

Defining the impact of Internet of Things: Microsoft Perspective

Ray Pinto
Senior Government Affairs Manager, Microsoft
rpinto@microsoft.com

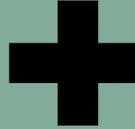


25 June 2014

Microsoft



Be lean



by reducing energy use and air travel through technology-driven efficiency



Setting targets for reducing energy consumption in our data centers, labs, and offices



Setting targets for reducing air travel using Microsoft collaboration technology



Controlling energy use in our offices with an enterprise-wide energy management program

Be green



by making more environmentally responsible choices with our energy, waste, and water



Signing long-term renewable power purchase agreements



Investing capital in new renewable energy projects



Connecting data centers directly to innovative renewable energy sources



Purchasing market RECs and carbon offsets



Establishing reduction goals for waste and water

Be accountable



by quantifying our carbon impact and holding groups responsible



Setting a price signal on carbon to internalize the external impact of our operations



Charging the teams responsible for emissions from data centers, offices, labs, and air travel



Improving transparency using emission-tracking software and Carbon Disclosure Project (CDP) reporting



Optimizing the supply chain



Engaging employees through environmental sustainability programs





1.2×10^{21}

New Bytes of Information
in 2010*

Sensors and **Big Data** Analytics Drive Connections

Air

Forest

Natural Resources

Cloud

Water

Generation & Grid
Integrate and manage distributed supply data

Data
Enabling energy services through rich data exchange

Grid

Resource Management
Identify, measure and report resource usage & emissions

Energy

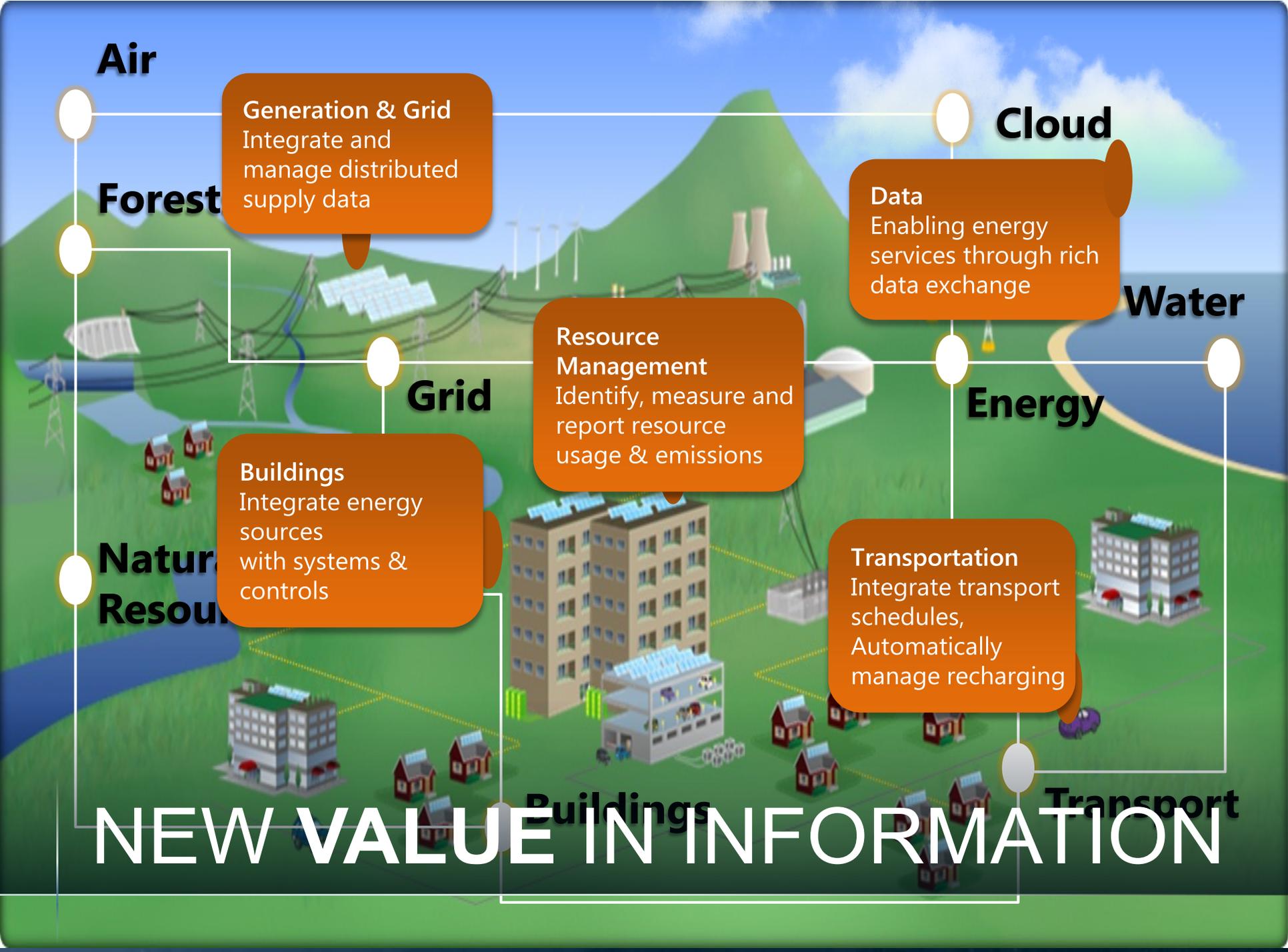
Buildings
Integrate energy sources with systems & controls

