BUSINESS PLAN
CEN/TC 247
BUILDING AUTOMATION AND TECHNICAL BUILDING MANAGEMENT

EXECUTIVE SUMMARY

Business Environment
- CEN/TC 247 is responsible for the standardization of Building Automation and Controls (BAC) and Building Management (BM) including Open Data Communication for residential and non-residential buildings. These standards include the definitions, requirements, functionality and test methods of building automation products and systems for automatic control of building services installations and the primary integration measures including application interfaces, systems and services to ensure an efficient technical, commercial and infrastructural building management.
- Parties involved
  - European and international Industry in the field of BAC and BM products and systems including Building
  - Communication Networks (BCN)
  - European and national Associations in the field of BAC, BM and BCN
  - Universities, Research institutes, Certification bodies and Test Labs in the field of BAC, BM and BCN
  - Architects, Engineers, Designers, Installers and End-users of BAC and BM

Benefits
Products and systems for BAC, BM and BCN represent an important market sector in Europe and worldwide. They are key elements in the comfortable, energy efficient, safe, and healthy operation of buildings.

CEN/TC 247 has the task of establishing European Standards in the field of BAC, BM and BCN to:
- Increase the quality of the increasingly complex automation and management functions of products and systems, and to ensure their correct application.
- Improve co-operation and harmonisation between all parties involved in the planning, construction installation and maintenance of building BAC, BM and BCN.
- Increase and maintain energy – and operational performance while maintaining required conditions.
- Enhance integration of safety and alarm installations as well as other technical services in BAC, BM and BCN. Their integrations increase the energy performance of these installations and make their development, installation and operation more efficient and economical.
- Provide the industry with standardised requirements and test set ups to establish a Europe-wide certification program for products and systems for home and building automation.
- Allow manufactures to trade their products and services freely by removing existing trade barriers.
- Help the owner and users to improve the quality of their buildings during its life-cycle.

Priorities (arbitrary sequence)
To make European standards available to:
- Functionality, requirements etc. for electronic control equipment for Heating, Ventilation and Air-Conditioning (HVAC), applications and individual and integrated room automation and controls systems including test methods for product certification.
- Functionality, requirements and implementation of Building Automation and Control (BAC) and building management (BM).
- Requirements, interoperability and test methods of Open Data Communication in Building Automation, Controls and Building Management.
- Increase and ensure energy – and cost performance of installed functionality.
- Electrical safety and EMC requirements, conditions and test set-up for BAC products and systems.
- Terminology and Symbols for BAC and BM.
1 BUSINESS ENVIRONMENT OF THE CEN/TC

1.1 Description of the Business Environment

The following political, economic, technical, regulatory, legal, societal and/or international dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of the CEN/TC 247, and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards:

- Buildings are a significant value factor on the balance sheets of most companies and in the personal assets of many private households. The use of buildings has changed enormously due to greater flexibility of employment. This development demands that buildings adapt quickly to modifications in the patterns of use. Building Automation Controls (BAC) and Building Management (BM) including Open Data Communication contribute significantly to improve the energy performance and flexibility of buildings and are economical to operate.
- The state of the art as well as recent or expected technology changes in the field of BAC, BM and BCN is addressed by the scope of CEN/TC 247.
- State of the art: Non-residential buildings are equipped with BAC Systems or devices to monitor, interlock, control and to optimise systems or equipment for heating, air conditioning, cooling, lighting, blinds, fire and security, elevators etc.
- The trend of integration of the different BAC and BM systems in a building especially in large de-located complexes requires standards for the functional links to apply common monitoring, operation and optimisation between the different technical building disciplines
- Standardised functional links will reduce the embedding and running costs of BAC and BM systems, which will in turn significantly increase the competitiveness of the Building Automation Industry in the European market.
- EU-Directives regarding energy saving and performance of buildings require test and certification of their energy performance. BAC products and systems are especially relevant and need additionally to satisfy a European Quality Assurance System.
- BAC products and systems are key issues for consumers/users in the efficient, safe, comfortable and healthy operation of their buildings.

