



02

Net-UBIEP newsletter

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1. Existing standards related to BIM implementation

On December 2013 CEN took the decision to create a CEN/BT/WG 215 'Building Information Modelling (BIM)' to develop proposals for a scope, a work programme and a draft business plan for a future new technical committee in CEN. Standards Norway initially proposed this Working Group and assumed its secretariat. Finally in 2015 CEN/TC 442 was created with the scope of Standardization in the field of structured semantic life cycle information for the built environment. The new committee develop a structured set of standards, specifications and reports which specify methodologies to define, describe, exchange, monitor, record and securely handle asset data, semantics and processes with links to geospatial and other external data. The objective was to be the home for European BIM standardization. The aim was also that CEN/TC would be the central place to go for coordinating European BIM harmonization.

CEN/TC 442 develop the European standards in coordination with ISO/TC 59/SC13 "Organization and digitization of information about buildings and civil engineering works, including building information modelling (BIM)" and also with other important initiatives as BuildingSMART International.

CEN/TC 442 has established liaisons and cooperation with other technical committees and organizations. Related with energy performance CEN/TC 371 Project Committee on Energy Performance of Building project group. Five CEN technical committees have been assigned the task of developing the required standards: CEN/TC 89 - Thermal performance of buildings and building components, CEN/TC 156 - Ventilation for buildings, CEN/TC 169 - Light and lighting, CEN/TC 228 - Heating systems in buildings, CEN/TC 247 - Building automation, controls and building management.

The current set of Energy Performance of Buildings Directive (EPBD) related CEN standards should have different options providing a balance between the accuracy and level of detail, on one hand, and the simplicity and availability of input data, on the other. Furthermore is necessary to take in account the difficulty about existing different legal frameworks on the national UE members.

On 2017-11-22 CEN/TC 442 has published a Business Plan for the next years.

<https://standards.cen.eu/BP/1991542.pdf>

2. The methodology used to define profile and learning outcome

The partners decided to concentrate on the definition of the digital competences needed to increase energy performance of a building along all the life cycle for each target. This will bring to the development of a matrix of competences where for each target and for each building stage, it will be possible to know the professional role to perform.

This proposal comes from the difficulty to refer these competences to the generic role of BIM manager, BIM coordinator, etc. while very often these roles will change during the different stages of the building. For instance a BIM manager of the design phase could be different from the BIM manager in the construction phase or in the management phase if this role is assigned in the private sector, while it could be the same person if it is for instance assigned in a public administration to follow the design, the construction and the management of a school or hospital.

This approach will allow that independently from the specific role every target would understand what is their competence gap in order to reach the best energy performance of the building.

At the same time, as the market is already using professional profiles such as BIM manager, BIM coordinator, BIM specialist, BIM evaluator, BIM user, etc. some “associations” with these professionals schemes will be made but they will be probably different in each country as the description of these professional profiles differ in each country.

The partners also agreed to monitor the progress of the international certification system, that is developed by a specific team of BuildingSMART international. The group of experts, from different European and non-European countries, have already developed the basic and transversal professional profile which does not depend on the use of any software and provides indication on the different use of BIM, the advantages of using openBIM, etc. this profile is very close to what net-UBIEP partnership has identified as BIM user.

3. BuildingSMART effort in BIM professional qualification

In recent years we have witnessed an accelerated adoption of BIM around the world. However, there is still a lot of confusion and a lack of consistency in defining processes and agreeing on basic terms and concepts.

There is also a great disparity in the competence of industry professionals who manage and deliver BIM projects. For BIM adoption to be successful, buildingSMART believe is mandatory to deliver:

- consensus in the use of standardised terminology and processes and
- a benchmarking mechanism against which the competence of individuals can be measured.

it is important to emphasise that buildingSMART (bSI) is not aiming at delivering training itself. The Program developed by bSI, exists to support and accredit training organisations to deliver approved courses. So buildingSMART will provide an online qualification exam for individuals who have attended approved courses.

The first phase of the Program, called Individual Qualification, was initiated in September 2017. With this the professional certification guidelines and content (the so-called learning outcome framework) were made available.

Learning Outcome Framework – Individual Qualification

Each training module is based on a Learning Outcome Framework (LOF); essentially a list of learning objectives. The LOF's are the basis from which training organisations can develop their course content. They are also the foundation for the assessment and qualification process. The official buildingSMART international LOF is continuously updated by an international expert panel.

An international working group has developed the 'learning outcome framework' (LOF) setting out the scope and the content of BIM training for individuals. Learning objectives for each element are set out. Training providers can adopt the framework, using their own course materials but ensuring that the course content meets the requirements of the framework.

Program Structure

The bSI program is structured in two phases, today only the first has started.

Phase 1:

- The Individual Qualification or knowledge-based learning (launched as Phase 1) introduces the basic concepts and principles of OpenBIM. This is a theory-based learning that does not include software training or hands-on practice. However, project examples and demonstrations are given to reinforce the core principles. The Individual Qualification series is comprised of eight modules, each of a one to three-day duration: Basic, Manager, Coordinator, Consultant, Contractor, Owner, Facility Manager and Manufacturer.





