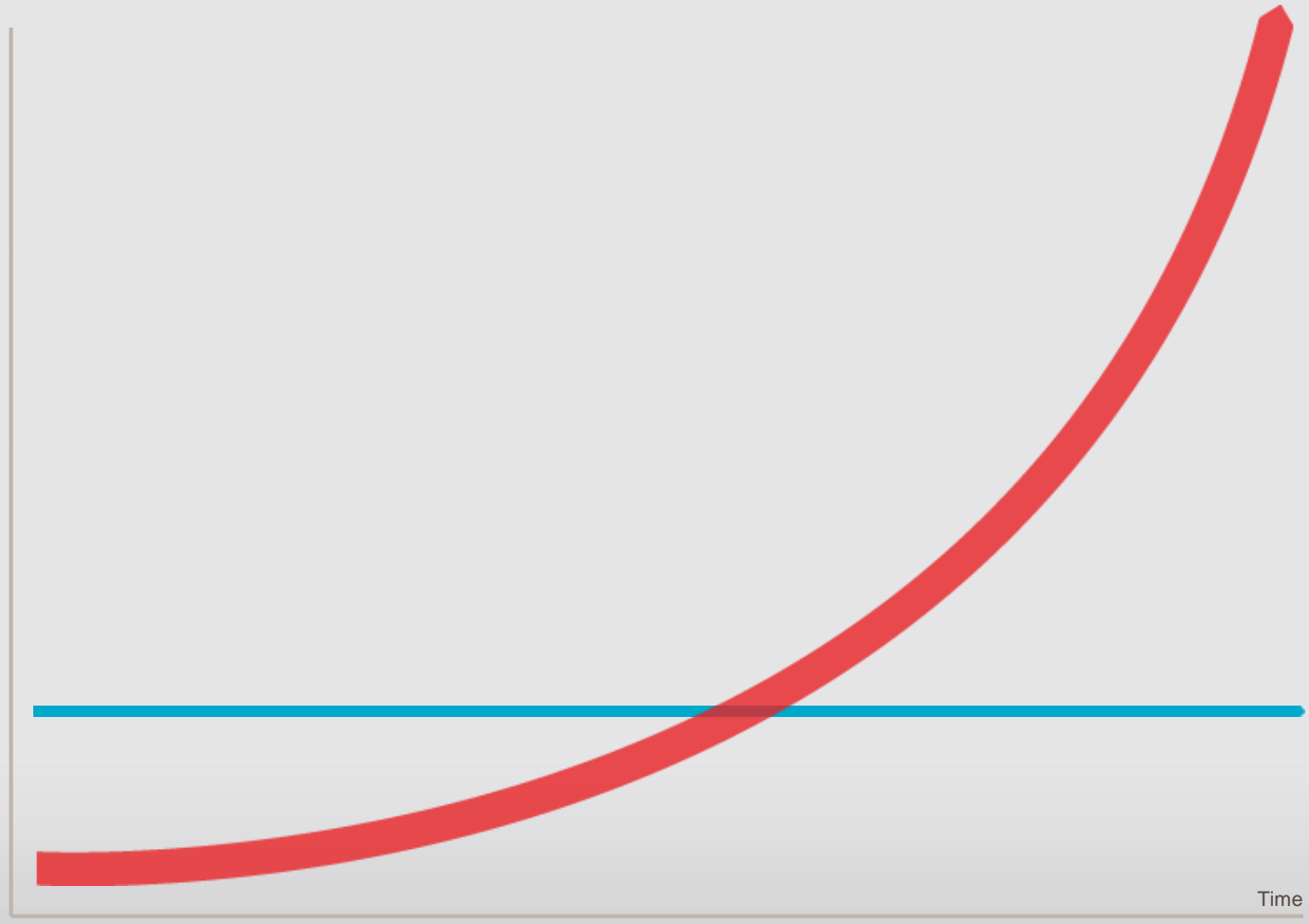
Industry trends and opportunities

Our vision and Transformational Business Opportunities

Customer experience

Time

● Technological capacity   ● Human capability

MORE. FASTER.

BETTER?

Technology should extend our capabilities rather than highlight our limitations. It should help us manage our **time** more effectively, focus our **attention** on the most important things and foster meaningful **relationships** with the people we care about.

Start reimagining

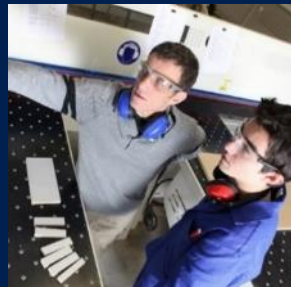**Innovation**

Globalization

Pricing pressures

What new **capabilities** will be **required**?

Complex regulation

Sustainability

Changing demographics

What **opportunities & challenges** do these create?