Transportation
Integrate transport schedules, Automatically manage recharging

Buildings

Transport

NEW VALUE IN INFORMATION





soak

Farm Overview

Morning Star

Action Toolbox

New Sector

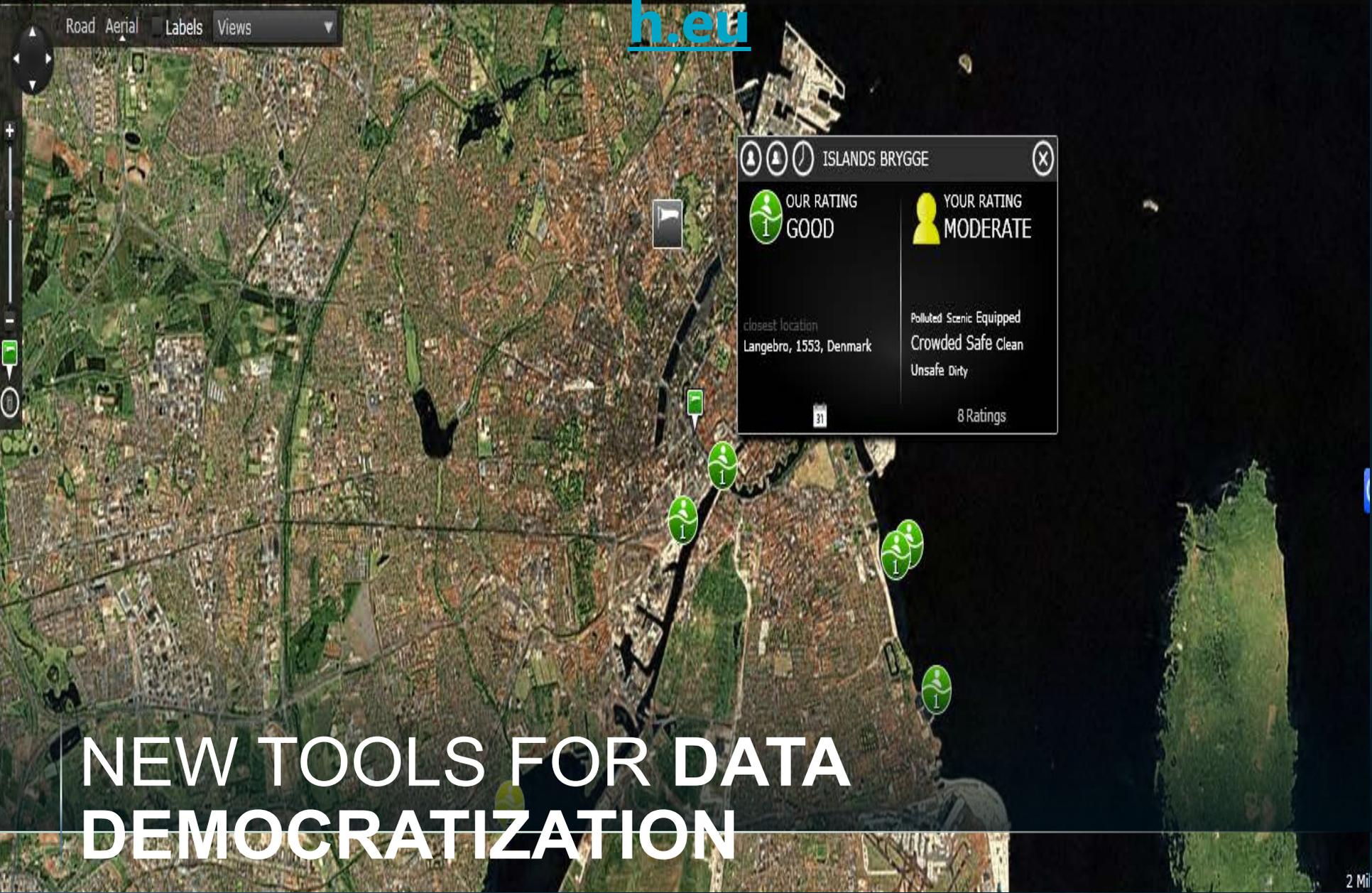
View Reports

System Options

NEW TOOLS FOR AGRICULTURE