- The Basic module is the prerequisite for all further modules. It is anticipated that most participants will undertake the basic and one further discipline module, however, they are of course free to undertake additional modules as they so wish.
- The Professional Certification or applied learning (to be launched at Phase 2) addresses the application of OpenBIM principles in the project environment. It is a practice-driven, comprehensive training comprised of specific role based modules (eg. BIM Manager, BIM Coordinator, Information Manager). Each module will require 200+ hours of class learning in addition to live project work. Professional Qualification is in development and is expected to be launched in late 2018.

Further development

The *phase 2*, the professional Certification will be further developed during the meeting planned in Rome and organized by IBIMI (Institute for BIM Italy). The results of the 3 days meeting will be made public available during the BuildingSMART International Summit that will be organized in Tokyo next october.



4. The regulatory room of bSI and the role of public administration

BuildingSMART International (bSI) has started an activity on regulation with the aim to harmonize existing good practices and promoting international standards for e-permit. E-permit is the semi automatic procedure that allows the public administration to approve building activities both for new buildings as well as for the refurbishment of existing ones.

The activity is developed under the “Regulatory Room” and foresees to provide open discussion room for each government’s building regulators to promote open BIM based building permission, code checking process, standards/libraries, guides and any collaborative issues. Researchers and implementers are also welcome in the Regulatory room.

The standardization process will cover the following areas:

- Code Checking
- Information flows
- Visual use

The team is composed by representatives of the following national chapters: Norway, Singapore, Australia, US, UK, Finland, Sweden, Japan, Korea. Italy is represented through IBIMI. The group will meet twice a year at buildingSMART international meetings and will have monthly net conference. The group has started to analyse the following existing national procedures.

UK

UK has presented RegBIM, which is a software tool working with any construction project, with or without BIM. The software can be viewed in the video at the following link: <https://www.youtube.com/watch?v=Nlzp-177I6o>.

The RegBIM project is developing compliance checking against English Building Regulations, BREEAM and the Code for Sustainable Homes

Substantially the video shows a software application for code checking. All the regulations, to develop a sustainable building, are introduced in the software that can analyse the design in relation to predetermined UK rules. These are the characteristics of the software:

- Initial Category Results
- Initial Category Results Graph
- Add Information via Warnings / Trees
- Add More Information via BIM
- Design Development
- Export to Authoring Tools
- Evaluate Certainty & Uncertainty
- Provides Provisional Final Results

Singapore

In Singapore the regulatory activity foresees e-submission since 2003 and it is compulsory for building permissions. The government foresees an extension to any other sector (airport, port, infrastructure, etc.) to obtain real “smart cities” by the year 2030.

It is required that the 3D model is submitted during the design phase, the coordinated model is submitted during the construction phase and finally the facility management model is submitted during the operation and maintenance.

For each building stage it is necessary to provide the following information:

- Process
 - The project team setup structure
 - The terms of data exchange
 - The ownership of data & information at the different stages
 - The BIM setup at site and in house necessary for successful execution
- Standards
 - Which standards are used in each stage for which data
 - The use of open BIM
 - Any particular problem encountered
- Building capacity
 - The level of BIM expertise required for performing BIM management and coordination
 - Training programmes put in place for project personnel including the subcontractors
- Technology
 - The technology deployed for the project
 - Planning and decision making process for the chosen technology
 - Legacy data management
 - Archiving and retrieving data year later

US

In US the Autocodes Project is running

AutoCodes is the transformation of the building code review process, leveraging digital data & technology to change the industry from a manual paper-dependent process to a digital review method. In the following the different stages:

- Background (Phase 1 (2011-2012))
 - Conducted study on current process at a basic level
 - Partnered with International Code Council (ICC) & 13 Authorities Having Jurisdiction (AHJs)
 - Conducted a Proof of Concept Project to test the accuracy & consistency of current code review process:
 - Very inconsistent results—negatively impacts all stakeholders
 - No Quality Assurance/Quality Control in the vast majority of efforts
- Phase I – Feb. 2011- Dec. 2012
 - Proof of Concept – 2D paper and digital review
- Phase II – Jan. 2013 - Jan 2015

- Focus on International Building Code Ch. 10 & 11 (2009 > 2012)
- V1 of BMM
- Phase III – Jan. 2015 – Dec. 2016
 - Further maturing of BMM
 - Introduce F&LS and MEP Codes

Finland

In Finland the situation is as follows:

- Electrical submission of building permits is already opened
- Many of the major cities including Helsinki and about 50 counties are using it
- Currently electronic long term archive is under developed
- Discussion with the Finnish Archiving Authority to accept IFC as standard for long term archiving purposes
- BIM requirements are also ready for Building permitting needs
- Tested Rules-based code checking with Solibri Model Checker in several projects
- COBIM2012 series 14(in Finnish) but there is a plan to make an English version as for the other 13 series
- Collecting data (areas, classification) from BIM files automatically

Common BIM Requirement 2012, COBIM, is based on the BIM Requirements published in Finland in 2007. The update project was funded by Senate Properties in addition to several other real estate owners and developers, construction companies and software vendors. BuildingSMART Finland participated also in the financing of the project. As a result, the following guides were released in Finnish on March 27th 2012 and then translated into English.