Imagine a world without boundaries

Our vision for process manufacturing & resources

Enhancing skills

Engaging your employee's **passion**

Responding to likes and dislikes **immediately**

Creating a **social community** that loves your brand

Fostering innovation

Giving your company a personality

Turning customers into evangelists

Giving people a **social voice**

Inspiring

Unleashing

your customers

Supporting a mobile workforce

employee creativity

Delivering **mobile, engaging experiences**

Embracing insight naturally

Attracting and retaining **talent**

Connecting with the world's data

Identifying disruptors to your business

Identifying

Simplifying insight generation

Becoming as **nimble** as your smallest competitor

Connecting the individual voice to the overall brand experience

opportunity with data

Targeting influential customers

Identifying patterns in data to predict future opportunities

Finding hidden potential in your untouched data

Leading WW Manufacturer
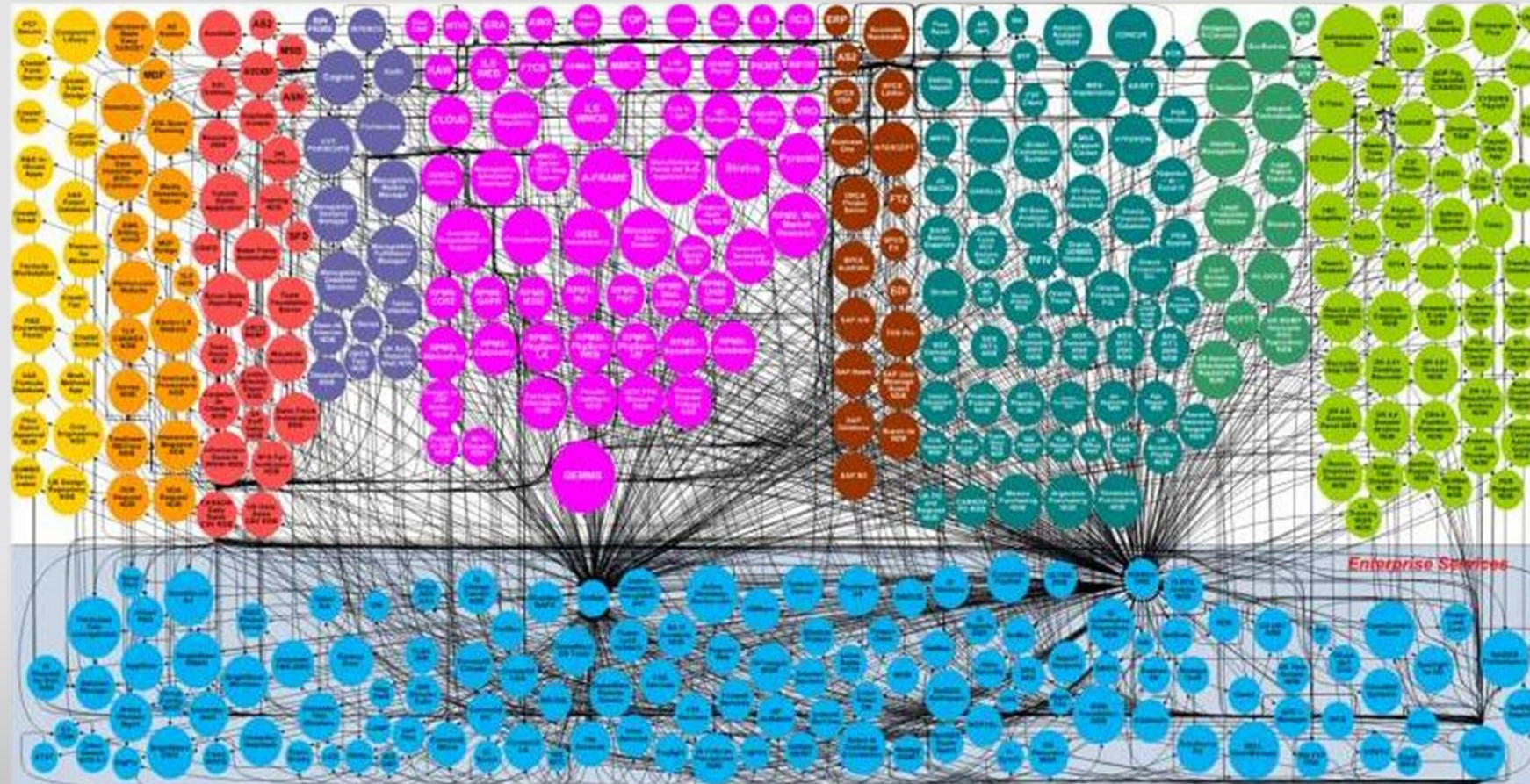
531 applications

