



European Council of Civil Engineers

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NEWS FROM:

- Greece
- Poland
- Portugal
- Russia
- Slovenia
- Spain
- Turkey
- Ukraine
- U.K.

INSIDE THIS ISSUE:

| | |
|--|----|
| 68th ECCE General Meeting and Global Engineering Congress | 2 |
| Closing of the 2018 European Year of Civil Engineers | 5 |
| ECCE Meeting with the European Commissioner Christos Stylianides | 8 |
| News from ECCE Members | 9 |
| News from ECCE partners | 28 |
| EU News | 35 |
| Upcoming events | 37 |

Aris Chatzidakis, New President of the European Council of Civil Engineers



Aris Chatzidakis
ECCE President 2019-2021

Aris Chatzidakis is the New President of the European Council of Civil Engineers. He took over Presidency of ECCE on 23rd October 2018, during the 68th ECCE General Meeting, that was held in London, UK. Aris Chatzidakis will serve a three year term for the Period 2018 – 2021. Aris Chatzidakis had been appointed ECCE Vice President/ President Elect on 22nd October 2016, during the 64th ECCE General Meeting in Athens, Greece.

PERSONAL PROFILE

Aris Chatzidakis is a Civil Engineer. He graduated, in 1974, from the National Technical University of Athens. During 1975-1976, he attended the post-graduate course (D.E.A.) "Aménagement du Territoire", at the Ecole Nationale Supérieure d'Hydraulique, at the University of Grenoble. He speaks English, and can communicate in French and Italian.

As an independent Civil Engineer he has been mainly involved in the structural design and the supervision of many private works, especially multi-storey housing and commercial buildings. He has been involved, as a structural and a geotechnical engineer, in many infrastructure projects such as bridges, road works of art and retaining walls, waste water sanitation installations and the design of dams. He has specialized in the structural analysis and design, for the restoration of traditional buildings and monuments.

He has participated, for many years, as a member and as the 1st Vice President, on the Directing Board, of the Association of Civil Engineers of Greece (ACEG) (1981-2009). For many years, he has also been a member of the National Assembly, of the Technical Chamber of Greece (TCG) and also a member of many of its scientific and professional committees. He has been the Coordinator of the Standing Committee, on the Ministry of Foreign Affairs issues in the international relations division of the Technical Chamber of Greece for the period 2010-2016. He was member of the group of experts of the TCG dealing with the general Directive 1989/48 and the later 2005/36 and the matters arising for the mobility of engineers and equivalence of diplomas and titles. Since 1986, he has participated at the European Council of Civil Engineers, ECCE, first as a member of the directing board of ACEG and then as a TCG representative. He participated in the Steering committee of ECCE for the general Directive and mobility of engineers. He has also taken part in various occasions in the Greek delegation in the FEANI and ECEC Assembly, and in other occasions such as the 2nd and 3rd European Engineers' Day and the deregulation issues. He is the ECCE representative in the Engineering Association of Mediterranean Countries (EAMC).

He has taught principles of structural analysis and design for the restoration of monuments, at seminars organized by the Technical Chamber of Greece, the Greek Architect's Association and the Greek Civil Engineer's Association. He has participated in congresses, conventions and meetings organized by ICOMOS, the Technical Chamber of Greece, the committee for Medieval Monuments of Rhodes etc., the Earthquake Planning and Protection Organization (EPPO), the Consiglio Nazionale degli Ingegneri and ECCE, in Naples, etc. He has written the book titled «The Masonry Bridges in the Prefecture of Rethymnon», in collaboration with the civil engineer Zoe Evdou, published by the Technical Chamber of Greece / Western Crete Department, in 2003. He has published many articles about the history of constructions and civil engineers. He is also member of the Board of the Organization of the Development of Crete SA and member of Executive Board and Deputy President of EEPO.

New Executive Board of the European Council of Civil Engineers Elected at the 68th ECCE General Meeting



The General Assembly of the European Council of Civil Engineers (ECCE) has elected a new Executive Board at the ECCE Executive Board Elections that took place on 23rd October 2018 at the 68th ECCE General Meeting in London, U.K.

ECCE Executive Board 2019 - 2021
From top left to right:
Paul Coughlan, Jose Francisco Saez Rubio, Andreas Brandner, Platonas Stylianou, Dimitar Natchev, Helena Endriksone, Aris Chatzidakis, Maria Karanasiou, Wlodzimirz Szymczak

The composition of the new Executive Board will thereafter be composed of the following persons:

| Name | Position | Country |
|---------------------------|----------------------------------|----------|
| Aris Chatzidakis | President | Greece |
| Wlodzimirz Szymczak | Immediate Past President | Poland |
| Andreas Brandner | Vice President / President Elect | Austria |
| Dimitar Natchev | Vice President / Treasurer | Bulgaria |
| Platonas Stylianou | Executive Board Member | Cyprus |
| Jose Francisco Saez Rubio | Executive Board Member | Spain |
| Paul Coughlan | Executive Board Member | U.K. |
| Helena Endriksone | Executive Board Member | Latvia |

68th ECCE General Meeting and Global Engineering Congress



The 68th ECCE General meeting was held on 22nd –23rd October 2018, in London, U.K., hosted by the Institution of Civil Engineers (ICE). This meeting has been held in parallel with the [Global Engineering Congress \(GEC\)](#) that was organized as part of the ICE 200 bicentenary programme, the 50th anniversary of WFEO and the UK Government’s Year of Engineering. The GEC was organized in association with the American Society of Civil Engineers (ASCE), the Canadian Society of Civil Engineers (CSCE), the European Council of Civil Engineers (ECCE) and the Commonwealth Engineers’ Council. The GEC and the 68th ECCE General Meeting have been also marked as the summarizing events of the ECCE initiative to designate the year 2018 as the [European Year of Civil Engineers \(EYCE\)](#).

The 68th ECCE General Meeting was very well attended by delegations from almost all of the ECCE Member organizations. The meeting was chaired by the ECCE Acting President Wlodzimirz Szymczak. At the beginning of the meeting opening speeches were held by the ECCE Acting President and the Director General and Secretary of ICE Nick Baveystock who referred to the collaboration of ECCE and ICE as well as to the Global Engineering Congress and to the way in which Civil Engineers transform lives.



68th ECCE General Meeting participants

Among the distinguished guests were ICE Director General and Secretary Nick Baveystock, ECCE Honorary President Richard Coackley, ECCE Past President Antonio Adao da Fonseca, ECCE Past President Gerard Baron, ECCE Past President Fernando Branco, WCCE President Carlos Mineiro Aires, WCCE Past President Emilio Colon, ECEC President Crtomir Remec, ECEC Secretary General Klaus Thurriedl, EAMC President Adil Al Hadithi, and EAMC Secretary General Nicola Mon-da.

During the 68th ECCE General Meeting, ECCE family was increased by one Member. The Ukrainian Council of Civil Engineers (UCCE) was accepted as Full ECCE Member representing Ukraine in ECCE.

The ECCE Acting President Wlodzimierz Szymczak presented the [ECCE Brief Activity Report June – October 2018](#) describing briefly the ECCE activities since our last meeting in May in Tallinn. As part of the Activity report the President of the Georgian Society of Civil Engineers Iuri Svanidze delivered a short presentation on the [2nd International Conference “Seismic – 2018”](#).

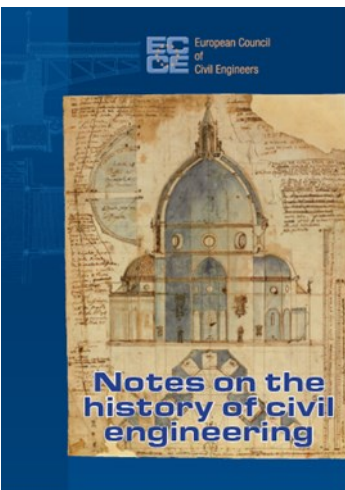
The ECCE Acting President Wlodzimierz Szymczak delivered the [summarizing presentation of the ECCE initiative “2018 European Year of Civil Engineers”](#). This presentation was also delivered as the Closing Statement of the European Year of Civil Engineers during the closing session of the 3rd day of the Global Engineering Congress.

One of the highlights of the 68th ECCE General Meeting was the presentation of the new ECCE book “Notes on the history of Civil Engineering” that was prepared as a contribution by ECCE for the European Year of Civil Engineers. The idea was submitted by Platonas Stylianou (National Delegate from Cyprus and current ECCE ExBo Member) a couple of years ago and the book was materialized over the last eight months by the editorial board that was led by Gorazd Humar, Platonas Stylianou and Aris Chatzidakis. The book was printed in October and the first copies were delivered to the ECCE Members during the 68th ECCE GM. It was dedicated to the 2018 European Year of Civil Engineers and to the 200th Anniversary of the Institution of Civil Engineers. Platonas Stylianou delivered a presentation giving some background information regarding the creation of this book. Gorazd Humar 1st Editor –in–Chief also presented some facts regarding the book “Notes on the history of Civil Engineering”. Both presentations can be found in the following links:

[Platonas Stylianou “...How the project was born, How it all started...”](#)
[Gorazd Humar “Short presentation of the book Notes on the history of Civil Engineering”](#)



ECCE Acting President Wlodzimierz Szymczak during the closing session of the GEC



Following, the [ECCE Position Paper proposal on “The need for integrating Structural / Seismic Upgrade of Existing Buildings, with Energy Efficiency Improvements”](#) was presented by Platonas Stylianou who submitted the idea of the creation of such Position Paper to the ExBo earlier this year. The initial proposal was discussed within the ECCE ExBo and feedback was provided to Platonas Stylianou. The revised proposal was presented to the ExBo during its meeting in London and was unanimously approved. A coordinating team has been formed and will start elaborating the Position Paper immediately. The main message of this Position Paper would be that safety should be an integral part of the early design of intelligent buildings and not an afterthought. On the second day of the meeting the day started with the financial topics reports by the ECCE Vice President/ Treasurer Dimitar Natchev. He briefly informed the delegates regarding the financial status of ECCE and he also presented the proposals for the ECCE Subscription Fees for 2019 and the ECCE Budget for 2019. Both proposals were validated by the General Assembly.

Next on the Agenda was the discussion regarding the FEANI initiative Engineers Europe Advisory Group (EEAG). ExBo Member, Andres Piirsalu who represented ECCE in the Stakeholders' meeting and the Inauguration meeting of EEAG as observer delivered a [presentation regarding the EEAG](#) and how ECCE has been involved in this initiative so far. His recommendation was that ECCE should continue following up the developments in EEAG as

an observer.

ECCE Vice President/ President Elect Aris Chatzidakis, delivered a presentation on the [Construction 2020](#) giving some background information regarding this initiative and describing ECCE's involvement and contribution to the High Level Tripartite Forum and the Thematic Group 1 “Stimulating investment in building renovation, infrastructure and innovation”.

Then, Andrey Pustovgar, one of the delegates from the Russian Society of Civil Engineers – Moscow Department (RSCE-MD), delivered a presentation about [“The role of civil engineers in achieving sustainable development goals”](#) based on the experience of Moscow.

Afterwards, the ECCE Past President Fernando Branco who is currently the President of the International Associa-



ECCE Presidents, From left to right: ECCE President Aris Chatzidakis, ECCE Honorary President Richard Coackley, ECCE Past President Antonio Adao da Fonseca, ECCE Immediate Past President Wlodzimierz Szymczak, ECCE Past President Gerard Baron, ECCE Past President Fernando Branco, ECCE Past President Gorzard Humar

tion for Bridge and Structural Engineering (IABSE) delivered a [presentation on IABSE](#) presenting the organization, its mission and activities.

Finally, the WCCE Past President Emilio Colon gave a presentation on the latest WCCE General Assembly that was held on 21st September, in Sucre, Bolivia during which [WCCE commemorated the European Year of Civil Engineers](#).

At the end of the meeting, the forthcoming ECCE General Meetings were discussed. The ECCE General Meeting in autumn 2019 will be held in Lisbon, Portugal together with the General Meetings of WCCE and EAMC hosted by the Portuguese Ordem dos Engenheiros. The ECCE General Meeting in autumn 2020 will be held in Sofia, Bulgaria hosted by the Union of Civil Engineers in Bulgaria. Also, proposals have been submitted regarding the spring meetings in 2019 and 2020 from Montenegro and Malta respectively which they will be confirmed in due time.

The two-year term of office of the ECCE Executive Board 2016-2018 was closed by the ECCE Acting President Wlodzimierz Szymczak who addressed a closing speech to the ECCE delegates stressing the major achievements of ECCE over the past couple of years.

After the elections for the new ECCE Executive Board 2018-2021, the new ECCE President Aris Chatzidakis addressed an inaugural speech expressing his appreciation to the former ECCE President Wlodzimierz Szymczak for the work he has done over the past few years and his intention to continue this

work and further develop it for the betterment of the civil engineering profession. At the closing of his speech, ECCE new President Aris Chatzidakis commemorated the deceased ECCE Past President Vassilis Economopoulos who was one of the founding members of ECCE. A photo selection of Vassilis Economopoulos was presented and his widow Anna Papadopoulou who was invited by ECCE to attend this meeting was given the ECCE Book "Notes on the history of civil engineering".

ECCE participated also in the Global Engineering Congress with two speakers. The ECCE New President Aris Chatzidakis was a speaker on the third day of the GEC in the "Energy stream". He delivered a presentation titled "[Sustainable structural design: energy efficiency vs structural efficiency](#)". The main goal of his presentation was to bring up the case of the need for structural safety and integrity of buildings as part of the sustainable structural design. As he quoted "Smart buildings are safe and secure buildings", wanted to get through the message that a holistic approach is necessary when it comes to the upgrade of an existing building or the design of a new one. The structural safety of a building is a prerequisite for any energy efficiency upgrade interventions that would make a "smart" one.

The ECCE Immediate Past President Wlodzimierz Szymczak also participated as a speaker and moderator of the closing plenary session on the third day of the GEC. He was member of a panel consisting of Sir John Armit, Chair of the UK National Infrastructure Commission and ICE Past President and Emma Howard Boyd, Chair of the UK Environment Agency. His [keynote address was dedicated to the European Year of Civil Engineers](#). In his speech, Szymczak highlighted that activities and initiatives have taken place across Europe throughout 2018 to encourage interest and involvement in civil engineering.

You can read the round-ups of each day of the Global Engineering Congress following this [link](#).

Photographs from the London ECCE events can be downloaded from the links below:

- [ECCE ExBo Meeting](#)
- [68th ECCE General Meeting](#)
- [ECCE Gala Dinner](#)
- [ECCE's participation in the GEC](#)



New ECCE President Aris Chatzidakis during his inaugural speech



GLOBAL ENGINEERING CONGRESS



The European Council of Civil Engineers would like to express its gratitude to the Institution of Civil Engineers for the successful organization of the 68th ECCE General Meeting and the Global Engineering Congress.

Closing of the 2018 European Year of Civil Engineers - An ECCE initiative to celebrate Civil Engineering

PROCLAMATION



Dear Community of Civil Engineers, Dear Colleagues,

Civil engineering belongs to the oldest domains of human activity – its history is as long as the history of civilization. The social role of civil engineering in the development of mankind has always been of fundamental importance because the standard of human life has been so highly dependent on its progress. This can be observed from the beginning of human history up to the present day. Civil engineering deals with all aspects of the built environment (either physical or natural) and can be dated to the first time someone placed a roof over his or her head or laid a tree trunk across a river to make it easier to get across. And we can be confident that the role of civil engineering will continue to grow into the future.

Civil engineering as a domain of technological activity is a key element of the national and international economy. Economic progress is impossible without adequately developed social and physical infrastructure, including, for example, buildings, water distribution networks, and service and transport infrastructure networks.

Contemporary achievements of civil engineering, thanks to the progress of building knowledge and science, are spectacular. This is exemplified by numerous tall buildings, dams, large bridge structures, water infrastructure, motorways, sport stadiums and halls, theater houses, etc., constructed in the last decades and strongly influencing urban and extra-urban areas and landscapes. On the other hand, we should also note less spectacular but equally important achievements for social and economic reasons, such as residential buildings, smaller bridges, roads, industrial buildings, etc. The first field can be considered as extraordinary examples of civil engineering, illustrating its especially high level of achievement, while the second one can be considered as 'the work of the day' of civil engineers. Both of them are equally important.

