The Value of Tagging in Building Automation in Europe

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Europe – more people, less space and older

- Population
- Land area
- Age of buildings
  - Many more older buildings in Europe

<table>
<thead>
<tr>
<th>Region</th>
<th>Population</th>
<th>Land Area</th>
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<tbody>
<tr>
<td>Europe</td>
<td>743M people</td>
<td>4.5M sq miles</td>
</tr>
<tr>
<td>North America</td>
<td>367M people</td>
<td>10M sq miles</td>
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</table>
• 27 countries in the European Union

• 44 countries in all of Europe
24 official languages just in the EU

90+ languages across Europe

250+ including dialects
Europe is not Europe, it’s diverse

- Markets are different
  - varying climates
  - many different traditional ways of working
  - different specification and tendering processes
  - different rates of BIM adoption
  - many automation and other systems manufacturers
Buildings are different from US market

Most buildings are smaller

Buildings are less standardized

Zone control mostly FCUs, also chilled ceilings

Offices with integrated room control – lights, blinds and HVAC

Hotels and other verticals have higher spec controls

More emphasis on energy efficiency and lighting control

Retrofit is more important then ever
Installed base drives Haystack need

- **Many different vendor systems**: Europe with incredible diversity in its installed based, hundreds of different open and proprietary protocols.

- **Cloud applications on the rise**: Optimize particularly installed base with latest software in energy mgmt, maintenance, smart space. Retrofit is king.

- **Need for IoT and multi-site integration**: Haystack to overcome the deficits of traditional protocols for IoT and enterprise.
Multi-Discipline on the rise in many EU countries: Requirement to integrate disciplines is increasing heavily

No common language: Attempts of existing discipline centric protocols to open for other disciplines in many ways failed

Haystack can be the answer: More abstract discipline agnostic integration through tagging enough for most use cases
So many players and standards

- Many different standards
- New trends evolving: Cloud, IoT, multi-discipline
- Consolidation and evolution is essential:
  Haystack can be at the forefront, also in Europe
Several levers to move Haystack forward

i. Manufacturers need to start driving the standard into EU

ii. Important to work with existing open standards

iii. Haystack needs to make it even more transparent for Europeans how the standard is evolving

iv. Standard needs to integrate European specifics
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Haystack in Europe

• KNX Alliance
  – mostly lighting control, but also HVAC, shading and door access
Haystack in Europe

• DALI Digital Illumination Interface Alliance
  www.digitalilluminationinterface.org/dali/
  – 24 regular members + 123 associate members
  – Specifically focused on lighting control
Haystack in Europe

• **Meter-Bus wired and wireless**
  - specifically for gas and electricity and heat metering

• **DLMS – smart metering focused**
  - [www.dlms.com/dlms-cosem/international-standardization](http://www.dlms.com/dlms-cosem/international-standardization)

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**DLMS UA KEY FIGURES**

- 300+ Members
- 60+ Countries
- 1,000+ Certified meter types

SEE THE LIST OF OUR MEMBERS ➔
Haystack in Europe

• LoRa Alliance
  – over 500 members spread across multiple verticals
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Questions?