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## WP3

### Housing: a challenging case for sustainable standards

#### Acceptable payback period for energy efficient design



The fragmentation of housing development across the EU and the absence of interoperable standards are the starting point for work package 3, Innovative sustainable housing using sustainable standards.

“Sustainable innovation in products, processes and services in housing is not at present encouraged across the different geographic markets,” explains Pekka Huovila, VTT, Finland, who leads WP3.

“Differences in national building regulations hinder international trade and competition – and housing developers are usually more concerned with land prices than with the long-term performance of their buildings,” confirms Christopher Groome, who is joint leader of WP5.

#### Examples of good practice

The first task within WP3 was therefore to identify good-practice examples of innovative sustainable housing. “We defined sustainability as the responsible supply, operation and maintenance of buildings that meet the needs of owners and users over their lifespan,” says Pekka. “It entails minimal unfavourable environmental impacts while encouraging economic, social and cultural progress.” Standards in this context also included guidelines, codes of practice and R&D projects.

“We focused on individual buildings in housing, rather than on whole neighbourhoods,” continues Pekka. “Most of the examples deal with new construction, but the picture was balanced with examples of refurbishment.”

#### Energy and sustainable housing

Energy plays a major role in sustainable housing. “We found a diverse range of good approaches in different parts of Europe, meeting local needs. The STAND-INN consortium has provided European examples from Austria, Finland, France, Norway, Portugal, Spain and the UK. There is also an example drawn from China.”

The research done in WP3 shows that improving environmental sustainability – for example through lower energy costs for heating – is often associated with better performance. Energy savings of up to 70% could be achieved through sustainable design and construction. And even though the construction costs were higher, there was a relatively short payback time of around five to seven years, depending on future energy price scenarios.

“This exciting finding confirms what many of us already believed,” says Pekka.

#### Standards used in the research

Standards in the examples studied covered energy and materials standards and recommendations, national environmental ratings systems, ISO 15686 (the standard for life-cycle costing) and guidelines for interiors (thermal, acoustic and air-quality conditions). International standards often provide a useful framework that can be adapted nationally to meet local requirements.

The case studies of good practice can be viewed via the STAND-INN eRoom for project participants and will also be made available as part of the documentation arising from the STAND-INN project.

With the first task in WP3 now largely complete, work is moving on to the next steps of analysing the use of IFCs in the good-practice examples and exploring how far an International Framework for Dictionaries could be applied.

Contact: Pekka Huovila (pekka.huovila@vtt.fi)

## Editorial

In our second newsletter, we look at progress in STAND-INN’s work packages. We lead with an article on sustainable housing, where a range of good-practice case studies has been assembled. Elsewhere, the WPs are moving forward with a questionnaire survey and a draft report on the value chain. All this research is a pre-requisite to the guidance and recommendations that will be forged later in the project.

Svein Erik Haagenrud  
Project manager

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## Diary dates 2007

18 April BuildingSMART conference, London

19 April BuildingSMART briefing, London

7–8 May EUREKAbuild!, Oslo

9 May Development of data standards for service planning, Cape Town

21 June BuildingSMART UK Summer Event, London

27 June Urban sustainability, Glasgow



Refurbishment of social housing in Grenoble, France, uses glazed south-facing balconies to capture solar heat

## WP1 – Defining the value chain



How do procurement routes and value chains differ across Europe? Once we have an accurate understanding of national differences, we can start to define a scenario for business processes, interoperable data and sustainable development. A report is now in draft form (available via the eRoom for project participants) and the final version – one of the significant deliverables of STAND-INN – will subsequently be made available to the public on the website.

Contact: Ole Jørgen Karud ([ole.jorgen.karud@sintef.no](mailto:ole.jorgen.karud@sintef.no))

## WP6 – Handbook on standards and innovation



Part of the long-term legacy of STAND-INN will be a handbook bringing together the research done in the areas of business process, building products and services, sustainable housing and public procurement. The handbook is intended to foster the adoption of innovative business processes and open standards in construction. Examples of best practice will be showcased and the handbook will take a strongly visual approach.

Contact: Celson Lima ([clima@uninova.pt](mailto:clima@uninova.pt))

## WP7 – Questionnaire sent out to project members



The first task of WP7 is to determine how far government departments and agencies are supporting the use of standards on the provision and communication of environmental/sustainability information. What, in short, is the public sector actually doing about standards?