150 yds

Road Aerial Labels Views



ISLANDS BRYGGE

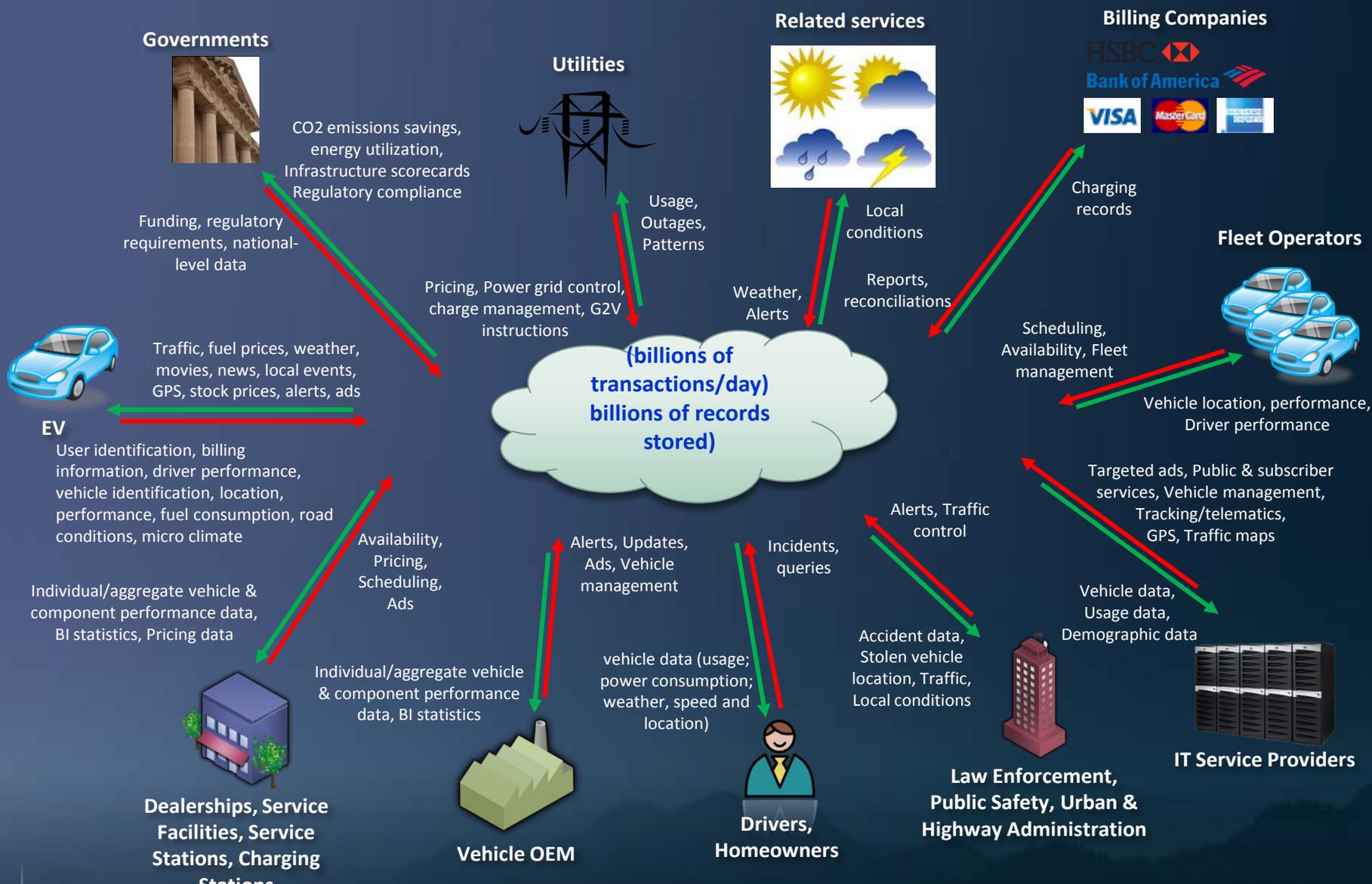
OUR RATING GOOD	YOUR RATING MODERATE
closest location Langebros, 1553, Denmark	<ul style="list-style-type: none"> Polluted Scenic Equipped Crowded Safe Clean Unsafe Dirty
8 Ratings	