The social, economic and cultural progress of every country is impossible without the contribution of civil engineers, based on their education, professional knowledge and experience. The impacts of their activity can be evidently observed in the form of buildings and structures of various types. Civil engineers are in general socially accepted or in many cases admired. In spite of its dynamic development and its very considerable modern achievements, civil engineering is commonly treated as a rather traditional domain of technology. This situation can be observed in many countries world-wide including in Europe.

However, the reality is that the role of civil engineers in advancing social, economic and cultural progress is especially high. Moreover, civil engineering is a profession that enjoys the highest level of public confidence. Civil engineers are ultimately responsible for the safe utilization of buildings and structures. This is an especially important and often forgotten aspect of the social role of civil engineers. Apart from their technological activities, civil engineers also increasingly consider the social effects of engineering decisions. To meet this condition, civil engineers continue to widen their knowledge of the economic and social sciences.

Ultimately, civil engineering is a very exciting profession. At the end of the day civil engineers can see the results of their work, whether this is a completed bridge, a port, a high-rise building, a subway station, a tunnel, a highway, a hydroelectric dam or even a small house.

Looking to the future, the civil engineering profession will play a fundamental role in dealing with many of the challenges that society will face. The world is becoming increasingly and relentlessly urbanized and this is bringing with it unprecedented social, economic and environmental stresses. Added to this will be the impacts of climate change and environmental degradation. While all aspects of civil engineering will be put to the test, there will be a particular focus on the areas of transportation, energy and water. Civil engineers will be tasked with providing infrastructure which is both sustainable and resilient to address these challenges.

The profession will also be challenged to proactively address the opportunities and efficiencies which will be brought about by the digital revolution, also known as the fourth industrial revolution. Digital technology will drive increasing auto-mation in our industry and there will be opportunities to use the rapidly expanding ocean of data to better design, construct, operate and maintain physical infrastructure.

Taking into account the situation briefly presented above, the European Council of Civil Engineers (ECCE) has decided to proclaim year 2018 as the European Year of Civil Engineers (2018 EYCE). The main goals of this proclamation have been to reinforce the fundamental role of civil engineers in society in improving the standard of human life, to make the case for the prestige of the civil engineering profession in the social community of European countries and to stress the pivotal role that civil engineers will play in addressing the challenges that will face society in the future.

Włodzimierz Szymczak

Immediate Past President of ECCE

2018 saw activities and initiatives organized by the ECCE member countries all around Europe to get people interested and involved in civil engineering. The opening event was held on 2 December 2017, in Nicosia, Cyprus where the Cyprus Association of Civil Engineers held its 25th General Assembly and celebration of its 25th Anniversary. The closing of the 2018 EYCE took place in London, during the week of 22-26 October 2018, when the Global Engineering Congress was held to celebrate the 200th Anniversary of the U.K. Institution of Civil Engineers (ICE) in combination with the 50th World Federation of Engineering Organizations (WFEO) Anniversary, the Triennial with the American Society of Civil Engineers (ASCE) and the Canadian Society of Civil Engineers (CSCE) and the 68th ECCE General Meeting.



What were the goals of the 2018 EYCE?

- To reinforce the fundamental role of civil engineers in society in improving the standard of human life.
- To make the case for the prestige of the civil engineering profession in the community of European countries.
- To stress the pivotal role that civil engineers will play in addressing the challenges that will face society in the future.

How did we try to achieve them?

- Wide dissemination of the 2018 EYCE proclamation
- Designated logo to denote 2018 as the European Year of Civil Engineers
- Organization of various types of events related to the civil engineering profession by our Member Countries across Europe
- Designated standard presentation to be delivered during all EYCE events
- Marketing of the initiative through press, media, our website and our journal
- Free access to the two ECCE book editions "Civil Engineering Heritage in Europe" and "Footbridges – small is beautiful"
- Communication of our initiative to the European authorities
- Publication of the book "Notes on the history of Civil Engineering"

The European Council of Civil of Civil Engineers offers as part of the celebration of the European Year of Civil Engineers **free access to its two book editions Civil Engineering Heritage in Europe and Footbridges – Small is beautiful**.

Both books are downloadable and can be found at the ECCE website at the following links:

[ECCE Edition Civil Engineering Heritage in Europe](#)

[ECCE Edition Footbridges – small is beautiful](#)

[2018 EYCE Calendar of events \(pdf format\)](#)

Be an ECCE Member (EUCivEng) ECCE Individual Membership



The European Civil Engineer

The profession of the Civil Engineering is mostly performed where the construction is being made, in Europe or in any part of the world.

Today, within the European Union, construction companies have activities in many countries, so civil engineers have to move to foreign countries and to work all over Europe.

To allow this professional movement EU published a Directive on Professional Mobility, to facilitate the recognition of Civil Engineers across Europe.

Nevertheless the Directive considers under this title, professionals with quite different academic or professional backgrounds, what can lead to unclear situations for society.

The EU Directive on Mobility proposes the creation of a European Database of Civil Engineers, interconnected through national organizations.

ECCE appeared in 1985 to promote the quality of Civil Engineering with a professional recognition where academic/professional quality is guaranteed by the national organizations.

ECCE as representative of those organizations, and to promote quality in professional recognition, is opening its membership to individual members, allowing for their image recognition as European Civil Engineers.

Join ECCE, be a EUCivEng!

ECCE goals:

- To present in Brussels the views of the European civil engineers.
(ECCE participates in the High Level Tripartite Forum for Construction in EU)
- To establish international contacts with other associations.
(ASCE, JSCE, KSCE, ECCREDI, Mediterranean countries, etc.)
- To promote the relevant professional information across Europe
(Publication of e-journal, books, reports, etc.)
- To organize Conferences across Europe about Civil Engineering
(See the conferences presentations in ECCE website)

What do I get as an ECCE Individual Member?

- **If you just want to be an ECCE member**, you will receive:
The e-journal and all relevant information from EU Commission
- **If you want to come to our meetings**, you will get:
Participation in 2 International conferences per year;
Participation in 2 General assemblies per year;
Participation in Brussels Engineers Day each 3 years;
To be in contact with civil engineers across Europe (EU and nonEU).
- **But if you want to be really active**,
You are welcome to participate in the discussion forums or to propose position papers to be submitted to Brussels.



May I become an Individual ECCE Member?

Yes, although ECCE is an association of national organizations, individual civil engineers may also be Individual Associate Members, with access to all the information and discussion forums, but they may not vote in ECCE General Assemblies.

Being an ECCE individual member you will have the reference EuCivEng.

And you get also the ECCE membership card !

- The ECCE card identifies you, through your national organization, as a Professional of Civil Engineering in your country and a **EUCivEng** in ECCE.
- It is expected that in the future the card will allow an automatic civil engineering identification across Europe, according to the EU Mobility Directive, when national organizations implement their database of Civil Engineers.

How can I become an ECCE Individual Member?

Please send to ECCE headquarters (ecce_sps@otenet.gr):

1. [Registration Form](#)

2. Document from your ECCE National Organization as a proof that you are member of it
3. [Excel sheet with your information](#)
4. Photograph
5. [Excel sheet with your name and address](#)

After receiving the notification of acceptance of your application from the ECCE General Secretary, you will be asked to proceed to the **Payment of the Subscription Fee** according to the **Payment Details** that follow.

What are the Payment Details?

- To be an ECCE individual member there is an **annual fee of 20 euros**.
- If you are **older than 65 you pay only once 30 euros** and you become member with unlimited validity.
- You can pay in packages of 3 years (60 euros) or 5 years (100 euros), **plus 8 euros, with each package, for mail and printing of a new card.**

The payment should be sent by bank transfer to:

National Westminster Bank plc, Charing Cross Branch

BIC NWBK GB 2L
IBAN GB28 NWBK 6072 1408 5260 60
Bank Address: National Westminster Bank plc, PO Box 113, Cavell House, 2A Charing Cross Road, LONDONWC2H 0PD
Account Name: European Council of Civil Engineers
Account Number: 550/00/08526060
Sort Code: 60-40-05

Please ensure that your payment includes your name as a reference.

After payment send a copy of the bank transfer to ecce_sps@otenet.gr and you will become ECCE member and you will receive the membership card.

[Join us now!](#)
[Become an ECCE Member \(EUCivEng\)](#)

ECCE Meeting with the European Commissioner Christos Stylianides (Humanitarian Aid & Crisis Management, Department of European Civil Protection and Humanitarian Aid Operations)

On 27th November 2018, a delegation from the European Council of Civil Engineers consisting of the President Aris Chatzidakis, ExBo member Platonas Stylianou and the President of the Cyprus Council of Civil Engineers Andreas Theodotou met the European Commissioner for Humanitarian Aid and Crisis Management Mr. Christos Stylianides, in Brussels. Present in the meeting was also Mr. Zacharias Giakoumis (Cabinet of Commissioner).

The purpose of this meeting was to discuss the topic of "intergrading structural upgrade with energy efficiency". The European Commissioner for Humanitarian Aid and Crisis Management opened the meeting and welcomed the participants. He briefly explained his role and duties as an EU Commissioner and the new project named RescEU that he manages to achieve for prevention and preparedness.

The President of ECCE Mr. Aris Chatzidakis thanked the Commissioner for accepting us and made the necessary introduction explaining the ECCE organization, scope, members and history and make a short introduction to the problem of structural vulnerability and the necessity of structural and seismic upgrade in parallel with the necessary energy upgrades and to the scope of the meeting. Then he explained to the commissioner that we need to raise



From left to right: Commissioner Stylianides, Aris Chatzidakis, Andreas Theodotou, Platonas Stylianou

awareness for the safety of buildings.

Mr. Platonas Stylianou explained briefly the problem and that one of the most important issues, which define the way of living, is Safe, Sound, and Secure building. He also explained the scope of the position paper which ECCE is preparing on the topic "The need for integrating Structural / Seismic Upgrade of Existing Buildings, with Energy Efficiency Improvements" and that the aim is to ensure sustainability, resilience, and safety of existing

buildings through structural upgrading against seismic actions and enhanced energy efficiency. Then, he briefly explained the questionnaire prepared and the feedback that we are waiting from ECCE members. He also explained that when the position paper will be finalized, it will be disseminated in various ways (conferences, publications, media presentations, national professional boards, etc.) to raise the attention and ensure its continuation as a major European project in order to understand the need of structural and seismic upgrade in parallel with the necessary energy upgrades and to attract EU funds for that purpose.

Mr. Andreas Theodotou analyzed the importance of structural upgrading of existing buildings against seismic actions for many European Countries and how it could be possible to be combined with the energy efficiency upgrading of the buildings. Finally, he pointed out that this target would be possible by European and National funding.

Finally, the Commissionaire explained that since elections are coming soon, it is not the time and it's not easy for changes and a new era to occur. But he also explained to us that if we want to succeed then we need to continue with more pressure and more meetings with the country stakes of EU and the newly elected parliament members since it is a mere fact that we need and Europe needs Safe, Sound and Secure buildings and most probably a way will be found that EU grants to be given for that purpose. However, the countries may need to contribute to that through their structural funds.

All participants agreed that lobbying is necessary in order for politicians and other people of influence, who are decision makers, to understand the necessity of "The need for Structural / Seismic Rehabilitation of Existing Buildings, in parallel with Energy Efficiency Improvements".

The conclusion of the day was made by the Commissioner saying that always "Prevention is better than Cure".

News from ECCE Members

Greece



1st International Interdisciplinary Conference

"Economy, Society and Climate Change – The impact of mega trends in the Built Environment, Construction Industry and Real Estate"

7-10 November 2018

The Technical Chamber of Greece, the International Federation of Surveyors, the Working Party for Land Administration of the United Nations Economic Commission for Europe, the International Union of Architects (Greek Section) and the European Council of Civil Engineers, invited policy makers, senior professional leaders, academics and all relevant professional experts to bring together experiences and scientific knowledge that would impose setting up land policies and actions in the fields of sustainable land and real estate management for the humanity and the economic and legal empowerment of the poor and for dealing with the impact of climate change and other mega-trends. Trends in the management of land and real estate, including land administration, land use planning, heritage preservation, property valuation and taxation, construction and development issues in terms of technology,

environmental friendly and disaster management tools, funding issues, as well as educational and professional aspects were presented. The effect of brain drain on developing or distressed economies was also discussed in the conference.

Sixty (60) distinguished speakers from around the world contributed with their expertise and knowledge to the Conference's major goals which are the following:

- Initiate professional cooperation and activate interchange of multidisciplinary ideas on the impact of the current and future mega-trends in the built environment, construction industry and real estate
- Raise awareness and increase capacity among relevant professionals in the private and public sectors, and in academia, about their role in the digital society for the good management of land and real estate and for a sustainable real estate market;
- Inspire relevant professionals to realize the need for a joint professionals' response, and for establishing a closer cooperation for a world free of poverty, fear and inequality, where life is safe and growth is resilient and sustainable.



ECCE President Aris Chatzidakis during his speech at tufe2018

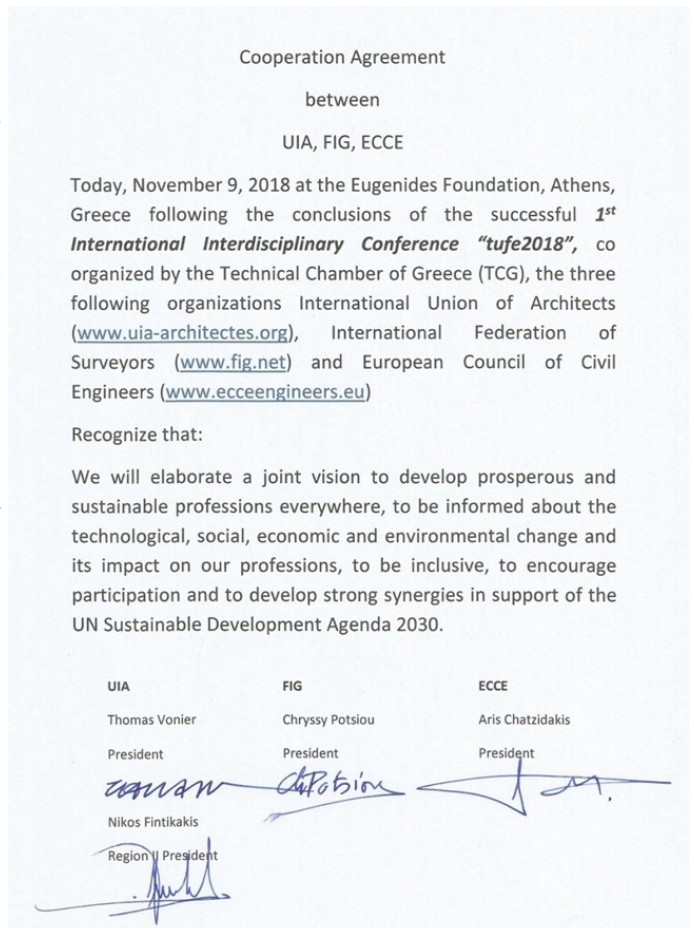
ECCE President Aris Chatzidakis highlighted in his opening speech that the energy efficiency of buildings and the robustness of the constructions are the two biggest and immediate future challenges for the technical world in Greece, Europe and internationally. "We as civil engineers must emphasize that sustainability means above all the safety of structures. Structures cannot be viable if they are not secure." said A. Chatzidakis, noting that the sustainability of existing infrastructure will be a major problem for Europe in the years to come. ECCE Assembly, and in other occasions such as the 2nd and 3rd European Engineers' Day and the deregulation issues. He is the ECCE representative in the Engineering Association of Mediterranean Countries (EAMC).

"My presence and my election at the European Civil Engineering Council represents and reflects the work that has been carried out over the years by the Technical Chamber of Greece on international issues with its international activity and also the good reputation of civil engineers all over the world." said the President of ECCE.

Mr. Chatzidakis also noted that there are two major changes in the engineering profession nowadays: the engineering profession has become digital and engineers are now called to work in a world that is very vulnerable and sensitive environmentally-wise. He also noted that the activity of each civil engineer at a local level has now a global impact and this must be a key element of the responsibility for the design of new buildings and infrastructures.

The speaker also referred to the international issue of rapid urbanization, pointing out that "we will have rapid technological developments and maintaining a human scale in the mega-cities will be very challenging". Mr. Chatzidakis also stressed that in order for the countries, societies and economies to be able to respond positively to these new challenges, it is essential to exploit the scientific knowledge and the technological means as well as to ensure that the engineering education and curricula are continuously upgraded. "We have to produce better and more qualified engineers and therefore the standards of the engineering education should not be undermined by any means." he concluded.