4600 interfaces
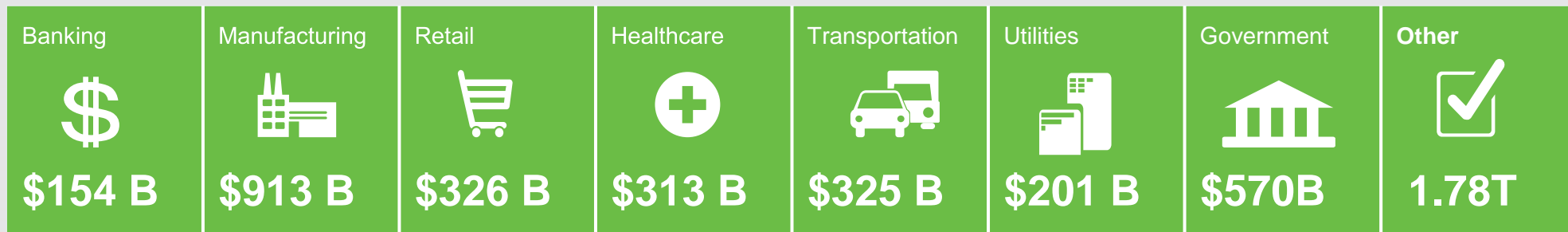
3400 nightly batch jobs

No "end to end" **process**.

Largely **undocumented**

Support ratio: **1** FTE to **17** apps
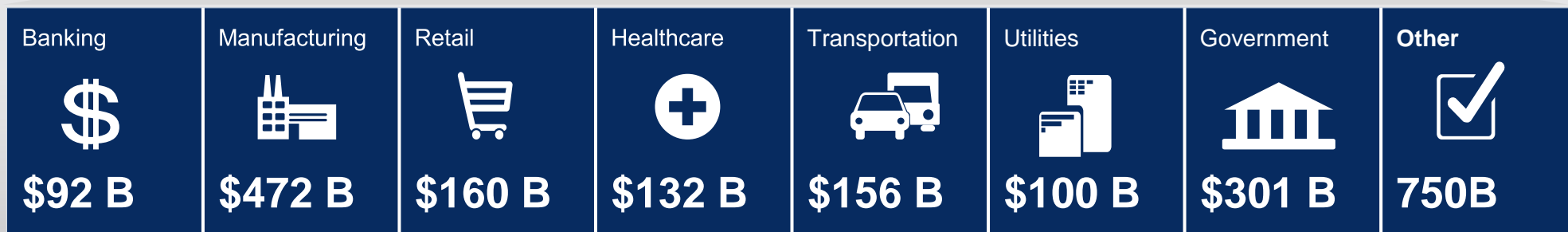
Worldwide Internet of Things Revenue Opportunity

2018

$4.93T

Banking	Manufacturing	Retail	Healthcare	Transportation	Utilities	Government	**Other**
$154 B	$913 B	$326 B	$313 B	$325 B	$201 B	$570B	1.78T

2014

$1.93T

Banking	Manufacturing	Retail	Healthcare	Transportation	Utilities	Government	**Other**
$92 B	$472 B	$160 B	$132 B	$156 B	$100 B	$301 B	750B

IDC, Internet of Things Spending Guide by Vertical Market, 2014

Realizing IoT with Microsoft

"Things" found in the enterprise

Devices

PCs/ Laptops

Smart Phones

Tablets

POS Terminals

Medical devices

Automation Devices

Industrial devices

ATMs

Handheld Scanners

Windows

Other "things"

