

How Enterprises are Using IoT Analytics to Drive Competitive Advantage

Daniel D. Gutierrez

Managing Editor

insideBIGDATA

December 8, 2016

insideBIGDATA: Your Source for AI, Machine Learning and Deep Learning



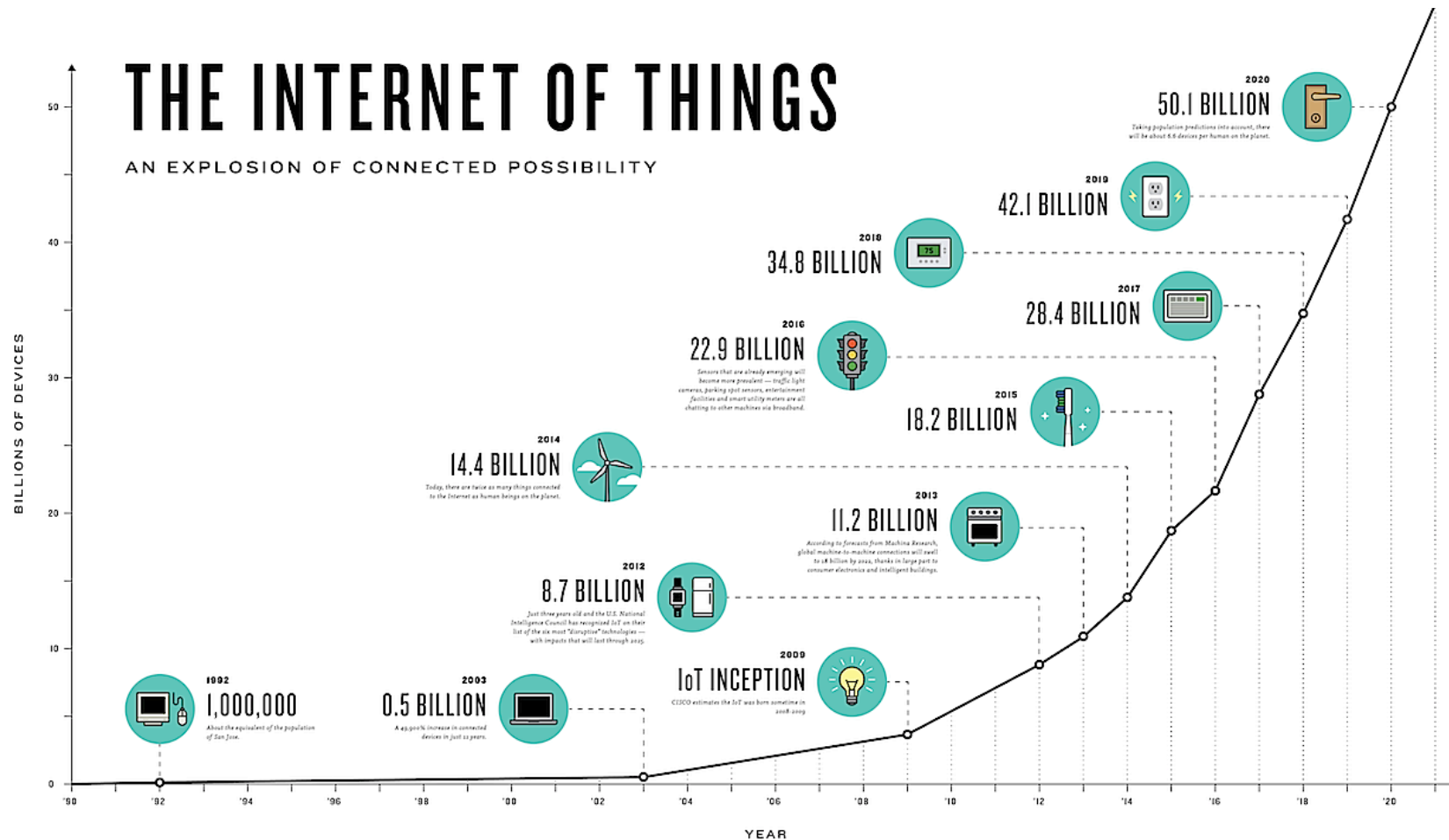
What We'll Cover Today

- Internet of Things (IoT) – an Overview
- IoT Analytics Value Drivers and ROI for the Enterprise
- Challenges of Deploying IoT Analytics
- IoT Analytics Best Practices