NEW TOOLS FOR DATA DEMOCRATIZATION



Concept Only

Intelligent, Adaptive Routing and Traffic



THE CLOUD+ DATA CHANGES EVERYTHING

- 15M sq. ft. / 118 Buildings
- 30k pieces of mechanical equipment
- 7 major bldg mgt systems
- 500 million data points collected per day
- \$1.5M in cost savings in first year

A **LIVING LAB**: Microsoft's Puget Sound Campus

 Fire/life safety	 Security	 Access
 Elevators	 Lighting	 Energy
 24/7 Monitoring	 HVAC	 Comms

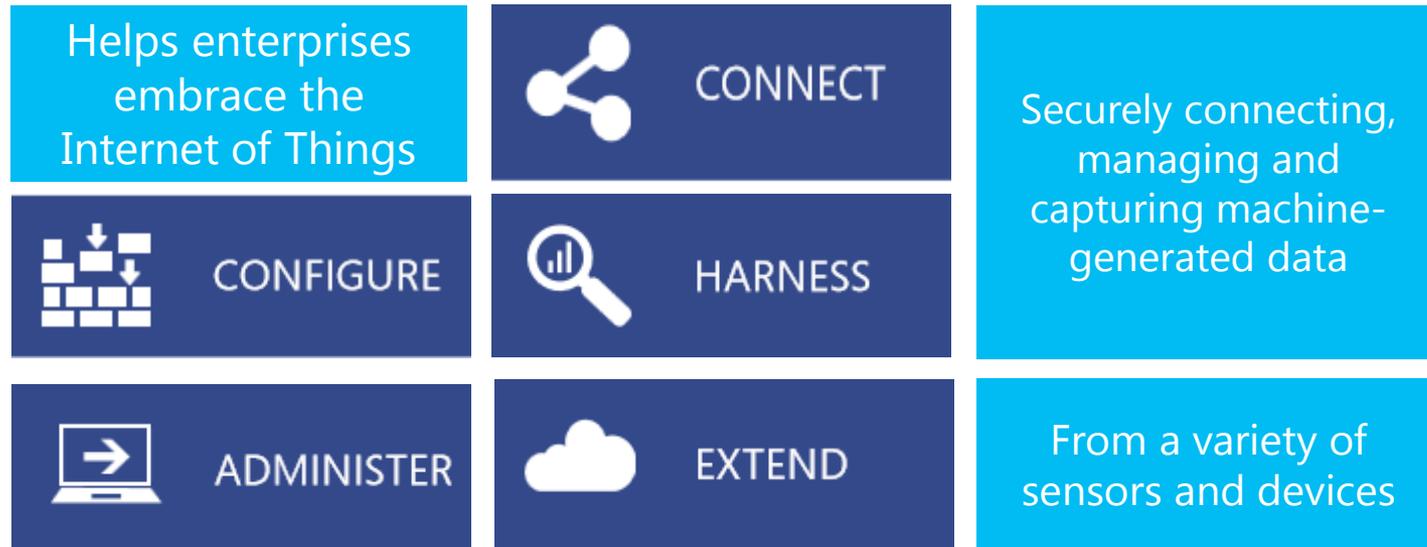
Increase Building Efficiency

- Easier system coordination
- Lower energy consumption
- Reduced cost



Connected **SYSTEMS**

Microsoft Azure Intelligent Systems



Internet of Things (IoT)



Help monitor, automate and manage escalators, lifts and CCTV systems