Vehicles

LoB Assets

Buildings and Infrastructure Assets

Chips

Sensors

Our IoT-enabling Technologies

Cloud Platform and Services

Microsoft Azure

Microsoft Azure Intelligent Systems Service

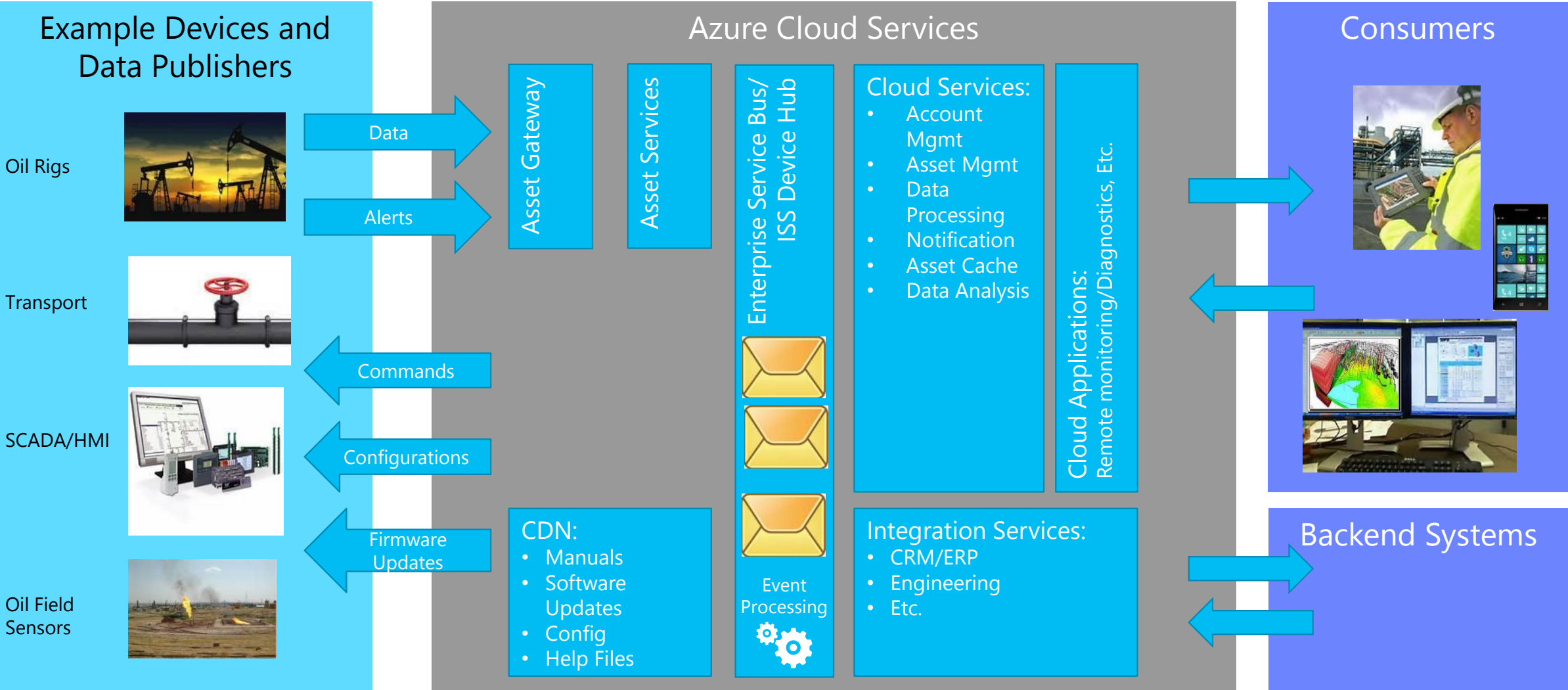Microsoft Azure Machine Learning

Data and BI Services

Line-of-Business Services

Microsoft SQL Server

HDInsight

Office 365

Power BI for Office 365

Microsoft Dynamics

Digital Oil Field

Example Devices and Data Publishers

Oil Rigs

Transport

SCADA/HMI

Oil Field Sensors

Data →

Alerts →

← Commands

← Configurations

← Firmware Updates

Azure Cloud Services

Asset Gateway

Asset Services

Enterprise Service Bus/ ISS Device Hub

Event Processing

CDN:
- Manuals
- Software Updates
- Config
- Help Files

Cloud Services:
- Account Mgmt
- Asset Mgmt
- Data Processing
- Notification
- Asset Cache
- Data Analysis

Cloud Applications: Remote monitoring/Diagnostics, Etc.

Integration Services:
- CRM/ERP
- Engineering
- Etc.

Consumers

Backend Systems

Reimagining predictive maintenance

Streaming Equipment Data to Azure Precludes Failures

Business goal

- Improve fracking truck uptime
- Establish new data driven maintenance business model
- Reduce maintenance costs

Tactics

- MG Bryaan instrumented fracking trucks with Rockwell data acquisition
- Data streamed to Rockwell Cloud Platform in Azure in realtime

Results

- Secure remote access to equipment data
- Incremental Cost Savings
- Remote Services as new business model
- Empowering knowledge workers with real time & historical data

"It's about being able to globally manage their businesses, something that has never been done before. The upside is huge for us!"
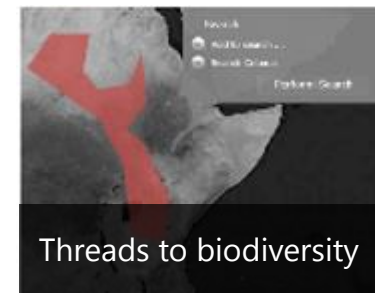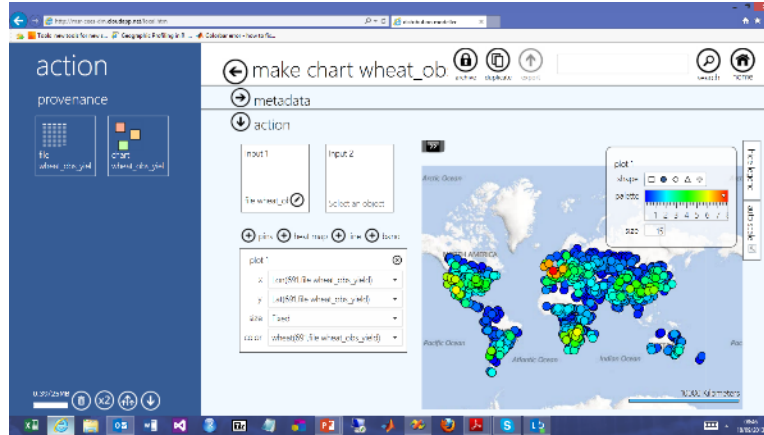
—Matthew Bryan – President – MG Bryan Equipment Company