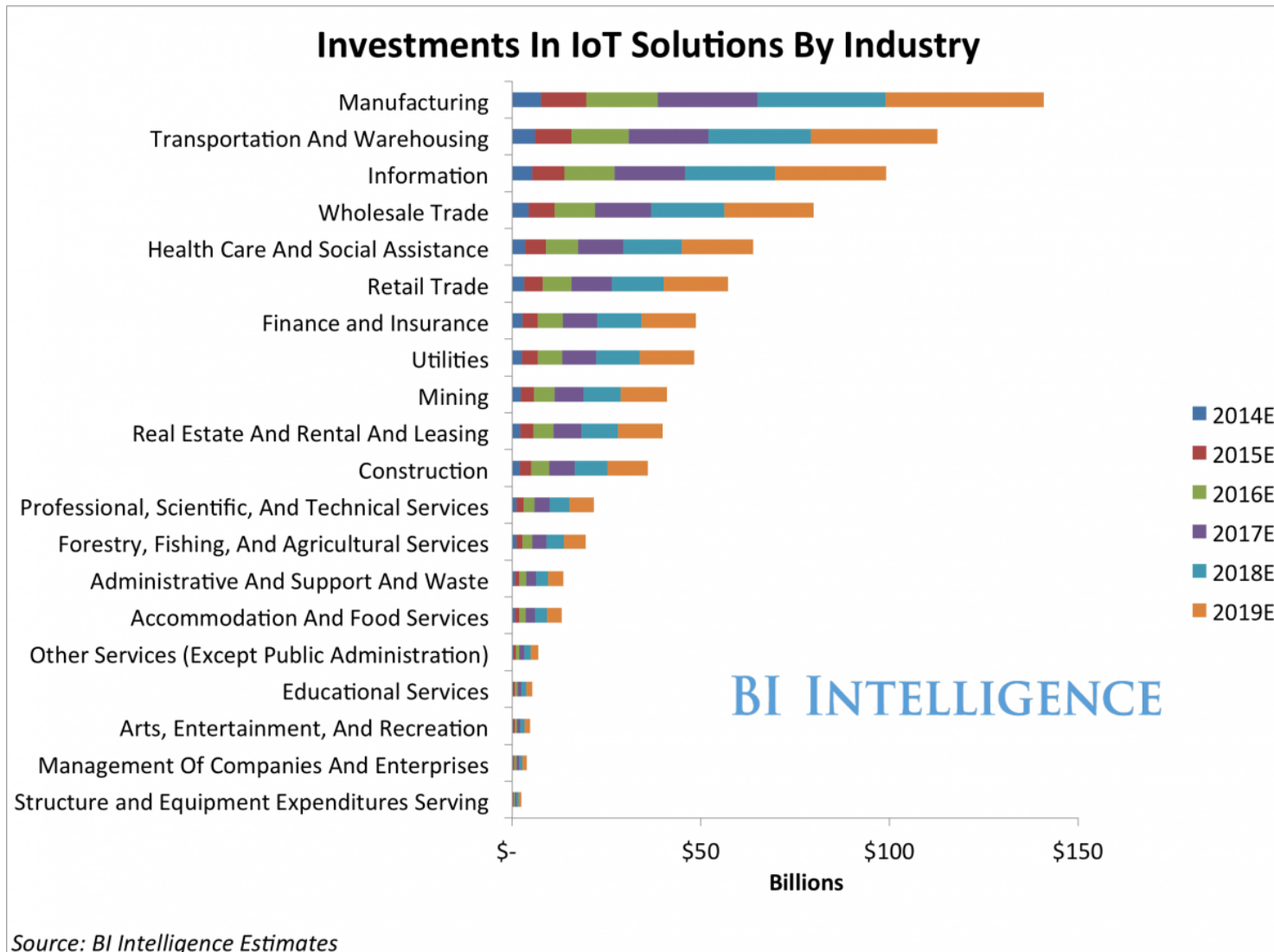
IoT Overview

- IoT is a strongly emerging theme
- Genesis of IoT centered on pivot from single devices to systems of devices
- IoT showing similarity to “big data” early stages
- Marriage of IoT analytics and the cloud
- The rise of IoT analytics

IoT Overview



IoT Overview



IoT Overview

- There are **FOUR TYPES** of analytics needed for IoT
- Descriptive analytics
- Predictive analytics
- Streaming analytics
- Prescriptive analytics

IoT Analytics Value Drivers and ROI for the Enterprise

- Lower operational costs
- Transforming the customer experience by providing better customer service and support
- Streamlined customer acquisition and/or retention
- Business process efficiency & operations optimization and control
- Creation of new revenue streams by encouraging product and/or service improvement and innovation

IoT Analytics Value Drivers - Cleaning Data On-the-Fly

- An unintended value in deploying IoT analytics is performing cleaning on-the-fly
- Bringing data cleaning machinery across to the real-time system is a value creator
- Doing data integration, prep, and cleaning in real-time offers ROI
- Writing back cleaned data to the at-rest database adds value

IoT Analytics Value Drivers - Extending Equipment Life

- ROI in extending equipment life
- Use case: large farm tractor
- Goal: maintain the asset before it fails

IoT Analytics Value Drivers - IoT Paradigm Shift

- Altered business models
- Use case: energy-as-a-service
- Omni-channel customer engagement

Challenges of Deploying IoT Analytics

- In general – policy and technical challenges abound
- Data integration
- Analytics at the edge
- Architectural
- Security
- Perishable data

Challenges of Deploying IoT Analytics - Data Integration

- Issues with big data preparation and integration
- Data lands in data lakes and Hadoop environments
- Pulling sensor data and providing context with data-at-rest
- Determining insights and taking insights to action

Challenges of Deploying IoT Analytics - Analytics at the Edge

- Analytics at the edge – performing analytics at the source
- Also a need for contextual data
- Need to determine time scale

Challenges of Deploying IoT Analytics - Architectural Challenges

- IoT analytics solution doesn't magically appear
- Steep challenges like low latency for edge computing
- There is a challenge to have an execution platform for IoT analytics
- Platform must scale well
- Must handle different time scales

Challenges of Deploying IoT Analytics - IoT Security

- Expanded “attack surface”
- Poorly secured IoT devices and services
- IoT security will become a significant component of security budgets
- Security concerns could add pause to IoT adoption

Challenges of Deploying IoT Analytics - Perishable Data

- Torrents of data from IoT devices demand immediate attention
- Check “perishability” of data
- Knowing which data is perishable
- Reacting quickly enough

IoT Analytics Best Practices

- Deploy early
- Architecture first
- Emphasize growth
- Get close to customers
- Identify pain points
- Align IoT with analytics
- Step up security
- Ensure transparency

Summary

- The opportunities are there
- The benefits exist
- Can you afford not to?
- Digital intelligence

THANK YOU!

- daniel@insidebigdata.com
- www.insidebigdata.com
- www.amuletanalytics.com
- Twitter: @AMULETAnalytics