A questionnaire has been distributed to STAND-INN project partners to identify, in particular, areas where standards may be available but not used. Once the key standards have been identified, STAND-INN can promote their application among government bodies and agencies across Europe by showing the technical, operational and financial benefits they bring.

Completed questionnaires, available on the eRoom for project participants under WP7, should be returned to Jeffrey Wix ([jdw@aec3.com](mailto:jdw@aec3.com))

## WP5 – Awareness and dissemination



The first issue of this newsletter was circulated to around 9,000 people and was also posted on the BuildingSMART/IAI website. STAND-INN was covered in the monthly newsletter of the International Council for Construction Research and Innovation (CIB). The programme for the BuildingSMART conference on 18 April has been finalised. Register on [www.buildingsmart.org.uk](http://www.buildingsmart.org.uk).

### And in brief...

#### WP4 – Public procurement



An analysis of good practice in the use of standards in public procurement is being carried out. The analysis is based on interviews with representatives of public authorities who are engaged in building procurement. An analysis of barriers to uptake is also being prepared. Contact: Juan Perez ([juan@labein.es](mailto:juan@labein.es))

#### WP2 – Building products and services



An exercise to map international and European standards is now largely complete.

Contact: Wolfram Trinius ([trinius@trinius.de](mailto:trinius@trinius.de))

**In the next issue...**  
**case studies of good practice in detail**

### Work packages ... at a glance

STAND-INN is producing analysis and guidelines on innovation in:

1. Integrating IFC-based building standards into business processes
2. Building products and services
3. Sustainable housing
4. Standards in public procurement
5. Awareness, dissemination, feedback and exploitation
6. Handbook
7. Policy recommendations on standards and innovation

### What we mean by ...

#### Industry Foundation Classes

(IFCs): Open standards which allow rich and complex information to be exchanged.

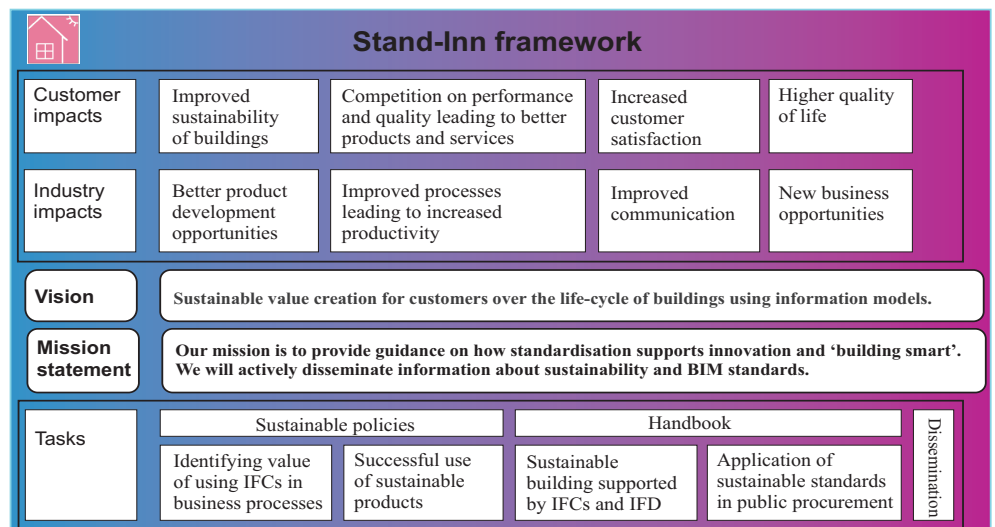
#### Building Information Model

(BIM): a model created centre stage of a building project where all information about the project can be shared through common standards.

#### Information Delivery Manual

(IDM): A manual which defines the processes and information requirements within the project life-cycle, specifies the IFC capabilities required and identifies what each participant must supply.

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The vision and mission of STAND-INN are closely linked, aiming to create sustainable value in buildings. STAND-INN provides information about the central role of Building Information Models, encourages uptake of BIM standards and works to bring about improvements in business process. The project is expected to have a strong impact on the customer and industry communities, with recommendations on sustainable policies and a practical handbook.

**STAND-INN is a two-year project, sponsored by the EU, within the INNOVA programme**