[Series 1: General part](#)

[Series 2: Modeling of the starting situation](#)

[Series 3: Architectural design](#)

[Series 4: MEP design](#)

[Series 5: Structural design](#)

[Series 6: Quality assurance](#)

[Series 7: Quantity take-off](#)

[Series 8: Use of models for visualization](#)

[Series 9: Use of models in MEP analyses](#)

[Series 10: Energy analysis](#)

[Series 11: Management of a BIM project](#)

[Series 12: Use of models in facility management](#)

[Series 13: Use of models in construction](#)



Japan

In Japan the electronic submission is already in place for the CAD transmission from the applicant to the authority. Besides the pdf file are signed electronically. Toady focus is on the possibility to extract data from any existing document and to transmit BIM documents in a unified format using IFC, XML, etc. by defining property sets and model view. In synthesis the future steps for the authorization bodies are the following:

- confirmation by scanned images
- confirmation by e-documents with content
- confirmation by BIM model data.

Korea

In Korea, the Korean Architectural Administration has programmed the BIM-enabled e-Submission & Building Act Legality Verification System and the Korean Government ((Ministry of Land, Infrastructure and Transport in Korea) has funded an R&D Project to promote Open BIM based Technological Environment for Building Design Quality Enhancement. The project is subdivided in:

- Open BIM based Technological Environment for Building Design Quality Enhancement
- Open BIM based Building Design Standard and IT-Infrastructure
- BIM-based Cloud Computing Services and Systems Development

The problem should be completed by the end of 2019. The strategic goal is to:

- Reduce by 50% the Permit documenting time
- Reduce by 30% the Permit processing period
- Reduce by 50% the energy analysis time

To achieve these goals the focus is on standardize process and rules, promote automation, optimize and integrate the process and implement.

The main accomplishment till now are:

- Design quality level assess criteria and modelling guidelines
- Database of building codes and rules for automated design quality verification system (KBim logic is the software developed)
- Automated BIM model general quality assess program (KBim Assess-life is the software developed)
- Domain dependent BIM model quality assess programs (KBim QTO and KBim Energy are the software developed)
- Open BIM based BIM model quality verification and assess system development for SEUMTER (Korean Government Architectural Permission System) (KBim Assess and KBim Veri are the software developed)

5. COUNTRY CONFERENCES, WORKSHOP, MEETINGS

Italian partners:

CBET – Cross Border Energy Training 2018/04/11,12 – NICE

The Net-UBIEP team project of CS-Group participate to the Steering Committee of CBET Project – Cross Border Energy Training, a European Project base on the definition of bi-national competences in the field of RES, Energy Efficiency and Green Building.

The meeting has met people of European partners which aim to increase the number of young people trained during scholarship and post-scholarship ages with a mutual recognition of qualification.

ECOBUILD 2018/03/06,08 – LONDON

The Net-UBIEP team project of CS-Group participate to ecoBuild, the number one event for forward-thinking professionals in the built environment.

Over 10,000 industry professionals joined the redefining sustainability debate and discussed the key issues currently facing the built environment.

CHINESE DELEGATION VISIT 2017/11/29 – MILAN

The Net-UBIEP team project of CS-Group, in collaboration with AICQ, meets JCEAS (Jiangsu Civil Engineering & Architectural Society) Delegation in Milan on the 29th of November 2017.

After a presentation of the enterprises involved in the meeting and of Net-UBIEP Project, the three sides combine their BUS experiences in order to individuate a possible collaboration between Italy and China in the nearly future.

FINANCING ENERGY RENOVATION OF BUILDINGS IN ITALY, CROATIA AND SLOVENIA 2017/11/16 – MILAN

The Net-UBIEP team project of CS-Group participates to the Conference organized by the European Commission in partnership with the Italian Ministry of Economic Development, the Italian National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA), the Italian Banking Association (ABI) and the UN Environment Finance Initiative (UNEP FI).

Topics of the conference are the European policy contexts and how it is possible to make energy efficiency attractive for the financial sector, the strategy for financing energy renovation of public building in Italy, Croatia and Slovenia through energy performance contracting.



RESTRUCTURA 2017 – RIQUALIFICAZIONE, RECUPERO, RISTRUTTURAZIONE 2017/11/16,17,18,19 – TURIN

The Net-UBIEP team project of CS-Group participates to the National event Restructura 2017 at the Oval of Lingotto Fiere in Turin from 16th to 19th of November. Restructura is the only event in Italy dedicated to the Building Industry.

CS-Group could have the opportunity to create a major network with national stakeholders (tenants, owners, technicians, installers, architects, engineers) related to the building regeneration, the recycling and the refurbishment. On the 17th of November, CS Group has presented the project in a reserved space in the Oval.