Finally, a cooperation agreement among the International Union of Architects (UIA), the International Federation of Surveyors (FIG) and the European Council of Civil Engineers (ECCE) was signed aiming to foster a joint vision for the development of prosperous professions and to encourage the development of collaborations supporting the UN Sustainable Development Agenda 2030.



Poland

The 17th National Reporting and Electoral Convention of the PCCE



PCCE President Zbigniew Kledyński

On 29-30 June 2018 the 17th National Reporting and Electoral Convention of the Polish Chamber of Civil Engineers (PCCE) was held in Warsaw. The convention summarized the activity of the professional self-government of civil engineers in 2017 and elected new governing body of the PCCE for the 2018-2022 term of office. Zbigniew Kledyński will be the President of the National Council of the PCCE for the 5th term of office of the professional self-government of civil engineers.

This year's 17th National Reporting and Electoral Convention of the Polish Chamber of Civil Engineers was attended by delegates from all of the 16 district chambers representing nearly 116 thousand members of the self-government.

Delegates and guests who came to the convention were welcomed by Andrzej Roch Dobrucki, the President of the National Council of the PCCE. In his speech opening the 17th National Reporting and Electoral Convention of the Polish Chamber of Civil Engineers, the President of the

PCCE emphasized that civil engineers had always wanted to have a professional self-government – a solid organization that would represent and defend their interests. The organization that has been established over the last several years should be cared for and protected against federalization. He stressed the need for mutual assistance and self-governing responsibility of district chambers.

The guests invited to the convention also took the floor during the official part of the Convention. Artur Soboń, the Deputy Minister in the Ministry of Investment and Development said, "I would like us to treat one another as partners who we can rely on. The people I have cooperated with so far are experts and defenders of the professional group. I want to assure you that works on the Act on Professions will not disintegrate the construction investment process. We pay heed to the arguments of both architects and civil engineers. We are developing functional provisions to allow for the unique aspects of both professions. Together we should work out the best decisions and solutions that will benefit the construction investment process and Poland.

An important event on the first day of the meeting was the election of the new PCCE governing body for the 5th term of office in the years 2018-2022. Zbigniew Kledyński was selected the President of the National Council of the PCCE for the 5th term of office in a secret ballot, with 107 votes in favor; his rival Mieczysław Grodzki was supported by 86 delegates.

After the results were announced, Prof. Zbigniew Kledyński thanked for having been selected and pointed out to different declarations that preceded the voting. Now, he said, he hoped for help and support in solving numerous problems faced by the Chamber, regardless of voting preferences. "The Polish Chamber of Civil Engineers needs you all and I will make every effort to use your competence and potential to the benefit of our self-government", said President of the PCCE Prof. Zbigniew Kledyński.

Also, the program of the PCCE activities in 2018-2022 was approved. The delegates, by majority, passed the resolution on the improvement of professional qualifications of civil engineers by adopting the Rules for the improvement of professional qualifications of civil engineers.

"Continuous improvement of professional qualifications is the foundation and guarantee of professional performance of independent technical functions in the building industry, which enhances the prestige of civil engineer as a public trust profession", Andrzej Podhorecki, the Chair of the Continuing Professional Development Committee, emphasized with reference to the Rules.

During the meeting the 2019 budget was adopted and the report of the Resolutions and Motions Committee of the 17th National Convention of the PCCE was accepted.

Members of the Presidium of the National Council of the PCCE for the 2018-2022 term of office:

President: Zbigniew Kledyński

Vice President: Zygmunt Rawicki

Vice President: Andrzej Pawłowski

Secretary: Danuta Gawęcka

Deputy secretary: Tomasz Piotrowski

Treasurer: Andrzej Jaworski

Deputy treasurer: Dariusz Karolak

Member of the Presidium: Gilbert Okulicz-Kozaryn

Member of the Presidium: Józef Kluska

Portugal

As part of the European Year of Civil Engineers 2018 the National College of Civil Engineering) of the Portuguese Engineers Association, organized the *National Civil Engineering Meeting 2018* held in the *University of Aveiro* on July 22nd 2018, entitled “**New Challenges for Civil Engineering**”.

The meeting sought to divulge and discuss the new challenges and responsibilities faced by Civil Engineering within the framework of 4.0, 5.0 and even 6.0 construction, show the work that developed in the digitalization and automation of construction and featured the attendance of renowned speakers. Another current and fundamental matter discussed was the training and performance of civil engineers.

The main topic of the discussion were the challenges of digital transformation in the AEC sector, concluding that the investment in research and development (R&D) and information technology (IT) are the main growth levers for increase productivity in the sector.

The focus on digitalization and on collaborative work strategies that allow a reliable management of information during the whole lifecycle of a project, namely through BIM – *Building Information Modeling*, methodology have been identified as the main technologies that will contribute to a smart development in the AEC sector.

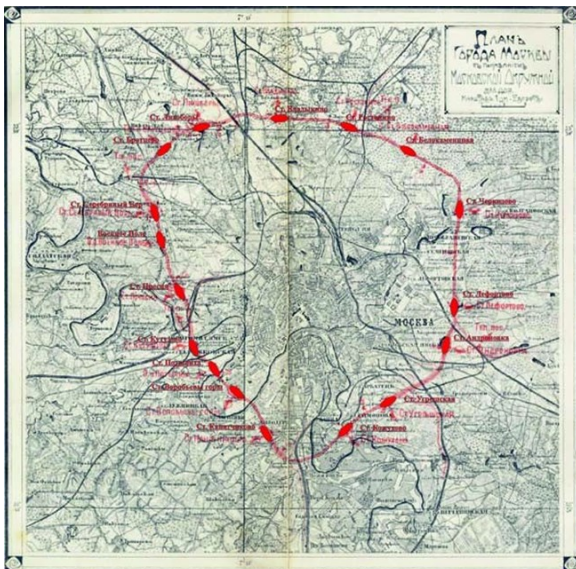


Russia

Essay on Engineering in Moscow in the XX Century

At the beginning of the twentieth century due to high rates of development Russia took the fifth place in the world on the volume of industrial production. The average annual increase of industrial production in Russia and other developed countries reached the following figures: In Russia – 8,5 %, Germany – 4,9 %, the USA – 3,3 %, the Great Britain – 2,4 %, France – 1,6 %. At the same time its share in the world industrial production comprised only 6 % because Russia fell behind of the European countries in its development.

At the beginning of the XX century the city occupied 71,4 square kilometers. By year 1917 it already covered 242 sq. km. The architectural image of the city started to change drastically. The increase of industrial production volumes and trade turnover were not possible without creation of modern transport communication. At that time Moscow became the biggest railway center of the country. The main event of that period was the construction of the Circular railroad (nowadays Moscow Central Ring) following the example of Berlin. The length of ring diameter comprised 54 kilometers and including the adjacent and access roads – 145 kilometers. Totally the railroad overwhelmed the construction of 33 bridges, 6 overpasses, 4 pedestrian metal bridges, 9 temporary wooden bridges, aqueduct, pipeline, 9 stone and 3 concrete pipes under the railroad.



The scheme of Moscow Circular Railroad 1907

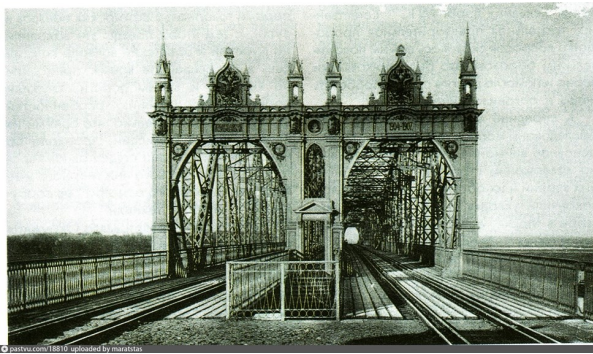
For the first time in the Russian railway construction that road was designed as an integrated architectural and engineering city complex. The new materials and technologies were widely used for the construction of the road facilities. At the Moscow Circular railroad (MCCR) four large bridges across the Moskva-river were erected, namely Alexeevsky, Dorgomilovsky, Sergeevsky and Imperial.

The Sergeevsky and Imperial bridges were twin-bridges. The engineers Mr. Proskurjakov, Mr. Kamentsev and the architect Mr. Pomerantsev were the designers of the project. Thanks to the single-span scheme the conditions for navigations were created. The height of arches was enough for passing large vessels.

The Sergeevsky Bridge was the first for commissioning. In 1907 the construction of the Alexeevsky Bridge was completed. The later was named in honor of the Imperial throne heir. During the period 1998 – 1999 the bridge was under the unique reconstruction which was performed from the water with the help of floating craft.

Among numerous Moscow bridges there are very few older than one hundred years. Almost all Moscow bridges were built during the Soviet period. At the

late thirties due to commissioning of the Moskva-Volga Channel the Moskva-river became navigable everywhere within the limits of the city.



The Sergeevsky Bridge 1907

Within the period 1930 – 1940 the high scale reconstruction of Moscow was conceived and partially fulfilled. The General plan envisaged the construction of new wide transport routes and widening of the existing ones, erection of bridges, metro construction, irrigation and gardening of Moscow as well as construction of skyscrapers for “communism builders”. The huge construction of the Channel named after Moscow was initiated and finished in 1937. The Channel connected the Moskva-river with the Volga making them a navigable and water supplying route. The high flood-free granite embankments with total mileage 52 kilometers appeared in the capital city. The 3 existing bridges were reconstructed and 9 new ones were built.

The implementation of ambitious plans of creation of New Moscow had to be interrupted because of the beginning of the Great Patriotic War in 1941. After the war the General plan was under fulfillment

with major amendments. Nowadays the total number of bridges in Moscow comprises 452. This figure includes the bridges across water bodies as well as overpasses.

In 1913 the Moscow State Duma signed the project of the construction of new radial underground lines without using of the term “metropolitan”. It was considered remunerative to connect underground lines and railroads. The metro trains were to use the existing railroad tracks. The construction was planned to start in 1917 but the First World War and the Civil War, the revolution in Russia brought the city transport to decline. The metro construction was initiated only on December 10th, 1931.

The Moscow metro started to operate on May 15th, 1935. The commissioning of the first metro line was a breakthrough not only of metro builders but of the whole Soviet industry. The orders from the first Moscow metro line were fulfilled by 540 plants throughout the Soviet Union.

The architectural solutions of Moscow metro stations commissioned after the War were - according to the remarks of well-known scientists, cultural figures, foreign guests – absolutely splendid and modern while the metro itself was considered “the most beautiful and convenient in the world”.



The scheme of Moscow metro in September 2018



The scheme of perspective development of Moscow metro till 2035

The beginning of 2010 was marked by a new Mayor Sergey Sobyanin office which made a vital and necessary decision to increase rates of metro construction. The plans of 1913 Moscow State Duma on joining railroad and metro came true at last. The Moscow Circular railroad which was built at the beginning of the century lost its significance for the capital city and was transformed into a ground transport facility for high-speed transportation of passengers. Nowadays it is called the Moscow Central Circle (MCC). 31 new convenient stations were commissioned on that metro line in 2016. The MCC gives to the city the alternative of choosing new routes, reduces the load on metro and railway stations in the city center and makes the average trip over Moscow 20 minutes shorter. In 2017 the metro transported 2442.4 million passengers.

By the end of 2018 it is planned to open 25 underground stations, build 53 kilometers of routes. Moscow is becoming the world leader of metro construction. Since 2011 about 56 metro stations were opened in Moscow. By year 2022 the length of Moscow metro lines will comprise 450 kilometers and 67 new stations will appear. For twenty years of XXI century the number of stations will be doubled. At the present moment the major forces of the Moscow building complex are occupied by the construction of the Big Circle metro line. The city transport infrastructure has

drastically changed lately. And the plans for improvement of this sphere are very ambitious. In 2019 it is expected to commission two new routes of Moscow Central Diameters (MCD) – actually the city will be connected with the region and region towns with each other.

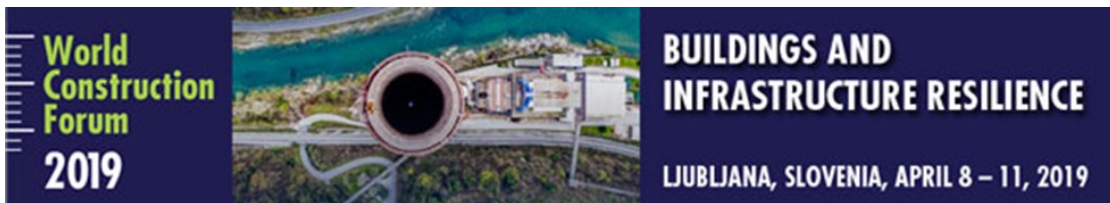


The passengers' terminal Vorobjevy Hills of Moscow Circular railroad 1907



The building of the old terminal after the reconstruction in 2016

Slovenia



Buildings and Infrastructure resilience
World Construction Forum WCF2019,
Ljubljana, Slovenia, 8. – 11. April, 2019

Slovenian Chamber of Engineers (IZS), University of Ljubljana, Faculty of Civil and Geodetic Engineering (FGG) and World Federation of Engineering Organizations (WFEO) in co-operation with several further international and national organizations and associations and under the patronage of United Nations Educational, Scientific and Cultural Organisation (UNESCO) and the honorary patronage of President of the Republic of Slovenia, organizes the **World Construction Forum 2019** dedicated to selected themes which shall contribute to the promotion of key-role of construction engineers and civil engineers in general, in improving life quality and sustainable development. *The WCF2019 will be held from 8 to 11 April, 2019 in Cultural and Congress Centre - Cankarjev dom in Ljubljana, Slovenia and is dedicated to the 100th Anniversary of the Ljubljana Engineers Chamber, predecessor of Slovenian Chamber of Engineers, and to the 100th Anniversary of the University of Ljubljana.*

The WCF2019 overall theme is Buildings and Infrastructure Resilience from Climate Changes to Disaster Risk and Facility Management and we would like to attract different stakeholders interested into this topic, such as practicing engineers and architects, policy makers from administration bodies of all levels, researchers and scientists, university professors and students, construction industry representatives, developers and investors – all are invited to contribute to WCF2019 and be present on this important world event in Slovenia.

The intention of WCF2019 is to highlight the topics that are society's focus of interest in the early decades of 21st century and that will influence construction sector's development in the decades to come. Global society is aware of challenges caused by climatic and social changes, which pose serious threats/risks to further development. Construction sector should and can contribute to mitigation of these risks/threats. Selection of WCF2019 topics is based on the main concept on discussing different approaches for engaging construction sector's knowledge and practice in order to upgrade social resilience. Therefore, the Forum will focus on:

- Questions related to Wind Power, Nuclear Power, Water Energy, Solar Energy, Sustainable Energy, with special emphasis on technical and economic feasibility of energy issues of significance to society.
- Merging and overlapping of the material and digital world into one – with the goal of creating not only high quality, inexpensive and sustainable, but also smart, interconnected and customized products for the end user.
- Promoting the importance of the integrated approach to cultural heritage supported by the application of digital technology in order for its preservation and increase economy development in cultural heritage areas.
- Exchange of viewpoint on questions related to disaster risk management and governance aimed at enhancing community resilience addressing the role of construction industry and engineering practitioners.
- Engineering capacity building focusing on strengthening of economies, governments, institutions and individuals through education, training, mentoring, orientation and mobilization of resources.
- Emphasizing the organization, control and coordination of the strategic, tactical and operational management throughout the lifetime of buildings and facilities – at all times of the day and every day of the year.

The WCF 2019 will support exchange of knowledge, expertise, practices and visions in construction engineering and contribute to achievement of several, - according to Resolution 70/1 of the United Nations General Assembly:

"Transforming our World: the 2030 Agenda for Sustainable Development.", - Sustainable Development Goals (SDGs) among others the following goals:



- SDG No. 6** **Clean Water and Sanitation** - contribute to the reduction of CO₂ emissions by construction of sustainable energy generation plants.
- SDG No. 7** **Renewable Energy** - building sustainable transportation infrastructure
- SDG No. 9** **Innovation and Infrastructure** - energy retrofiting buildings as support for smart cities
- SDG No. 11** **Sustainable Cities and Communities** - make cities and human settlements inclusive, safe, resilient and sustainable
- SDG No. 13** **Climate Action** - It can both mitigate the effects of changing climate, for example by installation of passive and active climate control in buildings, by preventing floods, improving water supply etc...
- SDG No. 17** **Partnerships for the goals** - strengthen the means of implementation and revitalize the global partnership for sustainable development (finance, technology, capacity building, trade, ..).