1.2 Quantitative Indicators of the Business Environment

The following list of quantitative indicators describes the business environment in order to provide adequate information to support actions of the CEN/TC 247.

BAC and BM systems and processes have become a European or even a global demand. It is almost impossible to find a recently constructed building that does not contain products, systems and services built, purchased or applied European-wide or internationally. BAC and BM products, systems and services will form an even greater part of global trade in the future. It is therefore important that the functionality and quality of such products, systems and services can be compared in a standardised way addressed by the scope of the CEN/TC 247.

Structure of the market and turnover for building automation and management as follows:
The residential and non-residential markets are split into EU and EFTA, Europe, USA + Canada, Latin America, Japan, and A/P.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EU and EFTA</td>
<td>1610</td>
<td>3400</td>
</tr>
<tr>
<td>Europe</td>
<td>1760</td>
<td>3600</td>
</tr>
<tr>
<td>USA + Canada</td>
<td>1200</td>
<td>5100</td>
</tr>
<tr>
<td>Latin America</td>
<td>1320</td>
<td>5300</td>
</tr>
<tr>
<td>Japan</td>
<td>360</td>
<td>1500</td>
</tr>
<tr>
<td>A/P</td>
<td>710</td>
<td>2300</td>
</tr>
</tbody>
</table>

**Comment:** Sources of the figures are the market analysis of PROPLAN, Forst & Sullivan, marketing departments of companies involved in CEN/TC 247 etc. With the exception of the EU and EFTA no accurate figures were available for the residential market. Here we assumed 60% of the non-residential market. The market figures show only the traditional building automation market. The total global building management market is much higher (ca. 20 Bil. €).

The BAC and BM market is split into 45% for new construction of buildings and 55% for retrofit/refurbishment of buildings.

### 2 BENEFITS EXPECTED FROM THE WORK OF THE CEN/TC

Advantages of the standards for customers, consultants service providers and manufacturers: (most of them worldwide)

- Reduction of technical trade barriers
- Improved quality levels for all market players
- Standardized terminology and definitions
- Guidance for national bodies
- Base for regulations and certifications
- Focus point for interfacing with other technical services and operations during design, construction and operation of the building systems
- Standards create basic conditions enabling Building Automation and Control Systems (BACS) products and systems to be treated Europe-wide and worldwide as interoperable elements in different building services installations.
- Change in tendering from hardware data point counting to the summing of BACS functions. Fewer standard communication protocols are harmonised in BACS, or, are expected to harmonise in national standards.
- Provision of product standards and test specifications for products requiring proving against the EU-Directives regarding energy performance of buildings.

### 3 PARTICIPATION IN THE CEN/TC 247

All the CEN national members are entitled to nominate delegates to CEN Technical Committees and experts to Working Groups, ensuring a balance of all interested parties. Participation as observers of recognized European or international organizations is also possible under certain conditions. To participate in the activities of this CEN/TC, please contact the national standards organization in your country.
4 OBJECTIVES OF THE CEN/TC AND STRATEGIES FOR THEIR ACHIEVEMENT

4.1 Defined objectives of the CEN/TC 247

The structure of the CEN/TC 247 and its working group covers all the standardisation needs and requirements in the field of Building Automation, Controls and Building Management.