Transformational Business Opportunities: Example Agriculture Analytics

Yield predictions based on historical and real-time prediction as new service offering for farmers

Threads to biodiversity

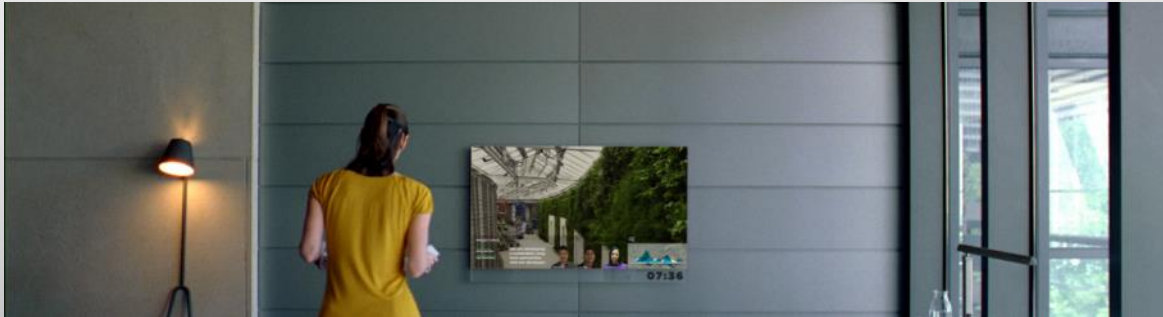# BRING YOUR OFFICE ANYWHERE

When you are without your desk and devices, how do you maintain your workflow?

Using the cloud, hardware functions as a team rather as individual units. Ayla can pick up devices that are not her own and use them as if they were.

KEY IDEAS
Anywhere data access, Secure mobile authentication, Work across personal and public devices

Reimagining Manufacturing in a Connected World
Key capabilities required to drive business transformation
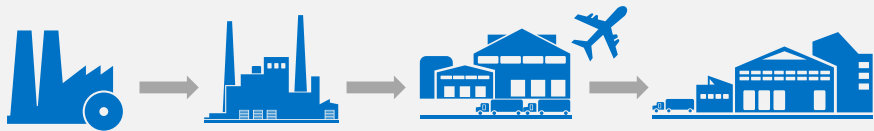
Transformative business opportunities

Transforming from Product-centric *transactions*
→ Service-centric *relationships*

Corporate
Performan

Key priorities

| Developing Connected Business Networks | Enabling Connected Customer Experiences |

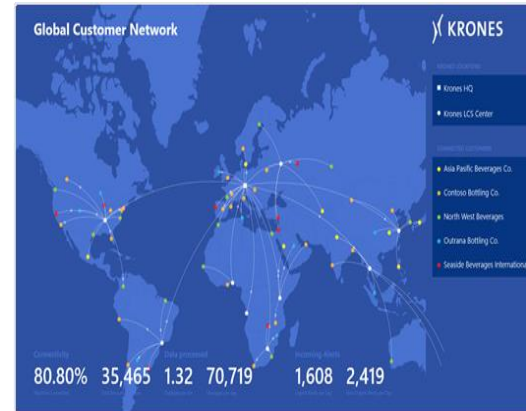Building a Data Culture across the Organization

Service-centric, network value driven

Krones: *Production of the Future*

KRONES AG is the market leader in the fields of process, filling and packaging technology. ***Every fourth bottle world-wide*** *is processed by a KRONES machine.*