Special attention will be given to the following themes

Engineering Capacity Building
Construction 4.0
Cultural Heritage in Digital World
Disaster Risk Management & Governance for Resilient Communities
Facility & Asset Management, BIM Lifecycle.

It is evident that forum will cover a large spectrum of topics and will present a number of interesting lectures and discussions. A few hundred participants, practising engineers and architects, construction industry representatives, policy makers from administration bodies of all levels, researchers and scientists, university professors, teachers and students, developers and last but not least investors from all over the world will address and exchange their opinions.

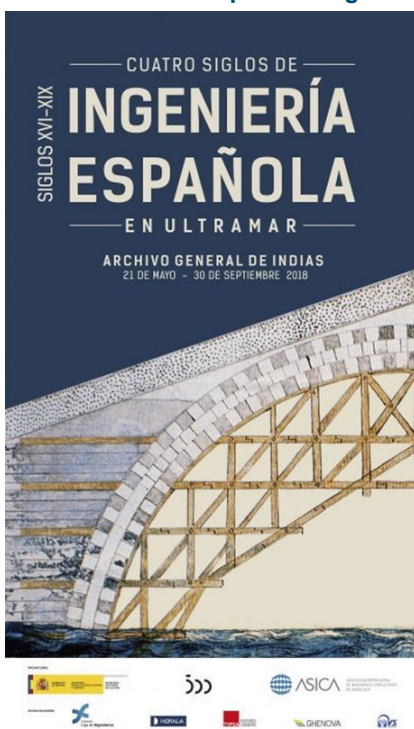
A declaration of the forum will be prepared as a summary of the closing statements of each forum's section. The document shall be issued at the closing ceremony of the forum.

Take advantage of this opportunity and attend the WCF 2019! For more information please see the conference website at <https://www.wcf2019.org/>

Dr. Branko Zadnik, IZS

Spain

Four centuries of Spanish Engineering in Overseas, XVI-XIX centuries - The Exhibition



Concurrent with the European Year of Civil Engineering, Spanish engineering commemorates the third centennial of the first Royal Decrees that regulated the profession of Engineers in Spain, which is why the Ministry of Education, Culture and Sport and the Association of Consulting Engineers of Andalusia ASICA, has promoted a great exhibition titled: "Four centuries of Spanish Engineering in Overseas, XVI-XIX centuries" that could be visited in the Archivo General de Indias, located in Seville, until last September 30.

In essence, the exhibition project aims to show all the technological heritage that our predecessors used to project the American continent and the Philippine archipelago. Thus, the exhibition covers the history of engineers, hydraulic works, communications, mining, industry, ports and fortifications, naval engineering and the city and territory. A huge journey in time and geographical scale under the guiding thread of the vast heritage of the General Archive of the Indies, completed with contributions from other institutions, such as Colegio.

The exhibition focuses on the engineers themselves, to the signatories of plans and budgets, true engineers of the advancement of social welfare under the influence of the Spanish Crown. A tour of the three galleries of the Archive allows you to see projects of relevant Spanish Engineers throughout four centuries such as Cristóbal de Roda, Bautista and Juan Bautista Antonelli, Pedro Ochoa de Leguizamo, Prospero de Verboon, Agustín Crame, Silvestre Abarca, Antonio de Arévalo, Antonio Garrote, Antonio de Gaztañeta, Jorge Juan, Pedro de Peralta, Agustín de Betancourt and Nicolás Valdés, geniuses in the anonymous service of citizens and their progress.

Spanish engineering is endowed with unparalleled references; it was in 1534 when the implementation of a transoceanic canal in Panama was considered. Centennial references that belong to our Engineering Schools and that outline an encouraging future for the knowledge and

projection of our engineering companies that, in a mercantile present, return to Overseas harvesting continuous successes.
 Attracting youngsters to the engineering profession generate social respect for our profession, prestige the Spanish historical-technological heritage and enhance the solvency of our engineering companies, are the goals of this exhibition which intends to move overseas to several Latin American countries.

Spanish Constitutional Court ruling ratifies the obligation of public servant’s to register professionally through Colegios

Spanish Constitutional Court in its ruling Sentence 82/2018, of 16 July 2018, has confirmed the compulsory registration of public service officials, declaring unconstitutional and ineffective any laws which erroneously exempted compulsory registration to public servants or service providers for the Administration.
 On such grounds, all professionals (nationals or foreign entitled for civil engineering practice as Ingenieros de Caminos, Canales y Puertos), employed directly or practice on behalf of the public administration in Spain are required to register at Colegio.

The Civil Engineering Olympiad: A program to open student vocations



During the last decades the number of students interested on Civil Engineering university degrees has decreased, even more in countries heavily impacted by the economic crisis. On such grounds, Colegio de Ingenieros de Caminos, Canales y Puertos together with the universities of Granada, Sevilla, Alicante and Polytechnic of Valencia have joined together to develop a program to open secondary students. The program titled Civil Engineering Olympiad is a contest among teams of five students to overcome, in the shortest time possible, six tests related to different areas of CE: Hydraulic Engineering, Mechanical and Structural Engineering, Environmental Engineering and Construction Engineering. Winner team of each university will compete in a national final. In May 2018 the participant universities has developed a pilot project to check the tests and solve possible organization problems to celebrate the First Edition of the Olympiad of Civil Engineering in 2019 with a higher number of Universities. This is one way to

increase the pool of gifted students who could study Civil Engineering degrees in future, as similar competitions and programs successfully developed during year, for example Mathematical, Biological or Chemical Engineering Olympiads, among others.

The Olympiad in Civil Engineering has been designed as a team competition in which students from Secondary Schools compete in 6 events pertaining to various areas related to Civil Engineering activities (Figure 2): Hydraulic Engineering, Environmental Engineering, Structural Engineering, Civil Engineers and their constructions. These events should be properly developed in the shorter time as possible. Events will be developed as a gymkhana in teams of 5 students and supervised by a teacher who plays the role of referee.

| 1. Build your future | 2. Da Vinci Bridge | 3. Build a dam |
|--|---|--|
| A half-arch structure must be built to resist without falling for at least 5 seconds | Da Vinci Bridge will be built and resist, without falling, to one of the member of the team during, at least, 5 seconds | A dam will be built and the time it takes to break once it is filled with water will be measured |
| 4. Civil Engineers and their constructions | 5. ReLATIciela | 6. Playing to be Engineers |
| 6 puzzles with pictures of engineering works should be assembled in the shortest possible time | A 2 m sculpture with recycled cans should be built | It will consist in making a challenge with a construction videogame |

Figure 2: Characteristics of events forming The Olympiad in Civil Engineering.

Development of the pilot experience

In order to verify the six events designed by teachers from different universities, as well as the organization of the competition, a pilot phase was carried out in May 2018; during this phase students of 2º ESO from the Secondary School Cristo de la Yedra, in Granada, was invited to participate. Some organizers of the Olympiad visited the School to explain to teachers the objective of the competition, the development of the events and to give them some materials necessary to train.

After a month of training with the teachers of the school, 25 students were selected (16 girls and 9 boys) organized in 5 teams. These teams visited the High Technical School of Civil Engineering of the University of Granada, where they competed along one morning with another team integrated by university teachers. Six teachers of the High Technical School acted as referees for each of the events. Figure 4 shows some pictures of the competition during the development of the events.

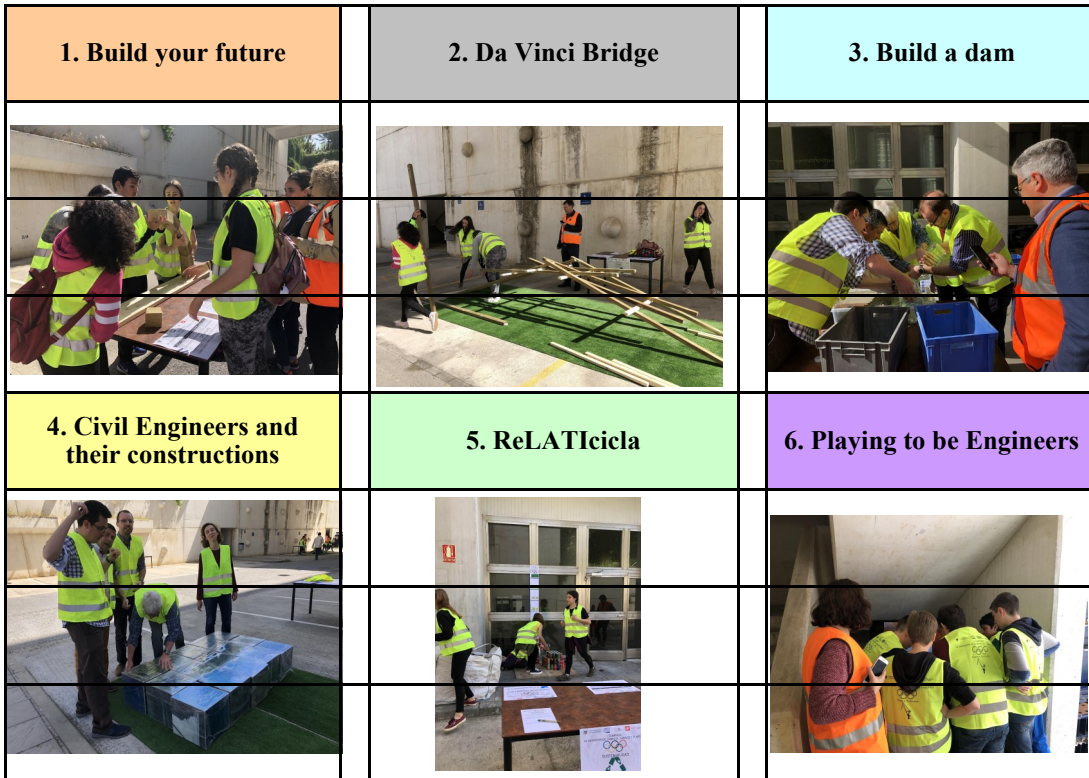


Figure 4: Pilot experience of The Olympiad in Civil Engineering in High Technical School of Civil Engineering at the University of Granada.

Event scoring was provided in solving time. In order to know the influence of the Olympiad on the participating students, a brief survey was prepared and implemented before and after the event. It was designed to ask about the working area of Civil Engineers or the possible election of students to study to develop this profession, among others. Prior to the competition, becoming Civil Engineer was among the five first options for the 12% surveyed, however at the end of the contest, the interest doubled. Therefore, it could be concluded that the competition opened up vocations among potential students to be Civil Engineers. It is important to note that, both before and after the competition, there were not girls who chose the profession of Civil Engineer among the top five positions. This result highlights the importance to encourage girls to study Engineering degrees in general, and Civil Engineering particularly.

We can conclude that The *Civil Engineering Olympiad*:

- is an opportunity to spread and clarify the role of Civil Engineers of Secondary Schools students and teachers.
- will encourage teachers of Secondary Schools to improve applied teaching of basic materials of Engineering (Mathematics, Physics).
- develops soft skills in Secondary Schools students: group work, deduction capacity, basic knowledge application, and creativity, among others.
- contest on local and national levels may encourage participation, increasing the goal of this initiative.

Turkey

9th National Coastal Engineering Symposium November 1-3, 2018 Adana, Turkey



The 'National Coastal Engineering Symposiums' were held since 1998 at different coastal towns of Black Sea, Marmara Sea, Aegean Sea and Mediterranean surrounding Turkey under the auspices of the Turkish Chamber of Civil Engineers. Since then, these Symposiums always had a great national impact to strengthen the bonds of knowledge in the field of Coastal Engineering, in addition helped to enrich the experience of young engineers and students. The symposiums always aimed to promote academic and technical exchange of knowledge on coastal related studies covering a wide range of topics including coastal waves, nearshore currents, coastal structures, sediment transport, coastal morphology, beach nourishment, natural hazards and coastal management and from the first to the last they were a great success.

The 9th Coastal Engineering Symposium was started with the President of TCCE, Cemal Gökçe and honorary president of



the Organizing Committee, Prof. Dr. Ayşen Ergin and Adana Branch president Zekeriya Turanbayburt's opening speeches.

The 9th Coastal Engineering Symposium with original motivation reflected in main motto; "Our Coasts, our Seas and our Future" was held in November 1-3, 2018 at Adana, Turkey, again successfully and hosted by the Chamber of Turkish Civil Engineers, Adana Branch.

Among the 111 abstract submitted, 77 papers were accepted for presentation in the Symposium.

5 plenary sessions were held by the invited speakers on topics namely;

- Integrated basin and coastal zone management; impact of global climate change
- Comparison of Numerical and analytical Tsunami models

- Turkish Technical Code and Standards in Coastal Engineering
- Uncertainties governing the numerical, physical models and the data input in coastal engineering practices
- An Unusual Coastal Project carried out in Maldives by a Turkish Engineering Firm.

In the symposium the papers were presented in the following subjects in 17 different parallel sessions.

1. Coastal Hydrodynamic and Morphology
Wave theories, Wave transformation, Sediment transport, Erosion, Deposition, Physical and Numerical modeling
2. Coastal Structures
Port planning, Design, Wave-Structure-Ground interaction, Breakwaters, Ports, Marinas, Submarine pipelines, Offshore structures and platforms, Coastal protection structures, Construction, Repair, Monitoring, Shoaling and Dredging, Materials in coastal structures, Damage monitoring, Maintenance and strengthening, Geotechnical applications in coastal areas.
3. Coastal Area Planning
Integrated coastal zone management, Environmental and legal aspects, Climate change and effect of city planning, Pollution, Wetlands, Estuaries, Water quality, Data collection and field work, Methods of data analysis, Coastal information systems, Shoreline changes, GIS applications.
4. Natural Hazards and Risks, Climate Change
Natural hazards impacting coastal areas, Climate change and effects on coasts, Sea level rise, Earthquake, tsunami, flood, extreme marine events, Risk analysis, and Mitigation strategies.
5. Renewable Energy Sources and Applications
Energy sources; wind, wave, current.
6. Education in Coastal and Ocean Engineering
In the dissemination of education for publications and models in academy, government and private sector. Symposium successfully achieved the goal by sharing experience, knowledge and capacity between Universities, Governmental and Non-Governmental Organizations, Private Sector, Professionals, Local Authorities and other stakeholders.

Symposium took place with the participation of the members of Board of TCCE; Şükrü Erdem, Bülent Erkul, Hüseyin Kaya, Cem Oğuz and Necati Atıcı and wide participation of civil engineers.

A Structural Optimization Approach for the Load-Bearing System Design of Solar Panels

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Abstract

Both the development of technology and the concentration of engineering science into the search of the best in the most economical way to humanity have increased the demand for optimization methods. Optimization can be defined as a search for a solution of a need without violating the constraints defined within the possibilities. The mentioned constraints, in the simplest way, can be demonstrated as the amount of available material or material properties; while the aim may be expressed as the cost reduction for production or application.

Suggestions on increasing the rate of solar power use are also coming to the fore. In order to make solar power plants more attractive for investors, other engineering disciplines besides energy must also provide contribution to the relevant research. Within the scope of these researches, needs and possibilities should be addressed from the scientific point of view and research should be carried out in order to make the production process suitable for the current conditions and the economic situation.

In this study, a structural optimization approach to solar power panels was presented. On the basis of topology optimization, it is aimed to obtain the designs with the highest structural performance for the load-bearing parts of solar power panels, taking into consideration the multiple loading situations. In this direction, initial designs that are compatible with widely used types of load-bearing systems have been considered and subjected to the optimization process; optimum three-dimensional design of load-bearing systems was sought under snow, wind and modal

loadings. With the approach shown, it has been found that the optimum design of load-bearing system can be determined more easily and quickly, especially within local needs and possibilities. Considering that solar power plants have grown in number and have become more widespread with state-funded grant projects in recent times, the interesting aspect of this study on the production front stands out.

Keywords: Solar power panels, Structural optimization, Topological design, Multiple loading situations, Finite element method.

