Business models in the Internet of Things

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IoT applications bring a set of benefits

- Increase efficiency
  - End to end supply chain visibility
- Scarce resources
  - Energy Management Systems
- New services
  - Anything as a Service
We find IoT in different environments

SMART HOMES
- Smart meters
- Home security
- Ambient devices
- Media hub
- Home networks
- Building monitoring
- Communications

INDUSTRIAL IOT
- Digital consumer engagement
- Asset tracking
- Smart inventory
- Industrial automation
- Smart energy
- Precision agriculture

FUTURE CITIES
- Intelligent transport
- Smart buildings
- Smart Emergency services
- Smart energy grids
- Telehealth/care
- Sustainability

CONNECTED CAR
- Smart navigation
- Telematics
- Entertainment
- Roadside assistance
- Internet
- Fleet management
- Communications
## Complex value chain

<table>
<thead>
<tr>
<th>Services</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managed Services</td>
<td>• Manage service on an operational basis including network monitoring, assurance, billing, trouble-ticketing etc.</td>
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<tr>
<td>System Integration</td>
<td>• Integrate technology (HW, SW) with business processes to deliver a solution for a particular customer</td>
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<tr>
<td>Application</td>
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<tr>
<td>Application &amp; Analytics</td>
<td>• Develop and maintain software that uses the underlying sensor data to achieve some end</td>
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<tr>
<td>Data</td>
<td></td>
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<tr>
<td>Data broker</td>
<td>• Aggregate and expose data from multiple sources in a consistent, secure, developer-friendly environment with policy control</td>
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<tr>
<td>Storage &amp; Infrastructure</td>
<td>• Provide data centre and server infrastructure upon which application and data brokerage occurs</td>
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<tr>
<td>Connectivity</td>
<td></td>
</tr>
<tr>
<td>Network</td>
<td>• Provide access and core network connectivity including both fixed and wireless elements (e.g. Radio, 3G, 4G, Wi-Fi, RFID, DSL, fibre)</td>
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<tr>
<td>Connectivity platform</td>
<td>• Develop and maintain platform that integrates the sensor with network</td>
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<tr>
<td>Devices</td>
<td></td>
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<tr>
<td>Sensor / SIMs / Chipset</td>
<td>• Design and manufacture of sensor equipment / SIMs / chipsets</td>
</tr>
<tr>
<td>Machines</td>
<td>• Base hardware or terminal to which intelligence is embedded</td>
</tr>
</tbody>
</table>
You can’t make it alone

BT Trace - Retail case study

Smart inventory
- RFID tags
- RFID readers
- WiFi
- Real time analytics
- Data Visualization
- Integration in existing systems
Value is not evenly distributed

The table above provides an illustration of the overall market; however B2C and B2B applications have different profiles in terms of revenue distribution and margins.

- Professional and Managed services are more relevant to B2B than to B2C applications
- Devices and sensors % can be skewed for applications using high numbers of sensors (e.g. Energy management systems with thousands of sensors per building)

Sources: OVUM, BCG, Ovum, Machina, Enders Analysis UK mobile markets, comparable companies annual reports, BT Global services
B2B2C models: The rise of Smart Home platforms

Connected Devices
- Smart meters
- Movement sensors
- Door lock
- Smoke detectors
- Thermostat
- Appliances
- TV, tablet, mobiles

Applications
- Smart energy
- Home security
- Media hub
- Home automation
Different models for the connected car

- **OEM maintenance**
  - Car manufacturers can apply Big Data analytics in predictive maintenance, analysis of guarantees, product optimisation

- **Fleet management**
  - Driving assistance applications can help drivers (and fleets) reduce gas consumption

- **Insurance**
  - Car insurance companies can introduce new propositions: “pay as you drive”
Smart cities bring additional structural and commercial challenges.
Thank You

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