

# **Network of National Construction Technology Platforms**

**Newsletter No.8  
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**Edited by PTEC**

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## PRESENTATION

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This is Newsletter No.8 of the network of National Construction Technology Platforms or similar National organizations in about 20 countries.

This network aims to promote synergies on R&I in the construction sector among European countries, in collaboration with ECTP ([www.ectp.org](http://www.ectp.org)) and the European Commission.

In this newsletter, contributions are included from:

- ECTP on the Active Ageing & Design Committee.
- ENCORD on the Council meeting.
- Germany on STUVA conference, ECO-SEE workshop, SC5 consultation, 32<sup>nd</sup> International WTA-Colloquium, EU Brokerage Event on KET\* in H2020 and GCTP-FACH meeting.
- Portugal on Road Paving Solutions for Tropical Climates.
- Spain on PTEC Working Groups and on REFINET CSA.

The next newsletter (Newsletter No.9) will be published in June 2016.

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## ECTP

European Construction Technology Platform



### ACTIVE AGEING & DESIGN COMMITTEE.

Will technologically enriched built environments of the future empower an ageing population to achieve meaningful and

creative lives well into old age, seizing new opportunities for learning and social engagement? While the answer to this question should be an emphatic and clear “yes”, the required actions to make the European housing stock fit-for-purpose are less clear.

The demographic shift is a matter of global concern that needs little introduction. The number of people aged 60 years or older will rise from 900 million to 2 billion between 2015 and 2050 (moving from 12% to 22% of the total global population). Due to advances in health care and healthier lifestyles, Europeans live longer and have the opportunity to enjoy good quality of life and independence well into old age. **The built environment, enriched with new opportunities of evolving digital innovations such as the Internet of Things (IoT), matters crucially in enabling new forms of support and creative expression for all ages:** Europe’s ageing populations demand high quality ICT-enriched built environments that suit their aspirations, competences and needs across the life course.

**The European housing stock and built environment is up for a major update.** At present it is not ready to support independent living over the life course. With current renovation and replacement rates of less than 3%, such an update requires well-targeted actions and investment strategies with the potential to turn the age friendly housing sector into **an engine for economic growth** in the construction and ICT sectors, that will enable people to **live more healthy, meaningful, connected lives**. This is a challenge the ECTP’s Active Ageing & Design committee has addressed in its 2015 [Position Paper on Age-friendly Smarter Housing](#). Focusing on economic opportunities for the ICT, health and construction sectors, this paper

has articulated a fresh approach to innovate smart new built and retrofit home environments, emphasizing the potential of digital innovations to foster cross-sectoral innovation eco-systems for ICT and construction.

We are at the beginning of an exciting journey to elaborate and put to life the vision outlined in this paper. In 2016, the Active Ageing & Design committee, together with the [European Commission](#) and [Creative Skills for Life](#), will convene a series of interconnected innovation workshops in 7 European countries. These bring together key stakeholders from all relevant sectors, to address the following questions:

- Defining what “age friendly” means in more measurable terms from the ICT and construction perspective
- How to leverage investment to promote age friendly home adaptation and construction
- How can we better align the brightest social entrepreneurs with key private, public and 3rd sector stakeholders to accelerate disruptive new business models and scale the Silver Economy across Europe
- Consider what a reference framework (label) should look like and how it could be developed/governed

The results of this broad consultation process will be a European Reference Framework for Age-friendly housing, specifying a roadmap of the most important actions to foster innovation and scale in the age-friendly smarter housing domain.

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## ENCORD



**European Network of Construction Companies for Research and Development**

### ENCORD COUNCIL MEETING | 01-02 MARCH 2016

The ENCORD Council Meeting was held on 1<sup>st</sup> - 2<sup>nd</sup> March 2016 in Porto, Portugal. 31 participants from 18 member companies attended the meeting.

The first part of the meeting was focused on **Digitalization. Impact in Construction:**

- Dra. Isabel da Rosa, Director of the Portuguese Institute of Public Markets Real Estate and Construction gave an overview of the *Portuguese Model of Electronic Public-procurement*.
- Eng<sup>o</sup> José Carlos Lino, the CEO of NEWTON shown the presentation: *BIM and ICT: the new Construction challenge*.
- Laura Tordera, Secretary General of ENCORD updated the ENCORD and WEF agreement in the framework of *Future of Construction* project.
- A workshop took place led by ENCORD Board. Key topics were identified and the group was split in smaller groups. There were some fruitful discussions. Some of the topics addressed were:
  - BIM (Building Information Modelling)
  - Collaboration and Data Management
  - Cloud computing / cloud based working
  - Internet of Things
  - Generative Design
  - 3D Printing
  - Drones / Robotics

Two new Board members were elected from Bouygues and BAM.