1. Introduction

Societies increasingly need and spend more and more energy depending on the basic factors such as population growth, economic development plans, and the development of technology. The fact that increased energy consumption is met by fossil resources is a remarkable environmental issue, and it is obvious that these fossil resources are limited as well as their recycling requires a very long process. Therefore, as energy is consumed, the sources and technologies that cause various types of pollution on the earth must be replaced by renewable energy sources and technologies that contribute to the environmental balance. Renewable energy sources have gained more importance in recent years for this reason. Solar power; because of its advantages such as its potential, ease of use, cleanliness and environmental friendliness, it is the most preferred resource compared to other renewable energy sources. Today, solar power plants (SPP) are installed on large areas, and certain number of solar panels is placed side by side in both directions in order to benefit from solar energy efficiently, and it is aimed to collect sun rays and convert them into electric power. From a mechanical point of view, it is important to design the panels in a robust manner against the static and dynamic effects so that their load-bearing systems will be subjected to throughout their lifetime.

Along with the design process of a structural member, many models can be specified that meet the requirements such as structural and financial efficiency. However, when responding to these needs, appropriate approaches should be preferred to find out the best (Özkal et al., 2016). The optimization concept can be defined as a search for a solution of a need without violating the constraints defined within the possibilities. The mentioned constraints, in the simplest way, can be demonstrated as the amount of available material or material properties; while the aim may be expressed as the cost reduction for production or application. The concept of structural optimization can be summarized in terms of reducing the structural weight or increasing the structural performance, without compromising structural integrity and meeting boundary conditions.

Especially when the SPP projects in Turkey are reviewed, it is seen that several ordinary models for the load-bearing systems of solar panel are preferred, and engineers are working only for dimensioning these models. In this study, it is aimed to design load-bearing systems via topology optimization method. When searching for the optimum design, multiple loading situations such as snow, wind and modal loadings were taken into consideration.

2. Solar Power Plants

Solar energy is the oldest energy source used, and it plays the most important role in maintaining the existence of human beings and life. To give an example in the most basic way; vital events such as photosynthesis and water cycle are caused by solar energy. Old civilizations perceived the sun as a god. The first use of solar energy is known as the drying and preservation of food (Kalagirou, 2004). Following this, mankind has learned through researching how to utilize solar energy and has improved this knowledge throughout history. These developments are hot water production, heating, cooling, drying, purification and electric power production.

Solar energy has been used in heating and mechanical applications since ancient ages. It is stated that Archimedes created a system which collected solar rays at a certain point for the first time in 212 BC, and this work led to subsequent research (Delyannis, 1967). The first developments in the modern sense were seen in the 18th and 19th centuries. The first solar furnace operated by the solar energy system was made by a chemist, Lavoisier in 1774 (Fig. 1) (Lavoisier, 1782).

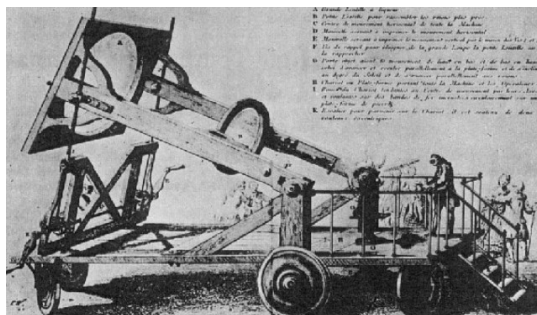


Fig. 1. The solar energy system that the French chemist Lavoisier built to study the melting properties of metals.

In the 19th century, research on the conversion of solar energy to low pressure, for use in steam engines, has been seen. The French engineer Agust Mouchot pioneered the construction and operation of several solar-powered building systems in Europe and North Africa between 1864 and 1878. One of these was presented at the international show in Paris (Fig. 2) (Kalagirou, 2004). In the 1960s, solar energy started to be used for hot water production and heating in houses; has been rapidly used in many countries around the world. Typically, this system can be described as anchoring two solar collectors with 3-4 m2 surface area and water tanks with 150-180 liters storage capacity on a metal frame.

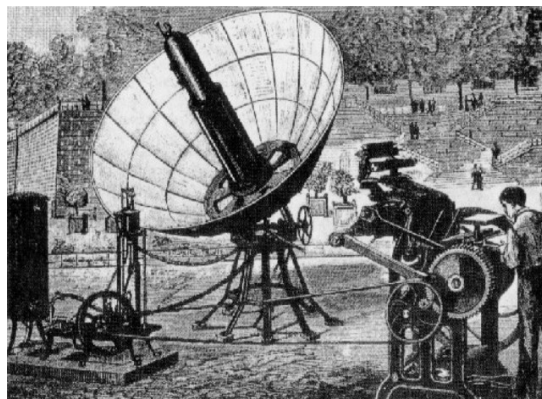


Fig. 2. French engineer Mouchot's solar energy collection system.

Solar power plants are divided into PV (photovoltaic) type and thermal electricity type. Solar thermal power plants started to be installed in the late 1970s. The first one was the solar power plant established in Albuquerque, New Mexico, in 1979. This plant consisted of 220 heliostats and had a power production capacity of 5 MW. Solar thermal power plants could be heliostat (reflective flat mirror) and central solar tower; longitudinally cylindrical focused collectors, and scattered dish collector types. An example of a solar power plant farm is shown in Fig. 3. Power plants are also installed by placing various numbers of solar panels side by side on both directions. Some reference designs of panel load-bearing systems obtained from international firms and local power plant projects are presented in Fig. 4.



Fig. 3. A terrestrial type solar power plant



Fig. 4. Some sample designs for the load-bearing systems of solar panels.

3. Structural Optimization of Load-Bearing System Design

Today, many ideas are being put forward to speed up the use of solar energy; which is also thought to be possible by making solar power plants more attractive to investors; other engineering disciplines besides energy must also provide contribution to the relevant research. Needs and possibilities should be investigated by different disciplines within a scientific approach, and the most suitable power plant projects should be created. Solar panels, which are placed in fields on large flat lands, are supported by metal load-bearing systems. These load-bearing systems are vital for the continuity of the plant, which is installed for investment purposes and requires at least 25 years of use. In this respect, great care should be taken in the design and installation of the load-bearing systems. Soil class, properties and chemical content and various loading conditions such as snow, wind and earthquake effects are the factors to be considered in the design of load-bearing structures.

Optimization studies started with combining the experience obtained from the events in the nature with the results of various trials. Application areas and preferred methods were continuously developed day-to-day (Özkal, 2012). In this study, the structural optimization approach used for the optimal design of panel load-bearing systems is based on the logic that the ineffective finite elements are found and extracted from the design domain. Based on the idea that finite elements with low stress values have a low contribution to structural behavior as a result of finite element analysis, it is thought that if these elements are removed, the remaining elements will have a more effective contribution, and structural performance will be increased. Using the various optimization parameters, an iterative process is performed to extract the ineffective elements from the structure to ultimately reduce both the amount of material and provide maximum rigidity for the truss-like topology in which all materials used contribute to the structural performance. The topology-based optimization algorithm can easily be implemented with software packages capable of finite element analysis and achieves solution at a less time than many other methods.

Numerous studies have been carried out on this method which takes place in the academic literature by the name of "evolutionary structural optimization (ESO)" by Xie and Steven (1993) (Özkal and Uysal, 2009). Although the

method is based on a simple idea, it is very important to establish the optimization algorithm and determine the variables used. Before starting the optimization process, a design domain large enough to accommodate the final design is first determined. Load and support conditions are applied, and stress analysis is performed using a finite element analysis software. The initial stress-based form of the ESO method is usually based on von Mises stresses to control the element removal process (Steven et al., 2001). The stress level at each node can be calculated by taking some sort of averaging of all stress components. One of the most widely used criteria for isotropic materials are von Mises stresses (Xie and Steven, 1997). The stress level of the structural elements is determined by the ratio of the stress value of the element to the maximum stress in the whole structure. After each finite element analysis, the structural elements that are not used effectively due to the current rejection ratio (RR) are extracted from the design in each iteration as the number of element removal ratio (ERR). The finite element analysis and the element removal process are repeated until the RR value remains constant after reaching the local optimum state, and then the rejection ratio (RR) is increased by the newly defined evolutionary ratio (ER).

In this study, the optimization process was carried out over a section where the solar panels were placed as 3x3. Three different models were selected for the initial designs of the optimization process (Fig. 5), considering that many of the existing projects are generally designed with load-bearing parts on both sides of the system. In the first model, an initial design was chosen to allow the load-bearing part only on the sides, while in the other two models; the initial design was expanded in the middle and at the ends to see if additional parts might be required in the intermediate regions.

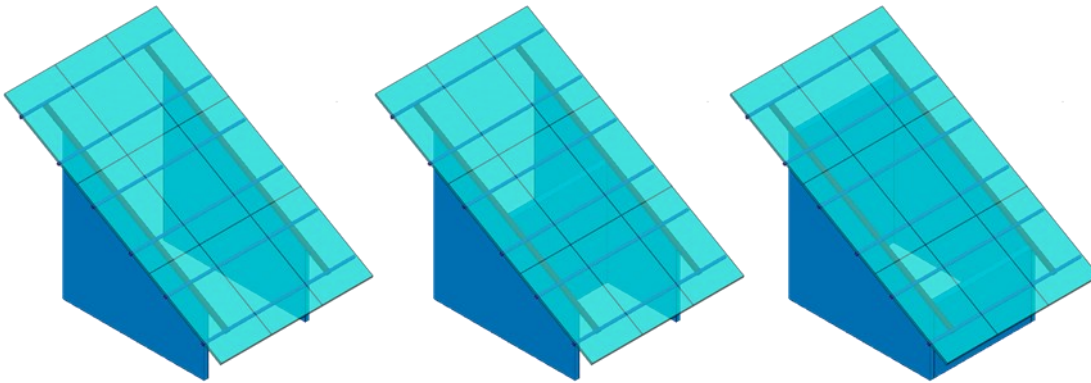


Fig. 5. Initial designs for structural optimization

Snow and wind loads (TS 498, 1997) were applied on the basis of the climatic characteristics of Gaziantep province as well as the modal loading for multiple loading situations to be taken into consideration along with the self-weight of solar panels, steel beams and purlins. Uniformly distributed snow load of 1.25 kN/m^2 was applied in the vertical direction because Gaziantep province is in the 3rd region, and the elevation from the sea level is 850 m. Because the structure had a height of 0-8 m; a suction load of 0.20 kN/m^2 in the upper part of the panel normal direction and a pushing force of 0.40 kN/m^2 in the lower part were applied as the uniformly distributed wind loading. Solar panels were modeled as aluminum and placed in 9 pieces with dimensions of $1.00 \times 1.65 \text{ m}$ and weight of 20 kg. The unit volume weight, modulus of elasticity and Poisson's ratio values for ST44 steel were used for the beams and purlins under the panels (Table 1). Panels were modeled to have an inclination angle of 30° and the short side of the load-bearing system was considered to be 1.25 m height from the ground. Support conditions were applied so that the bottom nodes of the load-bearing parts were fixed in three axes.

Table 1. Material properties.

| | Unit Volume Weight (kg/m^3) | Modulus of Elasticity (N/mm^2) | Poisson's ratio |
|----------|--|---|-----------------|
| Aluminum | 3,000 | $150 \cdot 10^3$ | 0.3 |
| Steel | 7,850 | $210 \cdot 10^3$ | 0.3 |

Topology-based optimization algorithm was coded in MATLAB and finite element analyzes were performed by ANSYS. Since the optimization process requires elements of equal volume as possible; tetrahedral SOLID186 element, which has three degree of freedom and 10 nodes were preferred for the finite element modeling. In the application of the snow load, the upper part of the panels was covered with the surface element SURF154 so that the load could be transferred to the panels through these structural elements.

Optimization algorithm variables were specified as; $RR=1.0\%$ for the rejection ratio; $ER=0.5\%$ for the evolutionary ratio; and $ERR=2.0\%$ for the element removal ratio. While these values are compatible with previous studies, optimization processes have been carried out on different values, but these values have been found to yield the best results. The optimization procedure, which is applied iteratively, can be summarized as follows.

- Individual finite element analyzes were performed for three loading cases.
- Maximum von Mises stress value throughout the whole structure and the elements with lower stress values than RR were determined.
- For each loading state, those elements determined by the ERR number were extracted from the finite element mesh, and this process was performed in each iteration.
- In case of no common element could be found in three loading cases, RR value was updated by the addition of ER value.
- As the stress level in the structure increased too much, in other words, when the structural integrity was lost; the process was terminated so that the optimum design could be determined.

4. Discussion on the Optimization Results

While the optimum designs achieved at the end of the applied optimization process are presented in Figs. 6-8 separately for each model, the information about the structural behavior obtained from the finite element analyses of the initial and optimal designs for these models is given in Table 2-4. In order to investigate the efficiency of the optimization process more clearly, volumes of the designs, minimum and maximum of von Mises stresses, maximum principal stresses and displacement values are shown in these tables.

One of the most noticeable points in the results is that all of the structural elements in the connection parts defined between the side parts of the second and third models have been removed totally. It should also be noted that there are inconsistencies in the results of modal analysis of the initial and optimal designs of the models. Following the investigation of the optimization history, it has been found that the mode shapes change after some steps as the design changes throughout the optimization process. The same statement can be pointed for the reason that the final designs of the three models are different from each other, although all structural elements in the intermediate regions were removed.

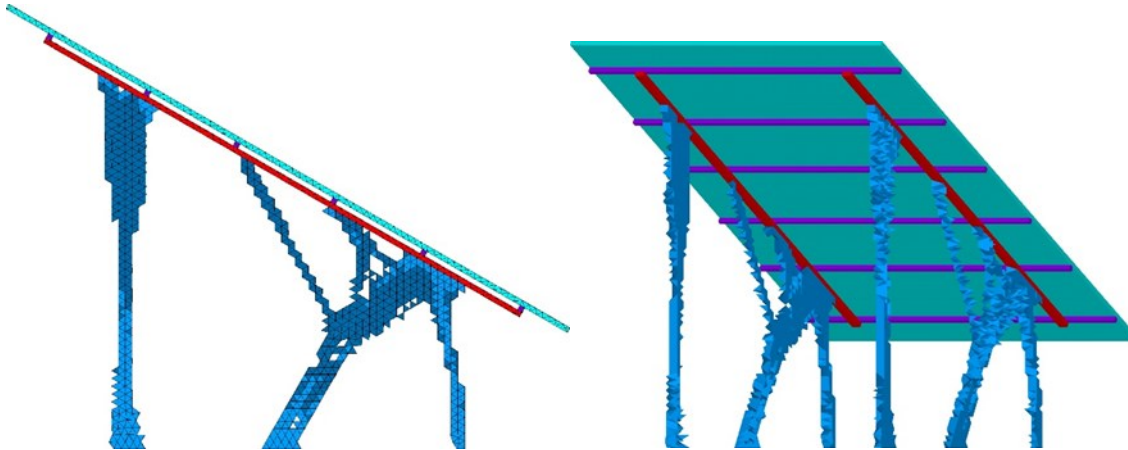


Fig. 6. Optimum design for Model-1.