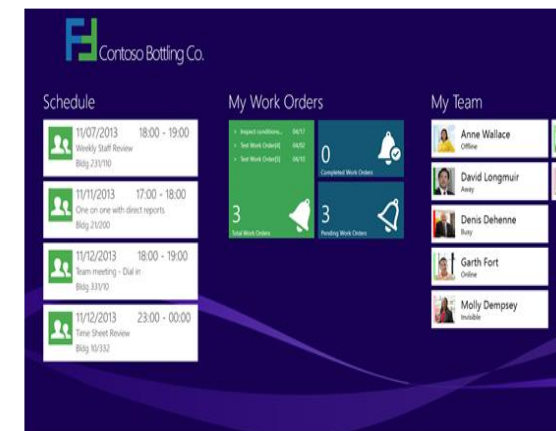KRONES – Global Machine Cloud

KRONES – Local Machine Emulator

Customer - Global Operations Dashboard

Customer - Plant Supervisor Cockpit

Customer - Mobile Maintenance Dashboard

Discrete Manufacturing Industry Solutions

Connected Marketing, Sales & Service
Digital vs. physical engagements increasingly driving the buying decision

Connected Vehicle & Connected Devices
Driving new connected consumer experiences and ongoing services

Connected Operations
Cost and risk management still key in delivering the Bottom Line

Connected Product Innovation
Smart connected products driving innovative development cycles

Devices

Modern Productivity Platform
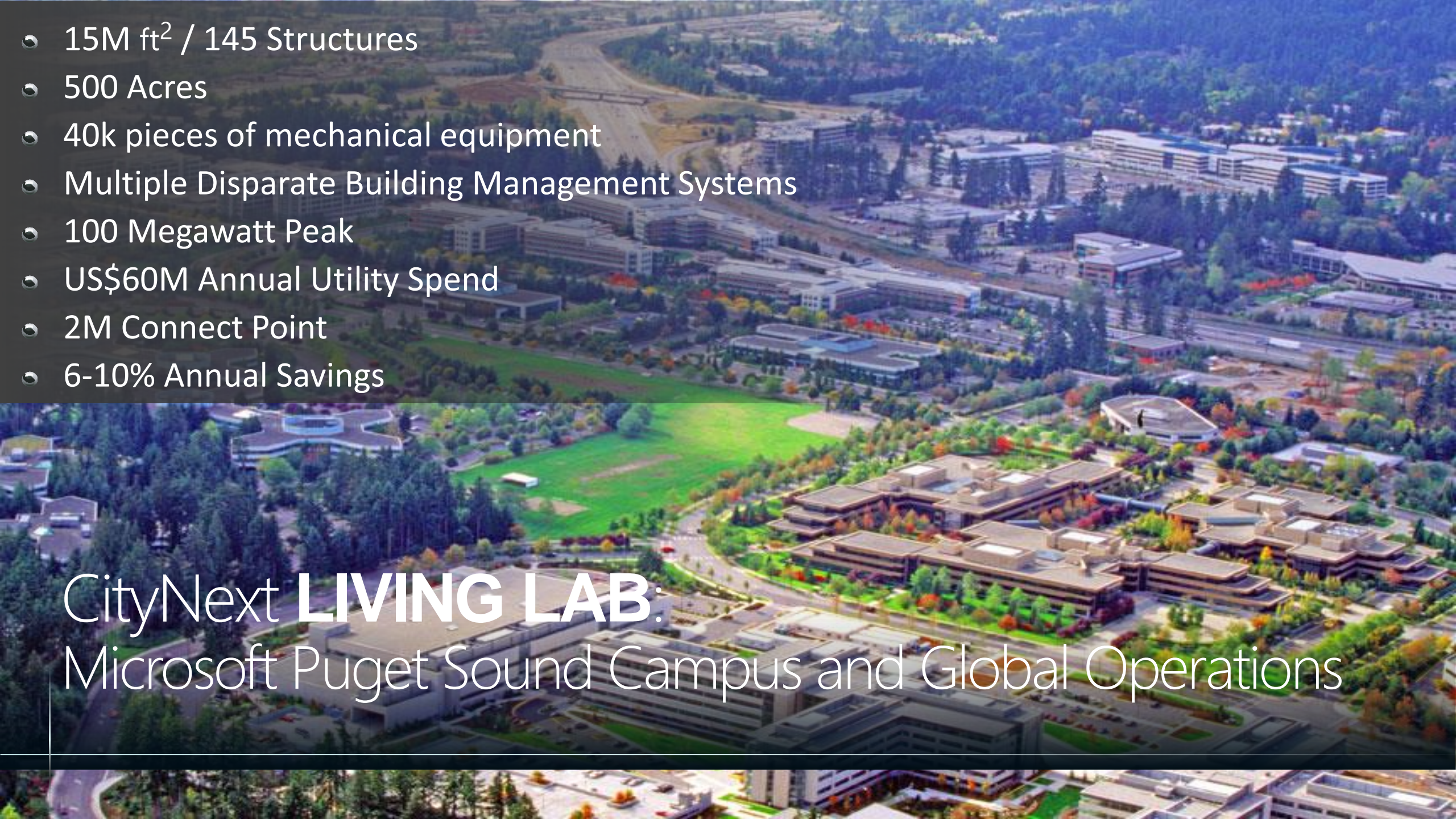
- 15M ft^2 / 145 Structures
- 500 Acres
- 40k pieces of mechanical equipment
- Multiple Disparate Building Management Systems
- 100 Megawatt Peak
- US$60M Annual Utility Spend
- 2M Connect Point
- 6-10% Annual Savings