WEBINAR – BUILDING AUTOMATION 2017/11/28 – Go To Meeting

The Net-UBIEP team project of CS-Group participates to the net-conference “Building Automation” by Go To Meeting, organized by SUPSI²⁰ in collaboration with the PMI - Project Management Institute.

The event focus on the map of competences for designers of building in the New Era 4.0, using SMART approach and ICT tools

Workshop “Salone del restauro di Ferrara” March 21

Anna Moreno presented the BIM for the protection and enhancement of cultural heritage.

Workshop “Digital processes and urban perspectives” Naples March 23

Anna Moreno participated in the event promoted by Federico II's faculty of architecture. She presented net-ubiep for the integration of energy performance aspects into the design.

National e-procurement forum April 13, Rome.

The work on the digital agenda was presented with representatives from the Ministry of Economy and Finance, the Ministry of Infrastructure and Transport, the Department of Public Administration, AGID, CONSIP, ANAC. Anna Moreno presented the need to dedicate due attention to the e-permit to speed up the design, the construction and the refurbishment of buildings and to ensure the best energy performances of new as well as existing buildings.

Workshop “Re-Design, the new approach with the design in BIM” 21 April, Milan.

Francesca Hugony (ENEA), presented, "The BIM for craft businesses and a system for competences qualification". The presentation was based on the net-UBIEP approach. The objectives and skills of a craft companies engaged in the installation of technologies, to improve the energy-environmental performance of a building, were presented. The presentation also introduced the process of attestation of basic skills promoted by IBIMI. The complete presentation can be viewed at the following link.



Croatian partners:

13th International OTMC Conference 2017/09/27-30 – Poreč, Croatia

Ivana Burcar Dunović and Kristijan Robert Prebanić participated in the OTMC 2017 conference, where research papers on BIM were presented. Additionally round table was organised on the Development of the National Guidelines for Implementing BIM in Croatia. Conference was organized by Croatian Association for Construction Management, University of Zagreb, Faculty of Civil Engineering (FCE), Croatian Association for Project Management and International Project Management Association. Conference also hosted guest from Serbia, Slovakia, Czech Republic, Slovenia, Austria, Iran, and Turkey. Some of the main topics included BIM, Construction and Project Management Issues, Construction Design and Technology, General Management and Economics in Construction, Information Communication Technology Systems in Construction, Research and Education in Construction and Sustainability in the Built Environment.

Energy Information day, Horizon2020 2017/10/02 – Zagreb, Croatia

Bojan Milovanović made a presentation where project Net-UBIEP was introduced and presented to the conference participants. The context of EU legislation, current needs and future requirements regarding energy efficiency and BIM was discussed. Conference was held in the Great Hall of the University of Zagreb and it was organized by The Agency for Mobility and EU Programmes – European Commission. Conference introduced new Horizon2020 work program for safe, clean and efficient energy and forthcoming themes and contests to be financed in the period from 2018 to 2020.

10th Days of Passive House in Croatia 2017/11/10-12 – Zagreb, Croatia

Bojan Milovanović presented the project Net-UBIEP in the context of energy efficiency, integrated design process of passive and nZEB buildings as well as an amendment of the EPBD directive. BIM was discussed as an only real solution which enables conducting design and construction process in 6D environment. Conference was organized by University of Zagreb, Faculty of Architecture and it was held in the Main Hall of the Faculty. Conference gathered professionals, designers, contractors, teachers, students, city representatives and many others, and main goal was exchanging best practices on building and retrofitting buildings in Croatia and abroad in accordance with the definitions of new types of passive houses.

2nd International BIM Conference 2017/12/04 – Zagreb, Croatia

Ivana Burcar Dunović and Bojan Milovanović made a presentation where project Net-UBIEP was introduced and discussed in detail by Ivana Burcar Dunović. BIM was discussed as an only real solution which enables conducting design and construction process of nZEB buildings. Conference was organized by Croatian Chamber of Architects and it was held in Zagreb, in the Main Hall of the Faculty of Architecture on 4th of December 2017. Conference also hosted guests from United Arabian Emirates (UAE), Slovenia and Finland. They all shared they knowledge, experience and tools gained by using BIM. Conference also presented General Guidelines for BIM Approach in Construction in Croatia.





Nearly Zero Energy Buildings (nZEB) / Linking Science, Innovation and Economy 2018/02/22 – Zagreb, Croatia

Bojan Milovanović presented the project Net-UBIEP in the context of energy efficiency, integrated design process of nZEB buildings as well as an amendment of the EPBD directive. BIM was discussed as an only real solution which enables conducting design and construction process in 6D environment. Conference was organized by University of Zagreb, Faculty of Architecture and it was held in the Main Hall of the Faculty. Conference gathered mostly professionals, designers, producers, and main goal was exchanging best practices on building and retrofitting buildings in Croatia and abroad in accordance with the definitions of new types of nZEB buildings.