Table 2. Finite element analysis results for Model-1.

| | Volume (m ³) | Load Case | σ_{vM}^{\min} (MPa) | σ_{vM}^{\max} (MPa) | σ_1^{\max} (MPa) | σ_3^{\max} (MPa) | u^{\max} (mm) |
|----------------|--------------------------|-----------|----------------------------|----------------------------|-------------------------|-------------------------|-----------------|
| Initial Design | 0.922 | Snow | 0.0076 | 15.059 | 3.393 | -19.392 | 0.0186 |
| | | Wind | 0.0040 | 3.148 | 3.914 | -0.719 | 0.0050 |
| | | Modal | 0.1157 | 30.551 | 24.116 | -24.116 | 1.2995 |
| Optimum Design | 0.101 | Snow | 0.0633 | 15.951 | 4.958 | -20.346 | 0.0460 |
| | | Wind | 0.0137 | 3.786 | 3.711 | -4.801 | 0.0296 |
| | | Modal | 0.0203 | 40.725 | 43.758 | -43.758 | 2.0185 |

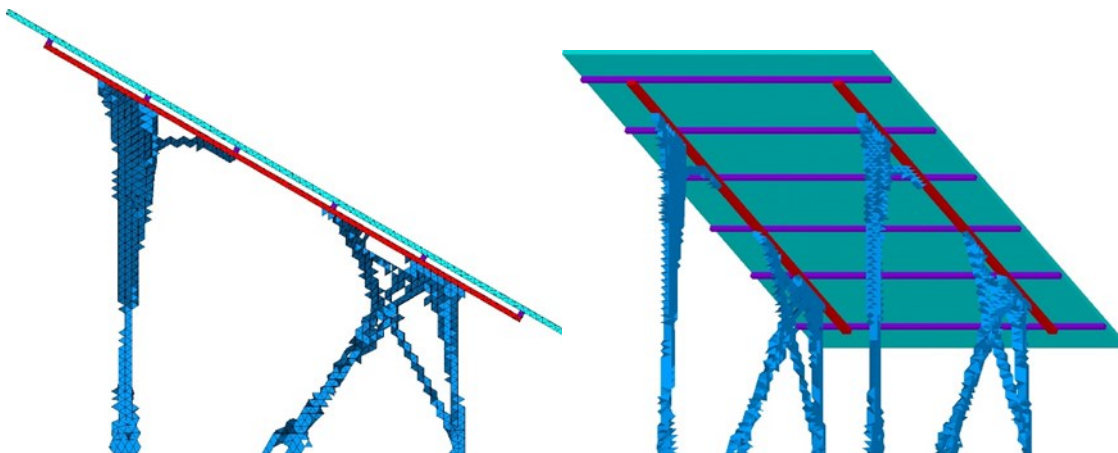


Fig. 7. Optimum design for Model-2.

Table 3. Finite element analysis results for Model-2.

| | Volume (m ³) | Load Case | σ_{vM}^{\min} (MPa) | σ_{vM}^{\max} (MPa) | σ_1^{\max} (MPa) | σ_3^{\max} (MPa) | u^{\max} (mm) |
|----------------|--------------------------|-----------|----------------------------|----------------------------|-------------------------|-------------------------|-----------------|
| Initial Design | 1.238 | Snow | 0.0070 | 15.117 | 3.479 | -19.490 | 0.0142 |
| | | Wind | 0.0004 | 3.176 | 3.936 | -0.738 | 0.0038 |
| | | Modal | 0.0404 | 299.240 | 337.520 | -211.530 | 0.2726 |
| Optimum Design | 0.090 | Snow | 0.0844 | 15.689 | 5.220 | -20.250 | 0.1745 |
| | | Wind | 0.0162 | 3.038 | 3.714 | -3.060 | 0.0539 |
| | | Modal | 0.0081 | 51.668 | 66.834 | -66.834 | 1.3287 |

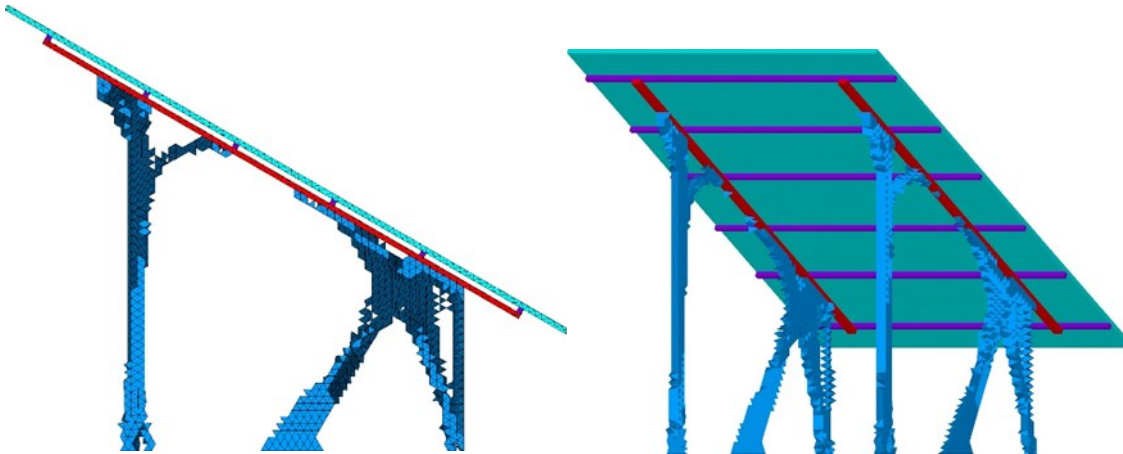


Fig. 8. Optimum design for Model-3.

Table 4. Finite element analysis results for Model-3.

| | Volume (m ³) | Load Case | σ_{vM}^{\min} (MPa) | σ_{vM}^{\max} (MPa) | σ_1^{\max} (MPa) | σ_3^{\max} (MPa) | u^{\max} (mm) |
|----------------|--------------------------|-----------|----------------------------|----------------------------|-------------------------|-------------------------|-----------------|
| Initial Design | 1.554 | Snow | 0.0011 | 13.593 | 2.008 | -17.174 | 0.0061 |
| | | Wind | 0.0003 | 2.883 | 3.476 | -0.394 | 0.0012 |
| | | Modal | 0.0127 | 253.650 | 282.510 | -260.570 | 0.0407 |
| Optimum Design | 0.117 | Snow | 0.0472 | 14.133 | 3.464 | -17.810 | 0.0474 |
| | | Wind | 0.0189 | 2.780 | 3.424 | -2.231 | 0.0188 |
| | | Modal | 0.0349 | 45.926 | 58.656 | -58.656 | 1.3384 |

When the optimum designs are evaluated based on the numerical results; the decrease in the volume of the load-bearing systems is remarkable, and the volume difference between the initial and final designs is around 90%. Regarding to the finite element results, there are insignificant increments in the maximum of von Mises and principal stresses while the minimum of von Mises stresses are increased as expected and aimed. Although the increase in maximum displacement values is greater, the efficient stress levels should be regarded as the most important criterion for the success of the applied optimization process.

If the optimum designs achieved through three different initial designs are evaluated in a superficial form, the Model-2 resultant is more preferable in terms of feasibility of the design and numerical results. Accordingly, the reproducible illustration of the design is presented in Fig. 9. In order to finalize this design, the load-bearing parts should be analyzed like a truss system to calculate bar axial forces and then the load-bearing system should be detailed.

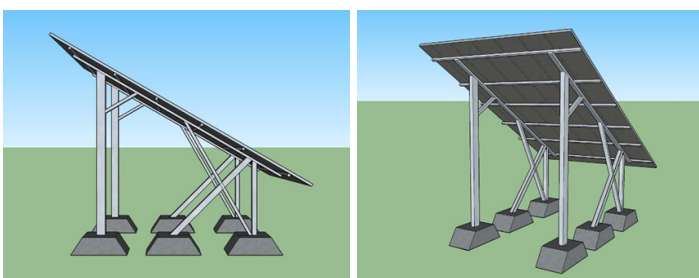


Fig. 9. Draft design for the optimum load-bearing system.

5. Conclusions

Following the computer technology has overcome a certain crisp, optimization studies are now being used effectively in many areas. The topology optimization method used in this study, is one of the outstanding methods in the literature due to its usability, productivity and the feasibility of the produced designs. However, it is known that many of the optimization methods are limited to academic studies, and they are not used for real purposes. Considering the popularity of solar power plants today, an optimization approach to the load-bearing system design of solar panels has been presented in this study.

A topology optimization algorithm was constituted by considering that the panel load-bearing systems were subjected to multiple loading situations in the form of snow, wind and modal loading, and the optimum design was sought using three different initial designs. The results have been achieved to use the material in a more efficient way as expected and aimed in the optimum designs. In order to further improve the mentioned approach, it might be suggested to build up a formulation which quantifies the efficiency of the designs obtained. This study should be evaluated with a special importance, in terms of both scholars and engineers working on the relevant disciplines, in order to bring out the advantages of the topology optimization method based on the manufacturability feature as well as to emphasize solar power plants which attract attention nowadays.

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Ukraine

100th Anniversary of the National Academy of Sciences of Ukraine and of its President Prof. Boris Paton



NASU President Prof. Boris Paton

On 6th and 7th December 2018, the 100th Anniversary of the National Academy of Sciences of Ukraine (NASU) and the 100th Anniversary of its President Prof. Boris Paton were celebrated in Ukraine. On Thursday 6th December a meeting with international delegations was held. The Presidents of National Academies of China, Kazakhstan, Armenia, Azerbaijan, Belorussia, Vietnam, Georgia were present.

Mr. Nickolay Kirjukhin, Vice President of the Ukrainian Council of Civil Engineers which recently joined the European Council of Civil Engineers was also present and delivered a congratulations letter on behalf of ECCE to Prof. Naumovets, first deputy of the President Prof. Paton as Prof. Paton was absent this day.

On Friday 7th December the official meeting was held where the President of Ukraine was present.

Both the organization and its leader were born in the same year and day! The president of the National Academy of Sciences of Ukraine, Boris Paton, appeared in public after celebrating his own century. The Ukrainian Academy of Sciences was founded in 1918 by order of hetman Pavel Skoropadsky. Paton has been leading it for 56 years in a row, and is not going to leave the chair yet. Paton stated "The Academy works and we work with the Academy. And we will

work, for the future we have work, work, work. There is no state without science". A short video of the day can be watched [here](#).





History



On November 27, 1918 the constituent General Assembly of the Ukrainian Academy of Sciences was held and elected the world-famous geologist and geochemist V. I. Vernadsky the President of the Academy. Over its many-year history, prominent scientists were elected Academy's presidents: M. P. Vasilenko (1921-1922), O. I. Levitsky (1922), V. I. Lipsky (1922 - 1928), D. K. Zabolotny (1928-1929), O. O. Bohomolets (1930-1946), O. V. Palladin (1946 - 1962). Since 1962 the Academy has been headed by B. E. Paton.

The name of the Academy was changed four times. In 1918-1921 it was known as the Ukrainian Academy of Sciences, from 1921 to 1936 - as the All-Ukrainian Academy of Sciences, in 1936-1991 as the Academy of Sciences of the Ukrainian SSR, from 1991 to 1993 - as the Academy of Sciences of Ukraine, and since 1994 its name has been the National Academy of Sciences of Ukraine (NAS).

The Ukrainian Academy of Sciences was the oldest republican academy in the former Soviet Union. In its first year it had three research departments: those of history and philology, physics and mathematics, and of social studies; at that time the Academy incorporated 3 institutes, 15 commissions and a national library. Now NAS carries out research in all fields of knowledge through 3 sections, 14 departments, nearly 170 institutes, and employs in excess of 19 thousand researchers.

Numerous internationally renowned science schools had their origins in the Academy. They were initiated by prominent scientists in mathematics - D. O. Grave, M. M. Krilov, M. M. Bogoliubov, Yu. O. Mitropolsky; mechanics - S. P. Timoshenko, O. M. Dymnik, M. O. Lavrentiev, G. S. Pisarenko; physics - K. D. Sinelnikov, L. V. Shubnikov, V. Ye. Lashkaryov, O. I. Akhiezer, O. S. Davidov, A. F. Prikhotko; astronomy - O. Ya. Orlov, Ye. P. Fedorov, O. Ya. Usikov, S. Ya. Braude; geology - P. A. Tutkovsky; materials science - I. M. Frantsevich, I. M. Trefilov; chemistry - L. V. Pizarzhevsky, O. I. Brodsky, A. V. Dumansky; biology and medicine - D. K. Zabolotny, O. O. Bohomolets, V. P. Filatov, M. H. Kholodny, I. I. Schmalhausen, M. M. Amosov. The whole world knows Ukrainian electric welding school, started by Ye. O. Paton, and V. M. Glushkov's school in cybernetics. Wide recognition was won by academic schools in economics and humanities, headed by economists M. V. Ptukha and K. H. Vobliy, historians M. S. Hrushevsky and D. I. Yavornitsky, legal scholar V. M. Koretsky, philosopher V. I. Shinkaruk, orientalist A. Yu. Krymsky, scholars in linguistics L. A. Bulakhovsky, I. K. Bilodid, V. M. Rusanivsky and literature scholars S. O. Yefremov and O. I. Biletsky.

Institutional Principles and Structure

The National Academy of Sciences of Ukraine is the highest state-supported research organization, enrolling academicians, corresponding members and foreign members. It integrates all researchers of its institutions and carries out studies in various branches of knowledge, develops scientific fundamentals for technological, socio-economic and cultural advancement of the nation. According to its Statute, the Academy enjoys the rights of self-government in making decisions about its own activities.

The supreme NAS body is the General Meeting of its members, which as of September 1, 2008 comprised 179 full members (academicians), 339 corresponding members and 109 foreign members. In the intervals between sessions of the General Meeting, the Academy's activities are directed by NAS Presidium, consisting of the President, Vice-Presidents, the Chief Academic Secretary and Presidium members, who are elected every five years. Academician-Secretaries of Research Departments and heads of Regional Science Centers are members of the Presidium as well. In addition, presidents of other state-supported academies take part in its work.

The National Academy of Sciences comprises three sections incorporating 14 research Departments - those of Mathematics; Information Science; Mechanics; Physics and Astronomy; Earth Sciences; Physical-and-Technical Problems of Materials Science; Physical-and-Technical Problems of Power Engineering; Nuclear Physics and Power Engineering; Chemistry; Biochemistry, Physiology and Molecular Biology; General Biology; Economics; History, Philosophy and Law; Literature, Language and Art Studies. The Academy has 6 Regional Science Centers, which are also subordinated to the Ministry of Education and Science of Ukraine. Their activities are aimed towards promoting R&D potential of respective regions, combining scientists' efforts for addressing priority regional issues. The basic elements in NAS structure are research institutes and other similar institutions. Their activities are guided by their own statutes, approved and registered by NAS.

The Academy has an R&D network, which involves pilot-production facilities, design-and-technology agencies, engineering centers, all working towards practical application of research results. Besides, small businesses and joint ventures operate within institutions, contributing to the commercialization of new developments.

Academy institutions were founders of the first Ukrainian technological parks and play a key role in the operation of 5 such research-and-engineering facilities pools, which under Ukrainian law enjoy preferential innovation and investment environment.

Furthering and supporting the intellectual inquiry and popularizing its results are two academic libraries: V. I. Vernadsky National Library of Ukraine, which is a UN depository and whose stock contains nearly 15 million books and manuscripts, and V. Stefanik Lviv Academic Library. Functioning within NAS network are 'Naukova Dumka' and 'Academperiodika' publishing houses, that publish monographic works, learned journals and other periodicals, reference editions and textbooks, dictionaries and popular-science books.

Principal Research Areas and Achievements

Scholars of the Academy enriched R&D progress with numerous accomplishments in fundamental and applied research, which have an international dimension. They are responsible for over 90% discoveries made and regis-

tered in Ukraine and for numerous other innovations widely used in industry, agriculture and culture. Back in the 1930-s they effected man-made nuclear reaction of transmutation of lithium atoms to those of helium, constructed an accelerator of charged particles, produced heavy water, developed a 3D radar operating in the decimeter range. In the turbulent years of the Great Patriotic War (1941-1945) the Academy introduced in defense industry an efficient technology of flux-welding of tank and artillery-system hulls, and aerial-bomb bodies, improving the performances of combat materiel. Due to that, the nation was able to meet major challenges in aircraft and motor industries, in mass manufacturing of ammunition and other defense products. Medical and biological scientists scored numerous successes in the development of novel medical preparations and treatment methods. Just five years after the long and devastating war, NAS scientists constructed the first in Continental Europe small-scale electronic computing machine and later developed the theory of digital automata, which provided the basis for designing several generations of computing facilities.

Academy's researchers proposed advanced technologies to produce permanent joints of metals and nonmetals under various conditions and in various environments, the procedure of electroslag remelting; they laid down foundations for starting a new metallurgy branch - special electrometallurgy; its scientists initiated production of super-hard materials, synthetic diamonds, ceramic-metal contact alloys and introduced a lot of other innovation. That permitted the Academy to turn into a world-known center of materials studies. Among the state-of-the-art achievements in electric welding and materials science one cannot but mention the unique method of joining (welding) living tissues, now employed in surgical procedures.

Results of great scientific relevance have been produced in mathematics, mathematical physics, information science, in various areas of biological cybernetics. Studies in the mechanics of solids, liquids and gases have gained momentum.

