INTERNET of THINGS

THE NETWORK OF PHYSICAL OBJECTS THAT CONTAIN EMBEDDED TECHNOLOGY TO COMMUNICATE AND INTERACT WITH THEIR INTERNAL STATES IN THE EXTERNAL ENVIRONMENT.

26% CONSUMER
40% BUSINESS
34% INDUSTRIAL

IoT IS ALL ABOUT PROVIDING INSIGHTS

SAMUEL SHEN

TRANSITIONING THE INTERNET OF THINGS TO ‘INTELLIGENCE OF THINGS’

DATA

PUBLIC OR PRIVATE ON-PREMISE

ATTAIN
RETAIN
OBTAIN

EMPOWERMENT

DATA IS TRANSFERRED INTO NEW INSIGHTS THAT CAN BE USED TO CREATE VALUE AND IMPROVE CUSTOMER, EMPLOYEE & PARTNER INTERACTIONS

INFORMATION FLOWS TO YOUR COMPANY’S BACK-END SYSTEMS WHERE IT IS PROCESSED & ANALYSED

PROCESS EFFICIENCY
COST REDUCTION
DEVELOP NEW BUSINESS MODELS

#SKETCHPOST
Transition from Internet of Things to Intelligence of Things

Samuel Shen
COO, Microsoft Asia Pacific R&D Group
The network of physical objects that contain embedded technology to communicate and interact with their internal states or the external environment.

Source: Gartner

<table>
<thead>
<tr>
<th>Industry</th>
<th>Type of Savings</th>
<th>Savings over 15 Years (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy (Coal, nuclear)</td>
<td>1% Improvement in Capital Utilization (Exploration and Development)</td>
<td>$ 80B</td>
</tr>
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</table>
From Internet of Things to Intelligence of Things

01 | Intelligent devices capture data and enable informed decision making at the point of impact.

Consumer
- Home Appliances
- Connected Cars
- Wearable Devices
- Mobile & Tablets

Business
- Financial Services
- Connected Health
- Point-Of-Sales Devices
- Air Freight & Travel

Industrial
- Safety & Monitoring
- Industrial Automation
- Smart Grid
- Resource Automation

02 | Information flows to your company’s back-end systems where it is processed and analyzed.

Device Management
- Data Anonymization
- Channel Management

Schematization
- Data Modeling
- Geo Tagging

Access Policies
- Data Federation
- Industry Standards

03 | Data is transferred into new insights that can be used to create value and improve customer, employee and partner interactions.

Descriptive Analytics
- Predictive Analytics

Supervised Learning
- Unsupervised Learning

Sampling or Tracking
- Scheduling

Patterns Extractions
## Microsoft’s Approach to IoT

### Empowering you to built devices on the network edge...

- **Basic Sensors**
- **Intelligent Devices**

- **Plant Floor Things**
- **Back Office Things**
- **Supply Chain Things**

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### that provide you data...

- **Table Storage**
- **Blob Storage**
- **SQL Databases**
- **DocumentDB**
- **External Storage**

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### that you understand, apply rules, models and more...

- **Event Hubs (Service Bus)**
- **Command and Control**

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### Enable you to your...

- **Predictive Maintenance**
- **Office 365 Power BI**

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### Table: Producers, Event Ingestion, Storage, Transformation, Presentation & action

<table>
<thead>
<tr>
<th>Producers</th>
<th>Event Ingestion</th>
<th>Storage</th>
<th>Transformation</th>
<th>Presentation &amp; action</th>
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<tbody>
<tr>
<td></td>
<td><strong>Event Hubs (Service Bus)</strong></td>
<td><strong>SQL Database</strong></td>
<td><strong>Machine Learning</strong></td>
<td><strong>Azure Websites</strong></td>
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<td><strong>Heterogeneous client agents</strong></td>
<td><strong>Table/Blob Storage</strong></td>
<td><strong>HD Insight</strong></td>
<td><strong>Mobile Services</strong></td>
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<td><strong>Intelligent Systems Service</strong></td>
<td><strong>DocumentDB</strong></td>
<td><strong>Stream Analytics</strong></td>
<td><strong>Power BI</strong></td>
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<tr>
<td></td>
<td><strong>External Data Source</strong></td>
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<td><strong>Cloud Services</strong></td>
<td><strong>External Services</strong></td>
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IoT is all about providing INSIGHTS

Process Efficiency

Cost Reduction

Develop New Business Models