63rd ARGE ANNUAL CONFERENCE
Stratford-upon-Avon
10th – 11th September

ARGE EPD Project
Roll out plans – Why EPD?
Developers Look for Green Buildings

71% of interviewed decision makers:
"In future green certification is pre-requisite for profitable marketing of buildings."

Drees & Sommer, Interviews with investors
Certified Green Building Space

Fast growth rates in certified building space
New Legal Requirements


- All new buildings must be nearly **zero energy** by 2020
- EU countries must set minimum **energy performance requirements**
- National **financial measures** to improve energy efficiency of buildings

European Commission

- Harmonised products to ensure consistent sustainability
- Construction Products Regulation will make adoption of **harmonised standards mandatory**
- **Environmental Product Declarations** will be the measure

European Directives drive national legislation
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Developments within the UK hardware industry
Paul Browne, Business Development Director, ASSA ABLOY UK
and ARGE Executive Board member
THE ELECTRO-MECHANICAL REVOLUTION
Technology is Evolving
Impact of New Technologies

✓ RFID
✓ Mobile Internet and the Internet of Things (IoT)
✓ Smart phones/watches
✓ Cloud computing
✓ Wifi
✓ BLE/NFC
✓ Connectivity/convergence
✓ Energy harvesting
✓ Micro electronics/miniaturation
Manufacturers Are Shifting To Elmech

- 2004:
  - SEK 26bn
  - 27% Elmech
  - 53% Mechanical

- 2014:
  - SEK 57bn
  - 50% Elmech
  - 20% Doors
  - 30% Mechanical
New Credentials – NFC, BLE...What Else?
Market Issue

• Many product standards to comply with:
  - EN14846 (electromechanical locks and strikes)
  - EN15684 (e-cylinders)
  - EN16867 (electronic escutcheons)
  - EN16846 (electromechanical padlocks)
• Rate of change of technology is accelerating – need to ensure that standards keep up
• Low cost market entrants, questionable performance/safety

ARGE Role:

• Work with national associations to develop product standards
• Lobby CEN/European Commission to address undue delays in standards publication
• Promote adoption of CPR and standards at EU level to counter unregulated low cost competition
THE TECHNOLOGY REVOLUTION
The Millennials

- Born between 1980-2000
- By 2020 will form 50% of global workforce
- Social media generation
- 41% communicate electronically
- Work/life balance critical
- Used to being connected, collaborative and mobile

They connect with one of these....
<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2010</th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Population</td>
<td>6.3 billion</td>
<td>6.8 billion</td>
<td>7.2 billion</td>
<td>7.6 billion</td>
</tr>
<tr>
<td>Connected Devices</td>
<td>500 million</td>
<td>12.5 billion</td>
<td>25 billion</td>
<td>50 billion</td>
</tr>
</tbody>
</table>

Smart phones are the "core"
Mobile Internet and Internet of Things

New devices appearing constantly!
The Way We Lock is Changing

Your car & your office

Why not your home?
The “Smart” Home Is Here

Yale Future Smart Home Security
Complete plug & play digital security solution
Security in the Smart Home

“I would really value the security and safety features a smart home could offer”

Source: Joseph Rowntree Foundation

60% of the 7.9m smart homes in the US have connected security systems

Source: Acquity 2014

25% of consumers expect to purchase a connected security system within 5 yrs
Smart Home Penetration - UK

Source: Strategy Analytics 2014
Share of Smart Home Market

2014
- Security: 50%
- Lighting: 29%
- Energy Management: 6%
- Entertainment: 9%
- Heating, ventilating, air conditioning: 5%

2020
- Security: 26%
- Lighting: 7%
- Energy Management: 7%
- Entertainment: 4%
- Heating, ventilating, air conditioning: 56%

Source: EU Samsung product innovation team research 2015

Security is at the “heart” of the Smart Home
Our Market Landscape Will Change

Need to embrace change or miss out

€5 billion
2014

€26 billion
by 2019
Market Issue

- Growth of the “connected home” will drive demand for “connected” locks
- The residential lock market will step change in terms of technology and value
- New product standard EN16867 yet to be published
- Potential for powerful, global new market entrants
- As market grows potential to pull in low cost, poor quality products
- New routes to market will be created

ARGE Role:

- Work with national associations to develop product standards as technology evolves
- Help address any undue delays to EN16867
- Promote adoption of standards at EU level to counter unregulated low cost competition
BUILDING INFORMATION MODELLING (BIM)
What is Building Information Modelling?