Physicists and astronomers of the Academy have also made important contributions to theoretical physics, solid state physics, low-temperature and semiconductor physics, physical electronics, radio physics and radio astronomy, which gave them a much deeper insight into the properties of matter under various conditions and understanding of physical processes in the Universe. Those findings have resulted in cutting-edge technologies in electronics, holography and radio engineering. Fundamental research is done and targeted projects are under way in the area of nanostructure systems, nanomaterials and nanotechnologies, in sensor systems and technologies.

A new page in Academy's history was opened by the studies of the Sun and near-Earth space with aerospace means. Breakthroughs in space navigation and in-orbit biological experiments, in decimeter radio astronomy and extravehicular metal welding and cutting have won international recognition.

In Earth sciences, valuable results have been obtained in geo- and hydrophysics, hydrogeology, geochemistry and physics of minerals, in oceanology. An honoured place in the work of NAS scientists has been taken by physical and technical aspects of power engineering, nuclear power in particular, by pioneering studies in heat-and-mass transfer, electrophysics, modelling of electrical and power systems, increasing energy efficiency, using alternative and renewable power sources.

Major advances have been seen in fundamental studies of catalysis, organic synthesis, macromolecular chemistry, electrochemistry, inorganic and water chemistry, nanochemistry, coal fuel chemistry and other modern trends of research chemistry.

Appreciation of both Ukrainian and international scientific communities has been won by in-depth research in biology - studies in membrane biology, human and animal physiology, neurophysiology, biosensors and genome investigations.

Extensive purposeful inquiries are going on in theoretical and experimental oncology, radiation medicine, cryobiology and cryomedicine, molecular and cell biology, in gene engineering, microbiology and virology.

Comprehensive studies of Ukraine's plant and animal world are conducted, with a view to finding effective methods to restore biodiversity and protect it against anthropogenic load in both continental and marine ecosystems. Special emphasis has been given to current methods of breeding, introduction and acclimatization of new species and varieties.

Numerous important results have been attained in socio-humanitarian studies. NAS institutions doing research in politics, jurisprudence, economics and sociology, have made a significant contribution to the theoretical validation and information-and-analytical backup of socio-political and socio-economic transformations in Ukraine, current changes in the society, principles of investment, innovation, regional, ethno-national and humanitarian policy of the state.

Fundamental multi-volume scholarly works have been produced; they address the early history of Ukraine, its political history in the 20-th century, the history of Ukrainian culture. A 15-volume monographic series "Ukraine through Centuries" has been published. A whole range of new-generation dictionaries have been issued; the first domestic software lexicographic system, developed to meet the needs of academic research, educational and publishing activities, has been a major success.

Of the utmost importance has been the role of NAS in counteracting the impacts of the major human-induced disaster at Chernobyl nuclear power plant. It is well known that the Academy had warned the USSR highest authorities against concentrating dozens of power units in Ukraine and a wrong choice of sites for them, but those warnings were ignored. Since the very first days of the accident, Academy's researchers have aimed concerted efforts at abating grave impacts of the emergency and minimizing the losses, turning the ruined power unit and disaster zone into a pollution-free territory.

It should be stressed that after Ukraine won independence, the National Academy of Sciences has not spared efforts towards reviving research in the areas critical for the establishment of the sovereign nation, it set up relevant institutions within its framework, provided scholarly support to addressing new socio-economic challenges.

In the years of Ukraine transition to market economy, NAS scientists have developed dozens of breakthrough technologies that contribute to nation's progress, promote domestic competitive science-intensive production

Aiming at the integration of science and education, the Academy maintains permanent working ties with the Ministry of Education and Science of Ukraine, and with leading Ukrainian education institutions. This collaboration is seen in the activities of joint research-and-education centers, university chairs, laboratories and in other forms of cooperation between scholars and educationalists. The Academy also does coordinating and advisory work for the whole sphere of fundamental research in Ukraine, it hosts the Inter-Agency Council for Coordinating Fundamental Research. In order to elaborate an agreed science policy, combine the efforts of state-supported academies of sciences in the country, NAS has initiated the establishment of the Council of the Presidents of the Academies of Sciences of Ukraine, which now works efficiently.

A lot of concern is given to training qualified research personnel, through post-graduate and post-doctorate courses in particular. Besides Academy research institutions proper, numerous alumni of their post-graduate schools take prominent positions in universities, industry, business and banking, in legislative bodies of various levels, both central and local government offices.

International Research Collaboration and Foreign Economic Ties

The National Academy of Sciences of Ukraine aims a lot of efforts at the advancement of international scientific ties, further integration to the world academic community. Academy institutions are engaged in quite a number of joint research projects under direct bilateral agreements with foreign research institutions and those financed by grants provided by numerous international science foundations and programs.

Agreements have been concluded and intellectual contacts established with research centers of more than 50 countries of Europe, Asia and the Americas. Among them are academies of sciences of various countries, well-known research organizations, such as German Research Society (DFG), the National Centre for Scientific Research (CRNS, France), the National Research Bureau of Italy (CNR), the National Research Council of Turkey (TUBITAK), and numerous foreign universities as well. NAS has significantly advanced multilateral collaboration of the academies of sciences of the Black-Sea countries.

15 years ago, on the Academy's initiative, the International Association of the Academies of Sciences was set up, which now integrates national academies of sciences, leading science centers, universities and academic foundations of many countries.

NAS is engaged in the activities of over 20 prestigious international research organizations: International Institute for Applied Systems Analysis (IIASA, Austria), Joint Institute for Nuclear Research (Russia), European Center for Nuclear Research (CERN), it interacts extensively with UNESCO, IAEA, WHO.

The Academy and its institutions represent Ukraine in the International Council for Science (ICSU), in more than 30 professional science unions and associations.

Foreign economic ties of NAS institutions are growing. R&D works are conducted under assignments of foreign science organizations and firms, institutes sell licenses and their own science-intensive products. Efficient international economic activities are carried on by Electric Welding Institute, the Institute of Materials Science Problems, Institute for Superhard Materials, Institute of Semiconductor Physics, Institute for Single Crystals, the Institute of Scintillation Materials, the Institute of Engineering Thermophysics, Gas Institute, the Institute of Organic Chemistry, the Institute of Microbiology and Virology. Renowned research institutions and industrial companies of Russia, the USA, Japan, Great Britain, France, the Netherlands, China, Turkey, Iran and other countries are their partners.

Academy institutions have become founders and partners of dozens of successful R&D companies with foreign investments. This has provided a better logistic support and ensured a higher competitiveness of their developments.

Its great historical past and today's powerful scientific and R&D potential make the National Academy of Sciences of Ukraine a leading world research center, enable it to maintain academic traditions and high standards in organizing its research activities

Address: 54 Volodymyrska St., Kyiv-30, 01601, Ukraine **Secretariate:** phone: (044) 234 5167; fax: (044) 234 3243; Department for International Scientific Collaboration: phone: (044) 235 2239 **e-mail:** prez@nas.gov.ua

United Kingdom

ICE and the Hungarian Chamber of Engineers build on relationship with a new agreement made in Budapest at ICE200 event.

ICE has signed an agreement of co-operation with the Hungarian Chamber of Engineers (MMK), to strengthen a bond that goes back over 160 years.

Lucy Rew, ICE council member, and Gyula Nagay, president of the MMK, signed the contract at a conference in Budapest, Hungary, marking the 200th anniversary of the ICE and European Council of Civil Engineers (ECCE)'s 'Year of Civil Engineers.'

The event was opened by ICE patron Prince Andrew, the Duke of York, and Janos Ader, the president of Hungary, at the Hungarian Academy of Sciences. They highlighted the role civil engineers have played in delivering social value through infrastructure.

The best example of the longstanding relationship between the UK and Hungary is the Szechenyi Chain Bridge, a suspension bridge that spans the River Danube between the western and eastern sides of Budapest.

The bridge, the first to permanently connect Buda to Pest, was led by Count István Széchenyi, designed by English engineer William Tierney Clark, and built by Scottish engineer Adam Clark. Its construction was completed in 1849. As part of the event, a huge public exhibition was displayed in Budapest's Saint Stephen's Square, featuring the ICE200 campaign's 200 projects and Invisible Superheroes, as well as inspiring Hungarian projects selected by MMK.

Meanwhile, ICE Superhero Water Woman - real-life engineer Brittany Harris - also made an appearance at the Budapest event.

She challenged the audience to contribute to the UN sustainable development goals, encouraging attendees to be disruptive, challenging, and to ask what difference they can make.

She also highlighted how the forthcoming Global Engineering Congress was a unique opportunity for the community to come together to help deliver the goals.

Global Engineering Congress a huge success

ICE's Director General Nick Baveystock reflected on the achievements of the Global Engineering Congress, held in October bringing together over 2,000 delegates from 50 countries to help address the United Nations Sustainable Development Goals.

The congress, organised by ICE in partnership with the World Federation of Engineering Organisations (WFEO), ran from 22 October to 26 October.

He called for engineers to continue to build on the success of the Global Engineering Congress (GEC).

"This GEC has shown that we can turn words into action. We now need to take that forward," he said in his GEC closing message.

"We can't lose the momentum of everything that we have done here. And bluntly, if not us, then who?"

The GEC, organised by ICE and the World Federation of Engineering Organizations (WFEO), brought together more than 2,000 delegates from over 70 countries, including government delegations from over 18 countries.

"We came with the mandate of the UN Secretary General to turn words into action," Baveystock said.

"We came to look at how the global engineering profession can decide how it is going to support the delivery of the

UN Sustainable Development Goals (SDGs)."

According to Baveystock, the "stunning" week saw engineers share knowledge on a wide range of "real" issues that the world will face over the coming years, such as population growth and climate change.

"We've seen how people have talked about smart cities. We've seen talk about sewerage. We've seen talk about clean water. This is what engineers can do when they come together.

"This GEC has proved just what a global profession can achieve when it puts its mind to it," he said.

The 68th ECCE General Meeting from 22 to 24 October was hosted by ICE in London as part of the Global Engineering Congress. The GEC formed the closing event of the ECCE Initiative, "2018 European Year of Civil Engineers".

ECCE participated in the GEC with two speakers. The new ECCE President Aris Chatzidakis was a speaker on the third day in the Energy stream and delivered a presentation titled "Sustainable structural design: energy efficiency vs structural efficiency". The ECCE Immediate Past President, Włodzimerz Szymczak, also participated as a speaker and moderator of the closing plenary session on the third day of the GEC. He was member of a panel consisting of Sir John Armit, Chair of the UK National Infrastructure Commission and ICE Past President, and Emma Howard Boyd, Chair of the UK Environment Agency. His keynote address was dedicated to the European Year of the Civil Engineer. In his speech, Włodzimerz Szymczak highlighted that activities and initiatives have taken place across Europe throughout 2018 to encourage interest and involvement in civil engineering.

Costain CEO Andrew Wyllie becomes the 154th president of ICE

Andrew Wyllie CBE, the Institution of Civil Engineers' (ICE) 154th president, wants to ensure that members take full advantage of new technologies in their bid to improve lives in the global society.

"I believe that the ICE must be at the very forefront of the smart infrastructure revolution," he said during his first Presidential Address at One Great George Street in London tonight.

The event marked the handover of the presidency from Professor Lord Robert Mair.

The CEO of construction and engineering group Costain talked about how he hosted a joint event at ICE's London headquarters earlier this year with the national data science organisation Alan Turing Institute and Tech UK.

"Here in this building ... with world experts discussing how best to use technology to improve the performance of infrastructure," Wyllie said.

As this was an area in which Costain's customers are increasingly investing their money, he said, it was "no great surprise" that most major customers were represented at the event.

He added: "For me, it was also another perfect example of the ICE being the 'go-to' place to solve the world's major issues."

New Zealand earthquake recovery project wins ICE People's Choice Award

One of 10 international civil engineering schemes to be shortlisted, the Kaikoura earthquake recovery project in New Zealand has won the ICE People's Choice Award 2018.

A partnership between the New Zealand Transport Agency and KiwiRail worked speedily to reconnect railways, roads and harbour when an earthquake hit the region in November 2016.

ICE's new President Andrew Wyllie announced the winner at his presidential address at ICE in London in November.

"Through a Herculean effort, they were able to reopen the roads, harbour and railways, safely and quickly - bringing enormous benefits to the local community," Wyllie said.

The ICE People's Choice Award celebrates the civil engineering projects that have made the most positive impact on their local communities.

Nearly 70,000 votes were cast this year – four times the number of votes made in 2017.

Seán Harris, ICE Director of Membership, said: "I am pleased to see the public recognise how the project directly transformed people's quality of life.

"More than just a re-opening of road and rail systems, the project reconnected families and friends, and allowed businesses to welcome back tourism.

"One of many inspiring submissions this year, the project stands out globally as not only one of the finest examples of outstanding technical achievement but also highlights the importance of civil engineering in enabling social and economic progress."

The earthquake, measuring 7.8 on the Richter Scale, left Kaikoura and its neighbouring communities completely cut off. Nearly one million cubic metres of rock and debris fell onto roads the rail line – enough to fill 400 Olympic swimming pools.

However, the team managed to reopen road and railway infrastructure just 12 months or so after the disaster.

The rail line was open to freight trains just 10 months after tracks had been thrown into the sea. The harbour was back in operation exactly one year after the earthquake. State Highway 1 was open to motorists again after just one year, one month, and one day.

News from ECCE Partners

American Society of Civil Engineers (ASCE)

Fully Updated ASCE 7-16 Now Available

ASCE recently published its signature standard, *ASCE/SEI 7-16 Minimum Design Loads and Associated Criteria for Buildings and Other Structures*.

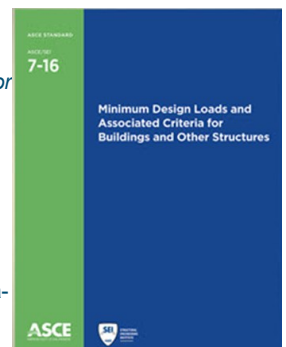
It is the first update to the essential resource in nearly seven years.

"ASCE 7 continues to be the very best resource for information about loads that occur in structures," said Donald Dusenberry, P.E., SECB, F.SEI, F.ASCE, past-chair for the ASCE 7-16 Committee.

"It has been updated to reflect the best understanding of the influence of loads on structures, and continues to be the foundation for loads specified in most building codes in the United States."

The standard is available in print and as an e-book for purchase in the [ASCE Bookstore](#).

The new edition features several important technical updates from the 2010 edition, including new wind-speed and seismic maps, new state-coordinated snow data for seven mountainous states, and entirely new chapters on tsunami and fire design.



Additionally, for the first time, ASCE and the Structural Engineering Institute have developed two new digital products to support both the new 2016 and current 2010 editions: the user-friendly [ASCE 7 Online platform](#) and the [ASCE 7 Hazard Tool](#).

Now structural engineers and building officials can access and search ASCE/SEI 7 digitally.

"It sounds simple, but these tools represent a great advance forward," said David Odeh, P.E., S.E., F.SEI, F.ASCE, principal of Odeh Engineers Inc. in Providence, RI, and past president of SEI.

The ASCE 7 Hazard Tool is uniquely developed to provide all the standard's hazard data in one tool.

"It'll greatly improve user precision because the ASCE 7 Hazard Tool uses the data sources that ASCE 7 is based on," agrees Odeh. "This is going to be a great help in design. We've already seen that in our testing. It's a huge time saver."

The next edition of ASCE 7 is planned for 2022. Those interested in contributing are encouraged to [submit an application](#) for consideration to participate on the ASCE 7 Main Committee or a Subcommittee.

[Learn more about ASCE and SEI Standards.](#)

Article from [ASCE News](#)

World Council of Civil Engineers (WCCE)

Carlos Mineiro Aires, New WCCE President



WCCE President Carlos Mineiro Aires

Eng. Carlos Mineiro Aires has been appointed President on September 21st, 2018. He took over the presidency of the World Council of Civil Engineers (WCCE) during its 13th General Assembly to be held in 2018. Mr. Mineiro, a worldwide recognized engineering professional from Portugal will serve a three year term for the period 2019-2021. Carlos Mineiro succeeds Alfonso Gonzalez, Mexican Engineer.

He is current President of the Portuguese Ordem dos Engenheiros, the Portuguese engineering chamber. His areas of expertise are water resource management and international cooperation issues. Civil Engineer (1985). Born in Lisbon (Portugal), age 53 years, holds a brilliant academic record, culminating in his MSc Civil Engineering, in Instituto Superior Técnico de Lisboa.