ENCORD Working Groups presented the goals activities for each working group in the next 3 years. Environmental, H&S, Lean, Virtual

Construction Platform, Infrastructures groups were updated. The long term goals and expectations of the WG's were presented by the coordinators. There was a discussion on how to foster and support the efforts the WGs.

OHL gave a presentation about *Public procurement of innovative technology*.

A site visit to the *Tunel du Marao* project was carried out:

The design and construction of the Marão Tunnel , runs in the municipalities of Amarante and Vila Real, district of Porto (west) and Vila Real (east)

The project shows a general orientation NE (northeast) / SO (south-west) , under a topography dominated by the reliefs of the Marão Mountains



Autodesk was welcomed as a new member of ENCORD. They gave an overview of their Company, RDI activities and projects.

Veidekke proposal for quality management and learning in construction to the User-driven Research Based Innovation Program (BIA) at the Research Council of Norway has been approved and ENCORD is going to participate in the project as an advisor member.

Transport and Infrastructure initiatives at ENCORD were updated: TNO, TRA2016, Support of ENCORD to Refinet Project and potential next steps regarding infrastructure activities.

Finally, ENCORD upcoming meetings and workshops are:

- ENCORD H&S Workshop  
6-7 April 2016 | Hosted by Zublin in Stuttgart, Germany
- ENCORD VCP Workshop  
18-19 April 2016 | Hosted by NCC in Sweden
- ENCORD Lean Workshop  
7-8 June 2016 | Hosted by Strabag in Vienna, Austria
- ENCORD Council Meeting  
16-19 October 2016 | TNO Conference in Delft, The Netherlands

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## GERMANY

### German Construction Technology Platform



#### 2015 STUVA CONFERENCE

STUVA's International Forum for Tunnels and Infrastructure was held in Dortmund from December 1 to 3, 2015 with more than 1800 conference participants and 165 exhibiting companies from the tunnel industry spread over around 6000 m<sup>2</sup> of display area. As innovation – apart from the novelties shown by the exhibiting firms – in addition to the subject area “Tunnelling” as a new segment “Tunnel Operation” was integrated for the first time with its own two-day long parallel series of lectures.



Following the opening papers, the STUVA Conference split into two separate parallel series of lectures for the very first time. Consequently, more than 60 papers were presented, 25 of which were delivered in the new “Tunnel Operation” segment.

The STUVA Conference offered to the new record number of 1850 tunnelling experts a programme, unparalleled in terms of concentration and diversity. STUVA's International Forum for Tunnels and Infrastructure, which is held every two years, has gradually developed into one of the most

significant gatherings for underground construction and mobility.



165 exhibitors set up an exciting and diversified fairscape over more than 2600 m<sup>2</sup> of rented space. Both exhibition days were extremely well attended. Furthermore, around 500 exhibition visitors also turned up in addition to the registered conference participants, who had been attracted by the prospect of attending the exhibition free of charge.

The third day of the STUVA Conference was given over to excursions as has always been the case. These are undertaken in small groups headed by experts to construction sites of outstanding projects, as the Emscher redevelopment scheme with its numerous interventions in the underground of the northern Ruhr District, Dortmund light rail system station at the Central Station, the new Lennetal Bridge on the A45, ThyssenKrupp, the North-South light rail system in Cologne, or the Wehrhahn Line in Düsseldorf. Certainly, descending into one of the two last active coal mines in Germany – “Prosper-Haniel” – represented a real highlight as this mine will close down completely in 2018 ending the long-standing tradition of hard coal mining in Germany.

The next STUVA Conference will again be held in Stuttgart, from December 6–8, 2017. The amount of progress achieved by “Stuttgart–Ulm”, Germany’s biggest rail project at present, will once again provide the exciting backdrop for the No. 1 conference dealing with underground construction.

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#### **SUCCESSFUL ECO-SEE INDOOR AIR QUALITY WORKSHOP IN MUNICH**

The ECO-SEE Indoor Air Quality Workshop was held successfully in Munich on the 18 February at the premises of Fraunhofer. The event brought together 41 stakeholders from the research and industry sectors to discuss the achievements of ECO-SEE, but also of the BRIMEE, HHOUSE and OSIRYS projects, which are all part of the Indoor environment cluster within the AMANAC initiative (<http://amanac.eu/>). A lot of members of GCTP took part.



ECO-SEE IAQ Workshop in Munich.