CityNext **LIVING LAB**:
Microsoft Puget Sound Campus and Global Operations

Building Intelligent Solutions

Home   Reports   Executive Dashboard

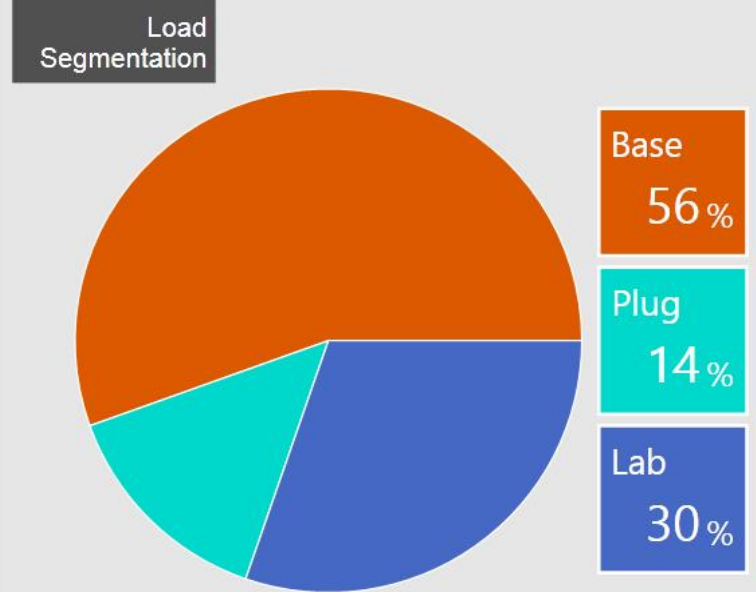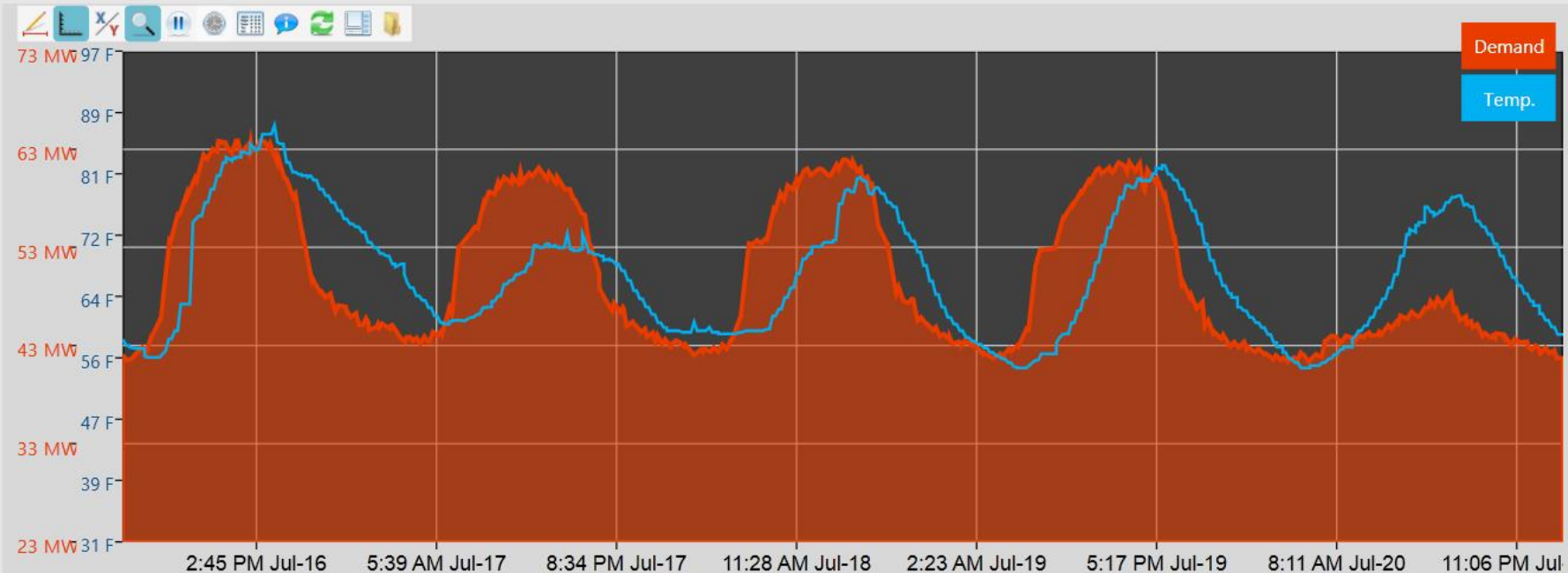Microsoft