Meeting with representatives of Technical University of Wien (TU Wien) 2018/04/24-25 – Wien, Austria

The Net-UBIEP team project from FCE, meets with representatives from TU Wien, with the aim of sharing experience on the use of BIM in energy modeling. After presentations held by PhD students from TU Wien on 24th of April and by Bojan Milovanović and Ivana Burcar Dunović on 25th of April – in which project Net-UBIEP was presented, two sides exchange their experiences in the aim of future collaboration.

8th Zagreb Energy Week 2018/05/10 – Zagreb, Croatia

Ivana Burcar Dunović and Bojan Milovanović presented two European projects, Net-UBIEP and Fit-to-nZEB, on “8th Zagreb Energy Week” which was organized by both Croatia Green Building Council and University of Zagreb, Faculty of Civil Engineering (FCE). Conference was held in Zagreb, Zagreb Fair on 10th of May 2018. Conference, among others, hosted guests from Technical University of Wien (TU Wien) who talked about their extensive experience on using BIM in industrial buildings and interdisciplinary planning, in the field of Building Energy Modeling (BEM) and its potentials and deficits.

Topics of the Conference were energy retrofit of the old buildings, how to design and build near zero energy buildings (nZEB) and potential and disadvantages of using BIM to improve energy efficiency during design and construction phase.

13th Days of the Croatian Chamber of Civil Engineers 2018/06/14-16 – Opatija, Croatia

Bojan Milovanović presented project Net-UBIEP on the conference “13th Days of the Croatian Chamber of Civil Engineers” city Opatija. Main topic of the Conference was spreading knowledge and innovations in Construction industry amongst civil engineers.



Spanish partners:

Corporate Memory 2017 of Fundación Laboral de la Construcción 2018/06 – Madrid, Spain

Presentation, objectives and summary of the project in Spanish, with a file on the Net-Ubiep project, in the [Corporate Memory 2017](#) of the Fundación Laboral de la Construcción (in print; it will be published in the month of June, 2018). The target group to which it is addressed: the most relevant actors of the construction sector in Spain: companies, representatives of VET organisations, employer associations, Public Administration, VET policy makers, stakeholders. 4,000 copies in paper distributed among the most relevant actors of the construction sector in Spain. And digital copy on the web.

Dissemination of the International Projects of the Fundación Laboral de la Construcción in the Europe Day 2018/05/09 – Madrid, Spain

Spread through [Twitter](#) and [Facebook](#) of the International Projects led by the Fundación Laboral de la Construcción and in which it participates, on the occasion of Europe Day: May 9th, 2018.

Follow-up meetings of the Spanish Team of Net-Ubiep 2018/05/09 – Madrid, Spain

The representatives of Fundación Laboral de la Construcción and Eduardo Torroja Institute of Construction Sciences (IETCC) of the Spanish National Research Council (CSIC), which compose the Spanish Net-Ubiep team, held two follow-up and organization meetings, to advance the corresponding tasks in the project during days January 12nd, 2018 and April 26th, 2018, where seven team members attended.

Article on BIM and sustainable construction in Observatorio Inmobiliario de la Construcción 2018/03-04 – Madrid, Spain

Article by David Rodríguez, BIM technical advisor of Fundación Laboral de la Construcción, on [«BIM and sustainable construction»](#), published in Observatorio Inmobiliario y de la Construcción, Nº 91. Page 78. One of the reference magazines in Spain.

Meeting «Encuentro BIM Construible» 2018/03/14 – Madrid, Spain

David Rodríguez, BIM technical advisor of Fundación Laboral de la Construcción, participated in the [meeting «Encuentro BIM Construible»](#), organized by Tecma Red Group, in a debate with stakeholders, representatives of the following institutions and companies: Ineco, Es.BIM Commission of the Ministry of Development, Vía Célere, IFMA Spain, Grupo Avintia, Saint-Gobain, Zero City Project, Morph Estudio and LafargeHolcim Spain.

Working breakfast on «Construction 4.0. Trends, news and incentives for BIM projects» in Deloitte Legal 2018/02/12 – Madrid, Spain

Working breakfast in Deloitte Legal on «Construction 4.0. Trends, news and incentives for BIM projects», which was attended by 20 experts and stakeholders, among whom David Rodríguez, BIM technical advisor in Fundación Laboral de la Construcción, participated.

Participation in the meeting «2018: BIM, a reality for the engineering sector» 2017/10/10 – Madrid, Spain

Participation in the meeting [«2018: BIM, a reality for the engineering sector»](#), organized by the Institute of Engineering of Spain, Tecniberia, and the Professional Union of Engineering Colleges, in which the Spanish Minister of Development participated. On behalf of the Fundación Laboral de la Construcción, David Rodríguez presented Entorno BIM, a meeting point for construction professionals in terms of the BIM methodology, where training, news and free advice on BIM is offered.

Participation in the «Firamaco 2017» fair 2017/09/17-21 – Valencia, Spain

Participation in the [«Firamaco 2017»](#) fair. The Fundación Laboral de la Construcción had a stand and organized an informative day on the BIM methodology, delivered by the BIM technical advisor in Fundación Laboral de la Construcción, David Rodríguez.