#### **STAKEHOLDER CONSULTATION FOR SC5 “CLIMATE ACTION, ENVIRONMENT, RESOURCE EFFICIENCY AND RAW MATERIALS**

The Focus Area Cultural Heritage of GCTP has launched a call for contribution to the EC SC5

stakeholder consultation. A common contribution will be prepared and given to the EC. Additional GCTP supports the call for contribution of the Indoor Environment Cluster (IEQ) cluster (see [www.cetieb.eu](http://www.cetieb.eu)) on the same consultation.

#### **32<sup>ND</sup> INTERNATIONAL WTA-COLLOQUIUM BUILDING RESTORATION + BUILDING PHYSICS, 10<sup>TH</sup>-11<sup>TH</sup> MARCH 2016**

The 32<sup>nd</sup> International WTA-Colloquium on Building Restoration and Building Physics – Research and development that influence structural engineering - a look back - a look into the future (<http://www.wta-international.org/education/32-wta-kolloquium/>) took place at 10<sup>th</sup> and 11<sup>th</sup> of March 2016 in Hildesheim at the HAWK (University of Applied Sciences and Arts - Hildesheim/Holzminen/Goettingen, [www.hawk-hhg.de/](http://www.hawk-hhg.de/)). Members of the GCTP participated.

#### **EU BROKERAGE EVENT ON KET\* IN HORIZON 2020, 12<sup>TH</sup> MAY 2016 IN MAINZ, GERMANY**

The GCTP supports the EU-Brokerage Event on KET in Horizon 2020 at 12<sup>th</sup> May 2016 in Mainz, Germany (<https://www.b2match.eu/kets2017>). Some rest places are still accessible.

The event is dedicated to Key Enabling Technologies will target upcoming calls in the following thematic fields:

- Nanotechnologies and Advanced Materials
- Biotechnologies
- Advanced manufacturing and processing
- Energy efficiency in Buildings (PPP EeB)
- Factories of the Future (PPP FoF)
- Sustainable process industries (PPP SPIRE)
- PILOTS

### GCTP-FACH MEETING IN MAINZ, 11<sup>TH</sup> MAY 2016

The Focus Area Cultural of GCTP will meet on 11<sup>th</sup> May 2016 in Mainz at the IFS (<http://ifs-mainz.de/>) to give an overview of running EU- and National projects on Cultural Heritage and discuss the new funding rules of the DBU (German Federal Environmental Foundation, [www.dbu.de](http://www.dbu.de)). As preparation of the EU-Brokerage on the 12<sup>th</sup> May an internal Brokerage for the CH-calls (e.g. NMPB-35-2017) will be performed.

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## PORTUGAL

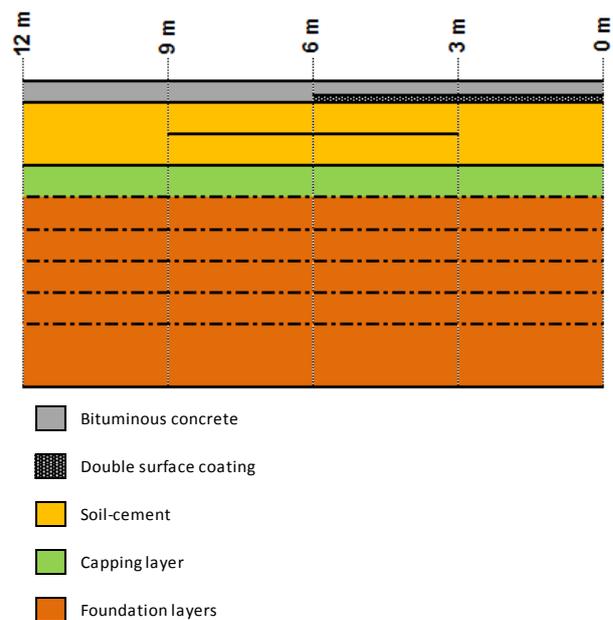


Plataforma Tecnológica Portuguesa da Construção

### ROAD PAVING SOLUTIONS FOR TROPICAL CLIMATES

R&D Project TROPICAL-PAV is an 18-month project developed under a finance incentive of National Strategic Reference Framework (NSRF). It aims the promotion, differentiation and competitiveness of Portuguese construction companies, seeking to spur international markets uptake of innovative, sustainable and energy efficient construction solutions. The project is a consortia lead by the Portuguese companies Elevation Engineering and Construction A.S. and Mota-Engil Engineering and Construction A.S., involving also entities within the National Scientific and Technological System, namely National Laboratory of Civil Engineering, University of Minho and Coimbra and Instituto Superior Técnico of University of Lisboa. All of entities belong to Road Pavement Group of Portuguese NTP (PTPC).

