Business Strategy – Best Practices for the IIoT

3 June, 2016
Who am I?

- Co-Chair Business Strategy and Solution Lifecycle (BSSL) Working Group
- Chair Business Strategy Task Group
- Founder and Chief Research Officer, Machina Research

I’ll be presenting some of the emerging thinking from the Business Strategy TG and BSSL WG
The numbers are huge ...

1% savings from efficient Industrial Internet solutions could save billions in operational costs

- **$30B** fuel cost saving in aviation industry
- **$66B** fuel cost saving in gas powered fleets
- **$63B** productivity improvement in healthcare
- **$90B** reduction in Cap X in oil & gas exploration and development
- **$27B** productivity improvement in rail industry

*Projected savings are based on 1% efficiencies/savings

Source: Industrial Internet: Pushing the Boundaries (2012, Evans & Annuzziata)
The IIoT will be transformational

Sealed Air

Getinge Online

Gerbercutter Z7

Big Belly Solar CLEAN

Irrigation in Spain

Helsinki City Transport

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But most businesses are cautious

• Uncertainty reigns …
  • What does IIoT mean?
  • Why is IIoT different from competitive dynamics of the past?
  • How to define IIoT business strategies?
• … but it’s clear that change is in the air …
  • Businesses are beginning to recognize that the competitive landscape is changing
  • It is clear that collaboration and the mastery of new skills will be essential to survival
• … although slower developing consumer markets mask the faster adoption of IoT concepts by enterprise
IIoT is where two worlds collide

<table>
<thead>
<tr>
<th>“Machine Camp”</th>
<th>“Internet Camp”</th>
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<tbody>
<tr>
<td>“Brown field”</td>
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<td>Strong company heritage, risk aversion</td>
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<td>Corporate career is the norm</td>
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<tr>
<td>Domains: Physics, engineering</td>
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<td>“Think big”</td>
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<td>Waterfall approach</td>
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<td>Standards like DIN/ISO</td>
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<td>Long QA &amp; release cycles (“defect free”)</td>
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<td>Long lead times</td>
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<td>“Green field”</td>
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<td>High-risk, VC-driven culture</td>
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<td>Entrepreneurial management and employees</td>
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<td>Domains: IT, services</td>
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<td>Focus on point solutions/MVP</td>
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<td>Agile approach</td>
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<td>Open source</td>
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<td>Perpetual beta (“fast patches”)</td>
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Source: www.enterprise-iot.org

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IT and OT will become more closely aligned

**OT Focus**
- Efficiency
- Utilization
- Consistency
- Continuity
- Safety

**IT Focus**
- Agility
- Cost reduction
- Security
- Speed
- Business Insight

**Impacts:**
- Data
- Analytics
- Interconnect
- Control
- Interaction
- Insight

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IIoT is not an option ...

- Creating new revenue streams
- Reducing costs and increasing efficiency
- Extending customer relationships and improving customer service
- Improving product design and management
- Improving decision making processes
- Supporting better product and service quality
- Improving asset management
- Enhancing environmental considerations
- Improving health and safety

... IIoT is the next technology wave: a necessity to compete
About the Business Strategy Task Group

- Identify and analyze all of the key issues that an enterprise will need to address to fully exploit Industrial IoT concepts for commercial (or other) gain
- ‘De-risking’ any decision to deploy IIoT technologies, so accelerating adoption
IIoT Strategy: a necessary set of guiding principles

• Setting out a vision
• Are the motivations for engaging in IIoT purely economic?
• What is the overall market and competitive environment?
• How is it likely to change in coming years?
• How to work with partners and the overall ecosystem?
• Identify capability gaps
• Frameworks for tracking IIoT projects
• Assigning a budget
• Considering organisational changes – a CIoTO?
Business model innovation should be guided by mission.

Production optimization ideas
• Structured approach
• Ideas derived from context
• Classical BPM

New IIoT Business Opportunities
• Open process
• Ideas from employees, customers ...
• Creative techniques

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The challenge is “where to start?”

Opportunity identification
*Selection and prioritization*

IoT application roadmap
*(enterprise portfolio optimization)*

new opportunities emerge

reassessments

Source: Machina Research
IIoT business model development must be iterative

Source: Bilgeri et al, 2015
Deploying IIoT solutions requires new skills

- Internal project setup
  - Required time to market?
  - Internal execution capabilities?
  - Hardware and software specialists available in house?
- Hardware and software both constrain project structure
- Inorganic techniques
- Partnering is a key concept
  - Companies that already work closely together
  - Addressing a capability shortfall
  - Improved information flows may increase efficiency and transparency
An IIoT Centre of Excellence can be very beneficial

- IIoT Platforms
  - Including the overall supporting technical infrastructure that exists within an enterprise to support IIoT projects

- Change management
  - IIoT projects often imply significant change to working practices that have been established over decades

- IIoT Consulting
  - IIoT concepts are sufficiently new, and sufficiently different from ‘business as usual’ that it can often be beneficial to establish a wider consulting capability

- IIoT Benchmarking:
  - Seek to identify best practices within the industry, and assess the overall maturity of IIoT concepts
Thanks for listening

Please see the Business Strategy and Solution Lifecycle (BSSL) article in the IIC’s Journal of Innovation for further information (December 2015).