Participation of IETCC-CSIC in the Plenary Meeting AEN/CTN41/SC13 Meeting n. 1/2018 2018/07/05 – Madrid, Spain

José Antonio Tenorio, Ph.D. Civil Engineer and Titular Scientist of the Eduardo Torroja Institute of Construction Sciences (IETCC) of the Spanish National Research Council (CSIC), participated in the Plenary Meeting AEN/CTN 41/SC13 Meeting n. 1/2018. The AEN/CTN 41/SC13 Organization of Models of Information relating to Building and Civil Works is the CTN that follows BIM works of CEN/TC 442 and ISO/TC 59/SC 13 in Spain. Among the issues to be addressed by the group, Tenorio informed the 20 attendees about the Net-Ubiep project.

Participation in the «Barcelona Building Construmat 2017» fair 2017/05/23-25 – Barcelona, Spain

Participation in the [«Barcelona Building Construmat 2017»](#) fair. The Fundación Laboral de la Construcción had a stand of more than 120 m², for informing, among other issues, about BIM and the European projects leads or in which the Foundation participates.

Participation in the «BuildingSmart International Summit» 2017/04/3-6 – Barcelona, Spain

Participation in the [«BuildingSmart International Summit»](#). The managing Director of the Fundación Laboral de la Construcción, Enrique Corral, presented the initiative Entorno BIM as a guest entity of reference. The Spanish Minister of Development also participated in the meeting.



BIM Dissemination Days in the Regional Councils of the Fundación Laboral de la Construcción since 2017– Balearic Islands, Basque Country, Castilla-La Mancha and Galicia, Spain

One year ago, the information and awareness campaign «BIM Dissemination Days» began in the Regional Councils of the Fundación Laboral de la Construcción, geared towards companies of the construction industry. These dissemination days have been made by David Rodríguez, BIM technical advisor of the Foundation, in: Palma de Mallorca (Balearic Islands), Bilbao (Basque Country), Ciudad Real, Guadalajara and Toledo (Castilla-La Mancha), Orense and Vigo (Galicia).

Participation of IETCC-CSIC in the Plenary Meeting AEN/CTN41/SC13 Meeting n. 2/2017 2017/11/13 – Madrid, Spain

José Antonio Tenorio, Ph.D. Civil Engineer and Titular Scientist of the Eduardo Torroja Institute of Construction Sciences (IETCC) of the Spanish National Research Council (CSIC), participated in the Plenary Meeting AEN/CTN 41/SC13 Meeting n. 2/2017. The AEN/CTN 41/SC13 Organization of Models of Information relating to Building and Civil Works is the CTN that follows BIM works of CEN/TC 442 and ISO/TC 59/SC 13 in Spain. Among the issues to be addressed by the group, Tenorio informed the 9 attendees about the Net-Ubiep project and the very relevant issues of the european project for the SC.

«OpenBIM Tour 2017» of BuildingSmart Spanish Chapter and Fundación Laboral de la Construcción 2017/11-12 – Andalusia, Galicia, Aragón and Balearic Islands, Spain

In the [OpenBIM Tour 2017](#), organized by BuildingSMART Spanish Chapter and the Fundación Laboral de la Construcción for the awareness and dissemination of BIM, four cities were visited: Granada (Andalusia), Santiago de Compostela (Galicia), Zaragoza (Aragón) and Palma de Mallorca (Balearic Islands).

«Entorno BIM Blog» of Fundación Laboral de la Construcción since 2016/12/20 – Madrid, Spain

Through the [«Entorno BIM Blog»](#), which the Fundación Laboral de la Construcción launched on December 20th, 2016 for information and awareness about BIM in the construction industry, about 25 specialized articles on the subject have been published, until today.

Advisory work on BIM of Fundación Laboral de la Construcción for companies of the construction industry – Spain

The Fundación Laboral de la Construcción also carries out advisory work on BIM for the national reference companies of the construction industry.



Estonian partners:

Knowledge-Based Construction April 26th, 2018 – Tallinn, Estonia

Estonian Society of Heating and Ventilation Engineers, Tallinn University of Applied Sciences and Estonian Association of Civil Engineers organized a 7th Annual Conference of the Knowledge-Based Construction for the construction industry experts. The event was focused on sharing the scientific, technical and development related knowledge and findings. This forum supported the professional networking and sharing of experiences. As part of the conference presentations, the Deputy Secretary General for Construction Jüri Rass from the Ministry of Economic Affairs and Communications introduced the “Glimpse into the future” of digital construction. Altogether, 250 professionals took part in the conference.

Knowledge-Based Construction 2019 – Tallinn, Estonia

Estonian Society of Heating and Ventilation Engineers, Tallinn University of Applied Sciences and Estonian Association of Civil Engineers will organize an 8th Annual Conference of the Knowledge-Based Construction for the construction industry experts. The event will continue sharing the scientific, technical and development related knowledge and findings. As part of this conference, the outputs and outcomes of the NET-UBIEP project will be introduced.

9th Modern Construction Methods Annual Conference November 14th, 2017 – Tallinn, Estonia

The Estonian Group for Lean Construction has organized annual conferences for the construction industry experts. In the 9th MCM conference, presentations addressed topics related to the novel construction management concepts and methods, but also technologies related to the virtual design and construction of buildings.