- Data about all the building components and systems
- Shared across all stakeholders
- Maintained across the life of the building

BIM encompasses building whole life...
What are the Benefits of BIM?

BIM aims to reduce whole life costs and time to build

- Better design
- Better information and cost estimation
- Savings in materials and time
- Better building performance
- Sustainability

EPD will measure sustainability...
Specification is Changing
BIM technology creates new opportunities

For manufacturers BIM opens new routes to product selection
BIM Adoption Around the World

BIM adoption by construction professionals

Govts in Netherlands, Finland, Denmark and Norway require BIM

BIM adoption by contractors
BIM Adoption in the UK

EPD Opportunity
- BIM uses standardised product data
- I.e. standardised product LCA data
- EN 15804 compliant EPD data will be used

UK Govt mandates use of BIM for centrally funded projects by April 2016
UK Government and BIM

Govt 2025 construction targets*

- 33% Reduction in build costs and whole life cost
- 50% Reduction in build time
- 50% Reduction in environmental impact
- 50% Reduction in trade gap for construction materials

BIM mandated for centrally funded govt projects from 2016

Govt aim is to make the UK a world leader in BIM

....BIM adoption integral to achieving these targets

* UK Government 2025 Construction Strategy
**Market Issue**

- Sustainability in buildings increasingly required
- Adoption of BIM will increase the demand for product EPD
- European govts increasingly require BIM and EPD for centrally funded projects
- Harmonised product standards will require EPD

**ARGE Role:**

- Deliver the 14 “generic” EPD to member associations
- Help promote awareness of ARGE EPD at governmental level
- Promote adoption of EPD agenda through TC 350
THE CYLINDER ATTACK THREAT
Lock Cylinders are Inherently Weak

- Picking?
- Bumping?
- Snapping?
- Drilling?
- Key Copies?

Real security weakness
Perceived security weakness

A growing problem for many EU countries
Cylinder Snapping Happens in Many EU Countries

German Cylinder Attack Statistic

- **Non Destructive Methods**
  - 10% Key Copies
  - 2% Drilling
  - 2% Pulling
  - 2% Picking
  - 4% Other Non-Destructive

- **Destructive Methods**
  - 8% Snapping
  - 4% Bumping
  - 8% Key Copies (legal/illigal)

**Snapping accounts for 70% cylinder attacks**
Why is Snapping So Successful?

- **Fast** (than drilling etc.)
- **Silent** (in comparison to drilling and braking door itself)
- **Cheap** tools
- **Low knowledge/skills** needed
- **Most popular destructive attack method**
National Associations Can Address Snapping

400 crime incidents p/week

No effective standard

We worked with industry...

...and created a national standard

Burglaries in East Leeds

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Burglaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>8,900</td>
</tr>
<tr>
<td>2011</td>
<td>5,700</td>
</tr>
</tbody>
</table>

-36% Massive reduction in snapping

Influencers adopted it

We promoted it!
Market Issue

• Cylinder snapping attacks are increasing throughout Europe
• No European standard exists to address this form of attack

ARGE Role:

• Co-ordinate the development of a “pan-european” anti-snap standard
• Support the standard publication process
• Help promote awareness of snapping at governmental level (and the need for counter-measures)
• Promote adoption of the new anti-snap standard
CONCLUSIONS
There are 2 things that we know.....

Change will happen faster
Competition will be harder

Change creates opportunities

ARGE #1 Focus:

"To establish a common view on how a Pan European Trade Association may use its strength to increase the profitable sales of hardware manufacturing companies who are members of their national association."

...and a strong ARGE agenda can help access these opportunities
What Next for ARGE’s Agenda?

- Develop our sustainability programme?
- Electromechanical revolution?
- “Smart” home revolution?
- New attack methods?
- Anything else?
THANK YOU