Build to Order; Making it Happen
11th February 2009

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School of Management
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Agenda

• The ILIPT approach
  • Current markets
  • The Triple Bottom Line
  • Future challenge
ILIPT provides a holistic Build to Order solution

<table>
<thead>
<tr>
<th>Modular Product</th>
<th>Interoperable Networks</th>
<th>Modelled &amp; Validated</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Modular Product" /></td>
<td><img src="image2" alt="Interoperable Networks" /></td>
<td><img src="image3" alt="Modelled &amp; Validated" /></td>
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Simulation of the BTO concepts showed the approach works.

Note: ILIPT conditions include 15 OEM plants in Europe; BTO & BTS suppliers based on ILIPT distances and product varieties; VOB and information transparency implemented.
A Transition Framework was developed

EU ILIPT Project

- Research
- Opportunity Recognition
- Dissemination Demonstration Validation
- Localised Testing
- Formalisation
- Enterprise adoption
- Scale Change

Industry Take-up Supported by experts

BTO Enhanced Production Network

ILIPT Project Finishes

Traditional Automotive Mass Production

10/09/10
We understand how to implement change

**NEED PUSH**

- Antecedents to adoption
- Overcoming strategic context difficulties
- Securing commitment
- Building acceptance and routine
- Retentive capacity

**NEED PULL**

- Inter-organisational relationships
- Modelling
- Regulation
- Need
- Crisis
- Problem

Adoption Decision

- Planning Strategic Change
- Nurturing a fertile organisational context
- Maintaining focus and flexibility

Set-Up (Adaptation) → Implementation → Ramp-Up → Integration Use

Denial

Organisational Learning Curve

Commitment

Resistance

Exploration

Source: ADOPTION OF PROMISING PRACTICE, Advanced Institute of Management (AIM) Research, February 2004
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OEM stock levels are rising

$10s bn’s capital employed held as stock

<table>
<thead>
<tr>
<th>OEM</th>
<th>April 2008 Days (# cars)</th>
<th>January 2009 Days (# cars)</th>
<th>Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>GM</td>
<td>80 (408,300)</td>
<td>197 (1,005,439)</td>
<td>146</td>
</tr>
<tr>
<td>Honda US</td>
<td>60 (322,000)</td>
<td>100 (536,667)</td>
<td>67</td>
</tr>
<tr>
<td>Toyota</td>
<td>50 (417,500)</td>
<td>94 (784,900)</td>
<td>88</td>
</tr>
<tr>
<td>BMW</td>
<td>34 (36,000)</td>
<td>57 (60,353)</td>
<td>68</td>
</tr>
</tbody>
</table>
Ford makes worst loss in its history

Carmaker loses nearly £15bn in a year, but says it doesn’t need a government handout to survive

Toyota to stop February production

The dismal state of the global auto industry announced it is going to go on strike in February and March.

By Julian Ryall in Tokyo

Last Updated: 2:19PM

Japan’s largest automaker is ready to cut its sales targets after high-end Lexus plunged last month.

Toyota’s situation mirrors that of Automobile Dealers’ Association, with vehicles fell to a 34-year low.

The job losses, which will reduce the factory’s 3,800 manufacturing workers by almost a third, are the most striking cut yet by any UK carmaking site in response to the downturn.

The Society of Motor Traders and Manufacturers seized on the announcement to ratchet up pressure on ministers to shore up the beleaguered industry, saying swift action was vital to limit damage and ensure the UK retained its position as a leading motor exporter.

Nissan to shed 1,200 workers at Sunderland plant

By Chris Tighe, North East Correspondent

Nissan’s Sunderland car plant on Thursday paid the price for a slide in global demand when the company announced it was to cut 1,200 manufacturing jobs, dealing a sharp blow to the north-east’s economy.

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Many of its problems are of its own making and could be eased by adopting BTO

- **Overcapacity**
  - estimates up to 21M production capacity in Europe
  - at the peak of 2007 all vehicle manufacture accounted for 19.7M

- **Current process are forecast or push based**
  - Sales staff become the highest paid

- **Large European stocks**
  - 18.5million car produced in 2008, but only 14million sold
  - This was at the ‘peak’ of financial markets
  - September 2008 saw a 20% reduction in sales

- **Large pension liabilities**
  - These companies must be supported

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Is the provision of government money a long term solution?
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Industry Executive Perspective

• What do industry experts have to say?
• 55 executives from top automotive OEMs, suppliers and service providers
Is Build to Order a solution?

- Is BTO the most promising opportunity for the European automotive industry?

- There is already a strong belief in BTO by executives

No 37%
Yes 63%
How difficult is the change?

• To what extent is it possible to build BTO cars today?

• There is a belief BTO is possible, but significant change is required
Transformation is required – this is more than an ordinary change

**Output performance**

1. More
   - Financial
     - Cash flow
     - ROCE
     - Revenues
     - Profits
     - ...
   - Operational Service
     - Quality
     - Safety
     - Customer satisfaction
     - ...
   - Organisational (health)
     - Alignment
     - Renewal
     - Execution
     - ...

2. Faster

3. Sustained continuous improvement

“Transformation is a conscious and sustainable transition to a significantly higher level of business performance and organizational health, based on a fundamental shift in underlying capabilities, systems and processes”
The ILIPT transformation provides a sustainable future

- **Economic impact**
  - Removes stocks throughout supply chain
  - Free’s $bn’s of cash
  - Improves return on capital employed

- **Environmental impact (low CO2)**
  - Car and components only made to confirmed order
  - BTO suppliers near OEM so shorter logistics
  - Shorter supply chains & building only to order lowers emissions

- **Societal impact**
  - Manufacturers located close to customer
  - Employment and investment remains within EU

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The Triple Bottom Line
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Conclusions

• There is a clear need for change
• Over capacity and pension liabilities will not ‘go away’
• Build to Order delivers the Triple Bottom Line bringing financial, environmental and societal benefits
• ILIPT provides a validated sustainable future solution for the car industry in Europe

Will you lead the change?
• A detailed account of the requirements for a 5-day car is presented in the BTO book

• 28 authors from 12 different ILIPT partner organisations from across Europe

• ISBN 978-1-84800-224-1