10th Modern Construction Methods Annual Conference November 12th and 13th, 2018 – Tallinn, Estonia

The Estonian Group for Lean Construction will organize the 10th annual conference differently from the previous years. The primary target audience is still the construction industry expert, but this year, there will be an additional day focused on practical training. The main objective is that each participant will leave the conference with one practical skill and tool in their toolbox. As part of the 10th meeting, the plan is also to introduce concepts, methods and tools relevant for designing, constructing and operating energy efficient buildings.

Seminar: RKAS's New BIM Requirements and their implementation in ArchiCAD May 7th, 2018 – Tallinn, Estonia

Estonian Real Estate Agency, with more than 1 million m2 of space to operate is the most significant real estate owner in Estonia, published re-noved BIM requirements. Renewed requirements were introduced because of the need to clarify, simplify, eliminate duplicates, add new topics, and make a better connection to the IFC standard.

Slovak partners:

2nd National BIM Conference 20 October 2017 – Bratislava, Slovakia

Annual conference in Slovakia attended by cca 200 experts from Slovakia and other countries of Europe. Organised by BIM Association and key market players.

BIM4FREE Conference 28 March 2018 – Kosice, Slovakia

BIM4FREE Conference 21 March 2018 – Zilina, Slovakia

BIM Conferences for university students organised by BIM Association on BIM, situation in its implementation in Slovakia, sharing information on buildings within the buildings' life cycle (attended by cca 120 students).

Forum of the Slovak Construction Industry 11 April 2018 – Bratislava, Slovakia

Organised by the Association of Construction Entrepreneurs of Slovakia in cooperation with the Slovak Chamber of Civil Engineers and Ministry of Transport and Construction of the Slovak Republic. Focused on current trends in the Slovak construction sector, including implementation of BIM and needs of the user groups. Attended cca. 85 participants.

BIM Challenge 2018 13 April 2018

Student competition organised by BIM Association with support of the Slovak universities on speed, consistency and quality of modelling. Attended by students, cca 45 and the most successful students won interesting prizes provided by the sponsors.

International Conference "Ready for nZEB" 24 January 2018 – Prague, Czech Republic

The conference attracted 42 participants from different EU states. In addition to Czech and Slovak construction professionals and representatives of the state authorities, the experts from Austria, Bulgaria and Romania actively participated in open discussion. The conference was opened by a representative of the CZ Ministry of Industry and Trade, Mr. Petr Vozka. Specific session was dedicated to NET-UBIEP project, focused at increasing the skills in BIM application

Lithuanian partners

Conference „Skaitmeninė statyba 2018. Vilnius“ (Digital Construction 2018, Vilnius) – 27 April 2018

The Net-UBIEP team project and key market players organized the conference Digital Construction 2018. The main topic of the conference "Digital Construction 2018. Vilnius" was Construction 4.0. The topical issues of BIM deployment in Lithuania, good practice in smart cities, certification of BIM competences, and construction classifier development discussed during the conference. Best Lithuanian BIM projects were awarded. Dalius Dedvilas (Public Company Digital Construction, Lithuania), Jarkko Sireeni (Viasys VDC, Finland), Donatas Aksomitas (Public Company Digital Construction, Lithuania), Klas Eckerberg (BIM Alliance Sweden), Inge Aarseth (Tonsbergprosjektet, Norway), Ricardo Farinha (Sweco, Finland), Havard Bell (Catenda AS, Norway), Mantas Butrimavičius (Hnit Baltic, UAB), Robertas Encius (Lithuanian Builders Association, Lithuania) presented their reports on new developments in BIM-based construction projects.

More about the event: <https://skaitmeninestatyba.lt/renginiai/konferencija-skaitmenine-statyba-2018-vilnius/>

Special issue “Advanced BIM Applications in the Construction Industry” from journal Advances in Civil Engineering

In this special issue from Journal **Advances in Civil Engineering**, we plan to extend the growing research stream by inviting manuscripts that investigate current BIM practices, advanced developments, and critical effects of BIM on collaborative design and construction. BIM effects will be discussed into three dimensions: technology, people, and processes. Submissions that address investigation of BIM applications for new construction and energy retrofitting, describe methodologies for BIM-enabled project performance assessment, present advanced collaborative approaches in BIM-enabled projects, and present strategies for the recognition of specific BIM related competences are encouraged. Deadline for submissions: 30 November 2018. Publication Date: April 2019. Lead Guest Editor - Tatjana Vilutiene (Vilnius Gediminas Technical University, Vilnius, Lithuania), Guest Editors - Mohammad R. Hosseini (Deakin University, Australia), Eugenio Pellicer (Universidad Politécnica de Valencia, Spain), Edmundas K. Zavadskas (Vilnius Gediminas Technical University, Lithuania).