Overview   × Technician

Folders
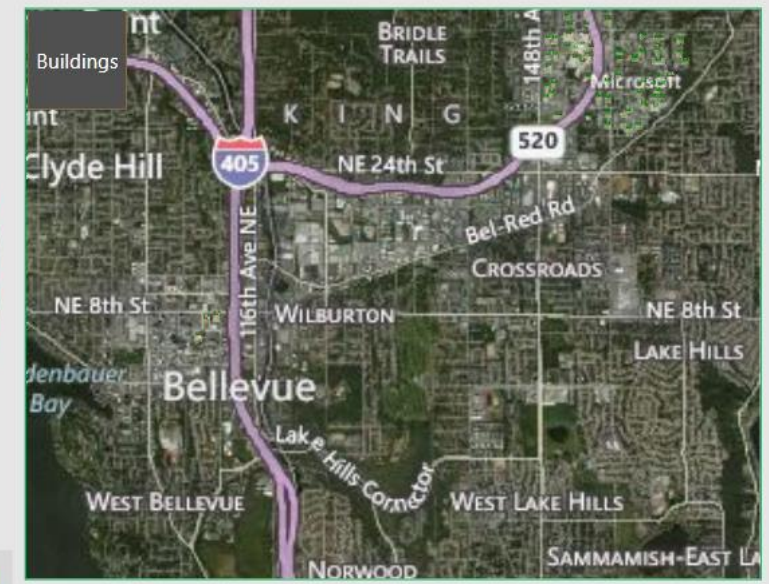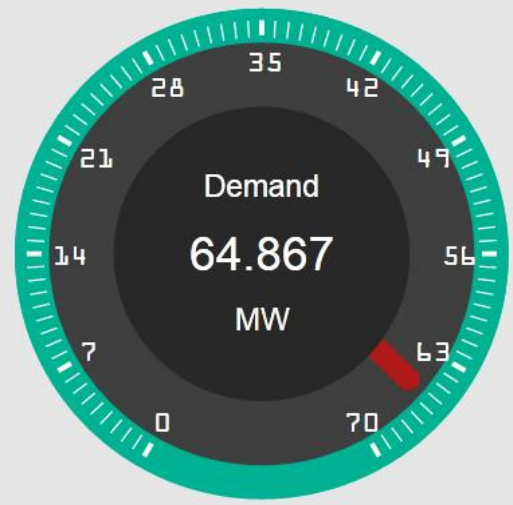
Click on campus to expand

West Campus

Utility Status

Gen. Status   Comm. Status   Alarms

Faults

Developer Bui...

Building Type

UFAD Building with Labs

System Type

Studio

Studio C --> L01 --> HTU

01

Studio C --> L01 --> HTU 101

STUDIO C -- HTU -- L01 -- Unit 101

74.00	71.40	1.00	76.00	0.00
CTL STPT	ROOM TEMP	OCC	CURRENT CLG STPT	CLG LOOPOUT
103.90	1.00	0.00	74.00	100.00
DAT	FAN	DMPR COMD	CURRENT HTG STPT	HTG LOOPOUT

Faults   Trends

Time / Date	Tag	PR	Fault Savin
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What's on the mind of enterprise leaders?

Outperforming enterprises are **54%** more likely to collaborate extensively with their customers

CEO priorities
- ✓ **engaged** employees
- ✓ **satisfied** customers

CEO's **digital savvy**

best indicator of business performance

79% of C-level executives believe they make **better** and **faster tech decisions** than IT

Growing expectation — **personal, individualized service**

27% of tech budgets controlled by departments **other than IT**

Enhancing the customer experience

Transforming to a digital business

Becoming more responsive

7 in 10 CxOs believe **social/digital interaction** is the new imperative

70% of CIOs Would **increase risk** to **reduce IT costs** and **accelerate business agility**

3/4 decision makers — **top priority** enhancing customer experience

60% of CxOs now look to **partners** who will have an equal hand in **creating business value**

dual goals — Responding to ongoing needs for **efficiency and growth** — exploiting a fundamentally different **digital paradigm**

Make/sell business model

Sense/respond business model

Mega Trends impact the business trends

Social and Collaboration

Business Insights & Analytics

Mobility

Cloud and modern datacenter

Changing Demographics

- BYOD
- Ubiquitous Connectivity & Social Computing
- Knowledge Management

Innovation & Growth

- New Products, Services & Technologies
- Time to Market
- Crowd source Ideas

Performance Excellence

- Security
- Sustainability
- Regulatory Compliance
- Business Efficiency

Power Shift to Consumers

Connected Experiences

Sustainability