This study aims the development of new road pavement solutions, primarily for tropical countries, including new bituminous mixtures and hydraulic bound soils, in order to increase the road infrastructures intervention times (from 3 to 6 years) and promote costs reductions (around 50%). In order to improve the knowledge of this type of solutions, four different road pavement structures are tested over a Full-scale Accelerated Pavement Testing, built on these project scope. Each of different road pavement structure has 3x3 meters in plant. It is showed in the figure a schematic representation of the 4 different road pavement structures.



These structures comprise both different application of bituminous mixtures and soil-cement constructive solutions. To assess the pavement as a whole and evaluate its overall performance, the experimental section is test through a Pavement Testing Simulator SEAPR. This allows the simulation of the pavement structural performance during its lifecycle within only a few months.



This project was presented in the workshop promoted by Portuguese NTP (PTPC), designated “Workshop: Road Pavements Innovation and Sustainability (in Portuguese)”.

The main actions to disseminate and communicate the results obtained of Tropical-PAV project are:

- Submission of 4 articles to 8<sup>th</sup> Congresso Rodoviário Português (2016);
- Submission of 2 articles to 3<sup>rd</sup> International Conference on Transportation Geotechnics (2016).

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## SPAIN



### Spanish Construction Technology Platform

#### Some activities of PTEC Working Groups

**R&I Internationalization WG**, coordinated by ACCIONA and FERROVIAL, is organizing a workshop in May 10<sup>th</sup>, 2016 to promote the participation of PTEC members at international R&I projects (H2020, Eureka, Iberoeka, etc.).

**Innovation WG**, coordinated by OHL and UNICAN, is working in a document on the

technical evaluation and insurance of the innovation.

**Transport Infrastructures WG**, coordinated by DRAGADOS and VIAS, is organizing the 11<sup>th</sup> PTEC conference on innovation in existing transport infrastructures (Barcelona, April 6<sup>th</sup>, 2016). Additionally, this WG is involved in PTEC activities at REFINET CSA.

**City of the Future WG**, coordinated by TECNALIA and CARTIF, organized in November 2015 the 10<sup>th</sup> PTEC conference on the innovation in the city for the citizens.

**Construction Processes WG**, coordinated by CYPE, ITAINNOVA and UPM, will organize the 12<sup>th</sup> PTEC conference in October 2016 on new construction processes and new tools to improve the construction processes.

#### PTEC at REFINET CSA

PTEC, as member of REFINET CSA to promote innovation in transport infrastructures, is involved in the following dissemination activities:

- ✓ Website [www.refinet.eu](http://www.refinet.eu) with CSTB within Infrastructure and Mobility committee (ECTP).
- ✓ LinkedIn group available at <https://www.linkedin.com/groups/8464241>
- ✓ Newsletters, workshops and conferences

PTEC is collecting templates on best practise in design, construction and operation of transport infrastructures from experts through the NTPs network.

On Wednesday March 16<sup>th</sup>, PTEC has participated in a REFINET workshop at Arup facilities in London on “Technological demands of transport infrastructures”. It was coordinated by Tecnalia and Arup and REFINET partners together with some invited experts participated in this event.

There were invited presentations from Cross Rail (John Pelton), from CIRIA (Owen Jenkins) and from oneTransport project by Arup (Tim Gammons).



The morning session of this workshop was dedicated to collect contributions from the participants on challenges and priority areas for the European Multimodal Transport and the afternoon to identify barriers and timelines for the implementation of the research priorities.

In April 20<sup>th</sup> at TRA 2016 (Warsaw, Poland), PTEC will participate in the invited session of REFINET, FOX and USE-it CSAs “Increasing the performance of multi-modal transport infrastructure through stakeholder management and European-wide shared vision”.

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## **NTPs NETWORK ACTIVITIES**

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In December 2015, Newsletter No.7 was published with contributions from EC DG Move on TRA 2016, from ECTP with the message of the President and from Portugal, Slovenia, Spain and UK.

Besides, a WebEx meeting of the construction NTPs network was organized in March 8<sup>nd</sup> with participation of 12 countries (Belgium, Cyprus, Finland, Germany, Greece, Italy, Lithuania, Poland, Portugal, Slovenia, Spain and UK) and ECTP.

The planned activities for the network till the end of 2016 are:

- WebEx meeting in June 15<sup>th</sup>
- Meeting in Brussels during ECTP Conference (Nov,17-18<sup>th</sup>, 2016)
- Newsletters No. 9 and 10 to be published in June and November 2016

Finally, PTEC as coordinator of this network will be invited to attend ECTP Steering Committee meetings.

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