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Presentation at EURO conference “Empirical study of BIM-based building life cycle: case of Net-UBIEP project” – July 2018, Valencia, Spain

Tatjana Vilutiene presented Net-UBIEP project at 29th European Conference for Operational Research held in Valencia, Spain on 7-11 July 2018. The presentation was made in session “OR for sustainable built environment” organized by EURO working group “Operations Research for Sustainable Development and Civil Engineering”. EURO 2018 is the largest European conference for Operational Research and Management Science with more than 40 years of history since the first edition in 1975 in Brussels. Conference organized by EURO – the European Association of Operational Research Society, SEIO – the Spanish Statistics and Operations Research Society, UV – Universitat de València, UPV – Universitat Politècnica de València and ADEIT – Fundació Universitat Empresa.

Dutch partners:

Meeting BIM Campus 2017/10/23, 2017/11/6, 2017/11/20 Delft

Members of the Net-UBIEP team participate in the Dutch initiative called BIM Campus. BIM Campus integrates BIM related training and courses for different target audiences. These target audiences match the Net-UBIEP target groups with an emphasis on professionals. The meetings are with branch organisations, educators, professionals.

Meeting with Bouwend Nederland 2017/10/24 Zoetermeer

Bouwend Nederland has a vast network of construction companies. The Net-UBIEP project was presented and an interchange of information was agreed.

Meeting educators/BIM Campus 2018/1/23 Delft

The Net-UBIEP project was presented to educators and professionals at the BIM Campus in Delft. The main purpose of this meeting was to find out if there was a need to connect different educators, courses and educational systems and if so, what was needed to do so. Because Net-UBIEP has a link with educational systems in respect to tasks and competences of the different target groups, there was a need to connect Net-UBIEP to this initiative. Also the educators provide a feedback loop to the Net-UBIEP project with respect to the Net-UBIEP results from WP2.

Meeting with Uneto-VNI and OTIB 2018/2/7 Amersfoort

Branch organisation Uneto-VNI and OTIB started a project parallel to Net-UBIEP to find the different BIM professions, tasks and competences. Net-UBIEP is working on the same activities. Therefore an exchange of information was needed. ISSO, UNETO-VNI and OTIB agreed on collaboration of activities. These activities are building a network of companies, integrating Net-UBIEP results in their project and periodic meetings.

Meeting with Digibase 2018/2/19 Rotterdam

Digibase is a part of VolkerWessels (construction company). They have a state of the art BIM related fieldlab. Also members of Digibase formerly participated in BIM related educational material in a BIM academie. These materials are brought into agreement with the results of Net-UBIEP.

Meeting with Avans+ 2018/2/21 Breda

Avans+ has a BIM educational system for professionals. Information about their education and feedback with the Dutch NET-UBIEP team is exchanged.

Meeting with Uneto-VNI and Bouwend Nederland 2018/3/28 Zoetermeer

Uneto-VNI and Bouwend Nederland are initiating a BIM Onderwijsdag in octobere 2018. ISSO participates in this initiative. The results of the Net-UBIEP project and the parallel project with Uneto-VNI are presented during the BIM onderwijsdag.

Triple BIM Community meeting 2018/4/6 Delft

The Triple BIM Community is an initiative of TVVL where members of the Dutch NET-UBIEP team are participating. In this meeting different BIM related topics are discussed. Also the BIM Campus and the Net-UBIEP project are presented. The participants are professionals and technicians from consultancy and construction companies.

Meeting 'digitization construction industry' with branch organizations 2018/4/16 Zoetermeer

Because of the increasing need of knowlede about digitization of the construction industry, different branch organizations organised this meeting. A large part of digitization is BIM related. Members of the Net-UBIEP team also participate in this meeting because of the link with the necessary BIM related competences and tasks.

Meeting with Uneto-VNI and OTIB 2018/5/14 Woerden

A second meeting to discuss results of the parallel project with the Net-UBIEP project was initiated. Also educational profiles were discussed in this meetings.

Meeting with Building Changes 2018/6/4 Delft

Building Changes has a network with the Net-UBIEP target group Public Administrations. Dutch Net-UBIEP member are trying to participate in this network by presenting the Net-UBIEP project to Building Changes. Building Changes presents the Net-UBIEP project to the Public Administration group.

Meeting with branche organisations, consultants and construction companies 2018/6/18 Utrecht

The participants discuss the needs of a BIM Gebouwdossier and the initiave Digideal in this meeting. Because of the relation with Net-UBIEP goals members of the Dutch Net-UBIEP team participate in Digideal and the BIM Gebouwdossier group.

Meeting with BIM Expertgroup (consists of branche organisations, consultants and construction companies) 2018/6/26 Bunnik

Different subjects are discussed in this meeting with a emphasis on standards, protocols and education. Members of the Dutch Net-UBIEP team participate in this meeting and results are integrated in the Net-UBIEP project.





Meeting with BIM Groot comité (consists of branche organisations, consultants and construction companies 2018/6/28 Woerden

Based on the Net-UBIEP results and the parallel Uneto-VNI/OTIB project the question is discussed if some BIM profiles have to be certified based on the found competences. First the results will be presented at the BIM onderwijsdag, after this event the discussion will proceed.