- At international level the standard series EN ISO 16484 is carried out by CEN/TC 247 and ISO/TC205 Building environment design and ISO/TC 205/WG3 Building control systems design. CEN/TC 247 has an efficient liaison with ISO/TC 205. The work of both TCs is covered by the Vienna Agreement. The lead of most work items are taken by CEN.
- For standardising in the field of Home Automation CEN/TC 247 has an efficient liaison with CENELEC/TC 205 "Home and Building Electronic Systems (HBES)" especially for Home and Building Control Networks.
- Standards for requirements of electromagnetic compatibility, electrical safety and environmental conditions in BACS and HBES have been developed by the Joint Working Group "General Technical Requirements" of CEN/TC 247 and CENELEC /TC205.
- The CEN/TC 247 standardisation activities, reflecting the requirements and test set ups especially for energy efficient products and systems, supports the European certification schema and quality assurance system of the Building Automation Industry.
- CEN/TC 247 is strongly involved in the different EU-Directives regarding energy performance of buildings. A standard had been developed (EN 15232) under the Mandate M 343 to CEN for the elaboration and adoption of standards for a methodology calculating the integrated energy performance of buildings and estimating the environmental impact.
- CEN/TC 247 participates in the Sector Forum for Energy and fosters horizontal information exchange with EN ISO 50001 based activities.

4.2 Identified strategies to achieve the CEN/TC.s defined objectives

- CEN/TC 247 has approved a working programme for the standardization of BAC and BM products and system including building controls communication.
- CEN/TC 247 is responsible for ensuring that the national standpoints communicated by delegations from different countries are taken into consideration. It endeavours to reach consensus where viewpoints differ. Wherever possible, national exceptions should be avoided.
- A plenary meeting of the CEN/TC 247 normally takes place once a year. The meeting language is English. Further activities, voting and exchange of documents within the TC takes place via e-mail or LIVELINK.
- The active CEN/TC 247/WGs are responsible for producing the draft standards for their defined product area. The WGs organise their work and the necessary meetings themselves with support from the TC 247 secretary by using Livelnik as management tool and document repository.
- CEN/TC 247 will continue the revision of standards published. This includes review and updates as well as extension of life cycle of documents.
- CEN/TC 247 and ISO/TC 205 run a maintenance group to maintain externally managed content (like content from ASHRAE SSPC 135).
- CEN/TC 247 will continue the study in case of need of new work items concerning BACS and BM.
- CEN/TC 247 will continue the application for funds for co-normative research to support the standardisation work in the field of BACS, BM especially in conjunction with new or updated EU directives (e.g. EPBD recast and CEN/TC 371 to coordinate structures of “Building Design Standards”).
4.3 Environmental aspects

- The work of CEN/TC 247 has several environmental aspects: (priority in that sequence)
- Buildings use a significant amount of the entire amount of energy (approx. 40%) and generate therefore a significant amount of greenhouse gas emission. It is vital to contribute with respective standards to the reduction of both greenhouse gas emission and energy (Europe and worldwide)
- While contributing with BAC & BM to the energy performance in buildings it shall as well enable a productive, safe and comfortable working / living environment in buildings. This includes operation and change management in building operations.
- While contributing with BAC & BM to the energy performance in buildings it shall as well enable a productive, safe and comfortable working / living environment in buildings. This includes operation and change management in building operations.
- A third tier of environmental aspect of BAC and BM is to support the “emission” or “use” of energy in buildings which shall both support the above roles while responding as business partner in the upcoming “demand/response” business cases solutions. Standards that have been geared to “energy performance” only might need updates to comply with updated operations targets like:
  - Local energy generation to be used in the same dwelling
  - “Total energy cost reduction” in addition to “efficiency”

5 FACTORS AFFECTING COMPLETION AND IMPLEMENTATION OF THE CEN/TC 247 WORK PROGRAMME

- A number of factors are influencing the quality and duration of standards development as well as its quality and spread in the market places:
- Our industry is frequently going through efficiency programs which usually end in redundancies of “experience and manpower”
- It is difficult to recruit and maintain a number of experts in work programs like “smart buildings” where the experience level needs to be high and continuous high level of expertise is required to develop papers
- Translation activities might significantly reduce the quality of papers since experienced localization experts are rare and expensive
- Standards are difficult to market and the committees such as CEN/TC 247 requires all fundings to develop standards and few resources are reserved for marketing purposes