Currently, he is committed full-time to OEPT's presidency. Regarded as an expert in land development and management matters, he has an in-depth working knowledge of company and administrative problem, having demonstrated his ability to coordinate stakeholders' interests (regional and local government administration, users, etc.).

He has taken part in many Conferences and Symposia, both on European and international levels, and has also published numerous books and technical articles. Carlos Mineiro is married with 2 children.

13th General Assembly of WCCE



WCCE's 13th General Assembly of the World Council of Civil Engineers was held in Sucre, Bolivia from 19 to 21 September 2018, organized by the Colegio de Ingenieros Civiles de Bolivia - CICB, in parallel with its International Congress in Civil Engineering. The Assembly was welcomed by CICB's President Álvaro Chruarín. Attendance at WCCE activities by WCCE delegates was enriched by the attendance of UPADI's President M^{ra} Teresa Dalenz Zapata. In this Assembly, **Portuguese engineer Carlos Mineiro Aires took over the presidency from Mexican Engineer Alfonso González, who becomes immediate Past President. Past President Tomás Sancho joins WCCE's Senior Advisory Board.**

Regarding our General Assembly, various issues were addressed being the major achievements of the meeting as follows:

- Other changes in office
- Argentina's representative Jorge Abramian was elected new President Elect for the period 2021-2024
- Costa Rican delegate Óscar Sánchez Zúñiga was elected Treasurer
- Several continental representative to the Executive Committee were elected
- **America:** Mexican Engineer Tito Guillermo Fenech
- **Europe:** Spanish Engineer Sara Perales Momparler
- Several initiatives have been developed jointly with UNESCO during the last months under the aegis of the UNESCO – WCCE partnership agreement being among them:
 - *Publication of Water and Economy* monograph on the topic addressed by the International Year of Water initiative for the period 2016-2019.
 - Contributions to UNESCO's SAGA report relative to assess the current situation of Women Civil Engi-

neers and how to enhance their participation in the profession.

- Contributions to UNESCO's II Engineering Report titled 'Engineering UN's Standing Development Goals - SDGs' together with some other partners on the following topics:
- Gender Equality
- Engineering and SDGs: Latin America
- The Future of Engineering
- Also in the field of partnerships with other organizations they presented the following activities.
 - Participation in WFEO's 50th Anniversary meeting
 - Participation in 9th CICPC's meeting in held in Cancun giving birth to Cancun's declaration *The future is today*
 - Participation in EAMC's , Engineering Association for Mediterranean Countries General Assembly held in Beirut, Lebanon.

Last but not least, WCCE honoured ECCE's proclamation of 2018 as European Year of Civil Engineering by hosting a session on CICB's International Congress on Colonial Engineering contribution to the America's development. In his valedictory message, Alfonso González stated that his mandate has accomplished consolidating WCCE as a global partner with the UN system on the principles presented in WCCE endorsed declarations such as Madrid's Declaration **The future we want** signed and Cancun' Declaration **The future is today** which states the commitment and proposals of civil engineering towards the achievement of UN's Sustainable Development Goals and our profession's role in such achievement, which were fostered by WCCE's framework agreement with UNESCO. **The next General Assembly in September 2019 will be held in Lisbon, Portugal.**

European Construction Forum (ECF)

The meeting of the European Construction Forum (ECF) was held on 28th November 2018, in the FIEC offices, in Brussels. ECCE President Aris Chatzidakis participated in the meeting representing ECCE who is a member of ECF. FIEC tried to relaunch the activity of ECF asking for new ideas in order to reformulate the ECF's new strategy about the construction sector. The European Commission's term of office will come to an end in a few months' time and a new political leadership will take over, so this meeting was an opportunity to discuss new ideas and how ECF can act in the new era. Representatives from a very broad band of the fields of construction were present in the meeting. In particular, representatives from the industry, construction equipment, employees, consultants, builders, chartered surveyors, building developers, steel industry, facility management and property owners and EuroACE (European Alliance of Companies for Energy Efficiency in Buildings) participated in the meeting.

Aris Chatzidakis stressed the following points expressing ECCE's opinion and position papers:

- it is useless to spend money on energy efficiency improvements unless you are sure that you are investing on a safe and sustainable structure
- infrastructure maintenance is becoming a very important matter for all Europe
- special maintenance policy should be adopted in order to maintain the capacity of Europe's transport network
- infrastructure maintenance should be assigned a dedicated Thematic Group in the context of the High Level Tripartite Forum as it has become a very critical issue that needs special attention (currently it is examined within the Thematic Group 1).

He also suggested that the diversity of branches in the construction industry needs a horizontal approach and we have to promote the idea of reviving a Parliamentary Group or Committee dealing with the problems of Construction sector. Such a group used to work some years ago (FOCOPE).

The themes that were specifically identified during the meeting are:

- De-carbonization
- Integrated policy
- Safety and structural sustainability of buildings (i.e. not recent narrow focus on energy performance)
- Holistic approach to renovation
- Image of the sector
- Housing shortage
- Life-cycle costing
- Standardisation of price-quality ratios
- Digitalisation

The next ECF meeting will be held on Thursday 25th January 2019, 13.30-16.30, at FIEC offices in Brussels.

European Council of Engineers Chambers (ECEC)

16th ECEC General Assembly Meeting in Zagreb



On 17 November, the Croatian Chamber of Engineers (HKIG) hosted the ECEC General Assembly, which took place at the premises of the Palace Hotel in Zagreb, Croatia.

President Remec gave an overview of his activities for ECEC in the past period (2016-2018), while Secretary General Thürriedl revised the European Developments in 2016-2018.

As the quality of procurement procedures depends on a good implementation of legal requirements by public procuring authorities the ECEC WG Public Procurement for Engineering Services has decided to prepare a practical support guideline for procuring authorities/politicians. Hansjörg Letzner, Chairman of the WG PP, presented the finalized position paper "Public Procurement of Engineering Services - Fair procedures ensure successful projects", as the outcome of the WG Meetings. It is divided in three chapters: -The definition of quality criteria, - How to guarantee fair evaluation, - Price assessment. [The paper can be downloaded here.](#)

Vladimir Benko, Chairman of the WG BIM together with Klaus Thürriedl presented the policy paper "BIM for Politicians - ECEC Statement on Building Information Modelling", which provides a basic overview on the basic requirements for the use of BIM in engineering projects. Due to the increasing use of BIM and the fact that it is a chance but also a challenge for the Engineering profession, the ECEC had to react on the developments and will further follow up on this matter. [Download the paper here.](#)

Further, the ECEC Manifesto on the upcoming EP Elections has been presented. It is a mean to transport the ECEC ideas to candidates, to other politicians and the public in a very comprehensive way.

It is focused on three topics: The necessity for adequate professional regulation, for fair procurement procedures and for a fair use of BIM.

The ECEC also welcomed a new associated member: The Ukrainian Council of Civil Engineers (UCCE), which was approved unanimously by the General Assembly.

ECCE was invited to participate in the 16th ECEC General Assembly and was represented by its Vice President / Treasurer Dimitar Natchev who addressed a congratulation speech highlighting the importance of the cooperation between ECCE and ECEC now and in the future.

The next General Assembly meeting will be taking place in Spring 2019 in Ljubljana, coupled with the World Construction Forum, where the Slovenian Chamber of Engineers (IZS) is one of the main organizers.

ECEC Elections 2018

At the 16th ECEC General Assembly Meeting, the elections of the new Executive Board for the period 2019-2021 took place on 17 November 2018 in Zagreb, Croatia.



The new team at a glance:

- President: Klaus Thürriedl - Austria
- Vice-Presidents: Hubertus Brauer - Germany, Mile Dimitrovski - Macedonia, Zygmunt Meyer - Poland
- Secretary General: Hansjörg Letzner - Italy
- Treasurer: Gábor Szöllösy - Hungary

European Civil Engineering Education and Training (EUCEET) Association

Brief report about the 4th EUCEET Association Conference "Challenges for the Third Millennium"

The 4th EUCEET Association International Conference was organized in Barcelona, on 5th - 8th September 2018 by the Barcelona School of Civil Engineering (Department of Civil and Environmental Engineering) of the Technical University of Catalonia, BarcelonaTech, and EUCEET (European Civil Engineering Education and Training) Association.

<http://congress.cimne.com/EUCEET2018/frontal/default.asp>



Relevant figures related to the 2018 EUCEET Association Conference:

- 70 participants
- 34 universities and 6 institutions from 22 countries
- 2 invited lectures
- 44 papers presented in 7 sessions

EUCEET Association well represented by 21 member universities from 12 countries and 33 papers.



In the opening of the conference Prof. Jose Turmo from the Universitat Politècnica de Catalunya (UPC- BarcelonaTech) presented the Presidium on which seated, as see in the picture, from left to right:

- Prof. Jose Turmo (UPC- BarcelonaTech),
- Prof. Eusebio Jarauta (UPC- BarcelonaTech - Department of Civil and Environmental Engineering),
- Prof. Laurie Boswell (President of the EUCEET Association),
- Professor Francisco Torres (Rector of UPC- BarcelonaTech),
- Prof. Juan Santamera (Director ETSI de Caminos, Canales y Puertos, Universidad Politécnica de Madrid),
- Assistant Prof. Sergi Sauri (Director of Center for Innovation in Transportation (CENIT) at UPC- BarcelonaTech) and
- Prof. Pedro Diez (Director of Escola de Camins at UPC-BarcelonaTech).

Prof. Pedro Diez addressed welcome participants and wished success for the conference.

The members of the Presidium have spoken about the scope of the EUCEET Association, the education in Spain and Bologna Process, the main topics of the 4th EUCEET Association Conference and expressed regrets for Prof. Iacint Manoliu.

After the opening ceremony Prof. Diego Lo Presti delivered Prof. Iacint Manoliu's Keynote Lecture in memoriam of Prof. Iacint Manoliu, General Secretary of the EUCEET Association (2008-2018).

Two lectures were delivered in the programme of the conference:

⇒ **Maria Rosa Buxarrais**
"Ethical competencies in Higher Education"
 (University of Barcelona)

⇒ **Jaime Freyre de Andrade**
"Education: Challenges for successful civil engineering projects"
 (Director of SNC Lavalin, Montreal - Canada)



Brief report about the 11th General Assembly of the EUCEET Association

The 11th General Assembly of the EUCEET Association took place in Barcelona, on 6th September 2018, kindly hosted by the UPC Barcelona Tech.

The General Assembly was attended by 20 people, representing 15 institutions members of the Association, from 12 countries.

Prof. Laurie Boswell, President, presented the Report on the activity of the Association between the General Assembly held in Ekaterinburg on 5th October 2017 and 6th September 2018 in the Part I of the GA.

Prof. Diego Lo Presti presented the results of the Application for the project "Master for South Mediterranean Countries in Water Management and Infrastructures – MASMEW" under the action KA2 Cooperation for innovation and the exchange of good practices- Capacity Building in higher education submitted on 8th February 2018 having as applicant University of Pisa.

Prof. Jean Berlamont, Treasurer, presented the report on the financial situation of the Association and the accounts of 2017, which were approved. The budget for 2018, presented eventually, was also approved.

A central point was the discussion concerning the statute of the membership of the Association.

In the Part II of the 11th General Assembly of the EUCEET Association, a new Administrative Council was elected having the following composition:

| No | Country | Name and Surname/Institution | Function |
|----|---------|--|----------------|
| 1 | UK | Laurie Boswell (City University London) | President |
| 2 | ES | Jose Turmo (UPC Barcelona Tech) | Vice-President |
| 3 | ES | Jose Antonio Lozano-Galant (University of Castilla-La Mancha) | Member |
| 5 | IT | Diego Lo Presti (University of Pisa) | Member |
| 4 | LT | Linas JUKNEVICIUS (Vilnius Gediminas Technical University) | Member |
| 6 | RO | Anca POPA (Technical University of Cluj-Napoca) | Member |
| 7 | RU | Vladimir ALEKHIN (Ural Federal University Yekaterinburg) | Member |

The European Council for Construction Research, Development and Innovation (ECCREDI)



The ECCREDI Council Meeting was held on Thursday 22nd November 2018 in the offices of the Construction Confederation, in Brussels. The Agenda of the Meeting as well as the materials can be found below:

Agenda
ECCREDI Council meeting
 Thursday 22nd November 2018 (10.30 – 16.15)
 Construction Confederation, *Lombardstraat 34-42, 1000 Brussels*

1. Opening of the Meeting and approval of the Agenda

2. Approval of the Minutes of 3rd May 2018

2.1. Review of actions

2.2. Approval of the [minutes](#)

3. ECTP, H2020, Horizon Europe & Other EU initiatives

3.1. Status of ECTP: FP9 [High level/Position](#), Feedback ECTP Conference: [ECCREDI session Industrialisation, Keynote KT/FIEC](#),...

3.2. Information about [Horizon Europe](#), [projects](#), [calls 2020](#) and intentions: Digital Platform,...

3.3. Other initiatives: DG Grow [TG1](#),...

4. LCC & LCA and the work supported by the EC in the context of AMANAC (Advanced Materials and Nanotechnology Cluster)

Mrs. Olga Rio, Research Policy Officer, EC DG Research & Innovation

Q&A

5. Project presentation: [ABRACADABRA](#) - Assistant Buildings' addition to Retrofit, Adopt, Cure And Develop the Actual Buildings up to zeRo energy, Activating a market for deep renovation.

Mrs. Emmanuelle Causse, UIPI

Q&A

6. Presentation of activities/initiatives by Members and Observers

6.1. Report of current activities and initiatives by Members: FIEC ([questionnaire Platforms](#),...),...

6.2. Invited Observers: CECE, Construction Products Europe, EBC, EUROACE, IFMA ([Manifesto](#)), EDA,...

7. Digitalisation of Construction Machines

Mr. Davide Meinero, Digital expert, CECE Q&A

8. ECCREDI Action Plan & Administrative matters

8.1. [Strategic Themes](#) & Vision, [Leaflet](#), Brochure

8.2. Membership [representatives](#), potential members,...

8.3. Proposals for [Presentations](#) at next Council meeting(s)

9. Any other business, closure and next meeting(s)

European Construction Industry Federation (FIEC)

FIEC President at Concrete Dialogue

© Parliament Magazine



FIEC President Kjetil Tønning took part in a panel discussion during the Concrete Dialogue in the European Parliament on Tuesday 20 November. Asked about how the supply chain should collaborate to ensure the sustainability of buildings, Tønning explained that collaboration is not new, but innovative ways of building such as Design for Deconstruction, mean that all players in the construction value chain take responsibility for sustainability, leading to a more circular approach. Other speakers included Josefina Lindblom, Policy Officer from the European Commission (DG ENV) and the event was hosted by Theresa Griffin MEP.

[Read more.](#)

"Small steps (in RTD) sometimes better than big leaps" says FIEC President



FIEC President Kjetil Tønning spoke at the ECTP conference last week, reflecting on the question "Will Horizon Europe be fit for purpose for the construction industry?" Expressing support for the EU's investment in RTD, but adding that specific programmes for construction needed to match the research needs of the industry, while also being less onerous in terms of application procedures, Tønning suggested ways in which Horizon Europe could be more accessible for contractors. He also concluded that "sometimes small steps that benefit many people prove a better investment than big leaps that ultimately only benefit a few". Read the full speech by clicking on the link [here](#).

FIEC VP Emre Aykar new CICA President

FIEC Vice-President Emre Aykar, a Turkish contractor, was unanimously elected President of the contractors' world level federation CICA (Confederation of International Contractors' Associations) during its General Assembly meeting in Paris on 6th November 2018.

He succeeds the Chilean contractor Jorge Mas (from FIIC – Interamerican Federation of the Construction Industry) whose term of office has come to its statutory end. Emre has been a member of the FIEC Steering Committee since 2012, in charge of CICA matters. We wish Emre success and look forward to working together with him and the colleagues from other continents on the various items addressed by CICA.

[Read more.](#)

World Federation of Engineering Organizations (WFEO)



The last edition of the WFEO Flash Info #25, October 2018 comprises the following topics:

- [Message from the President](#)
- [Global Engineering Congress - GEC2018](#)
- [Result of the 2018 Dr. Zuheir Alami WFEO Award for Engineering Innovation](#)
- [Result of the 2018 GREE WFEO Women in Engineering Award](#)
- [Results of the 2018 Young Engineers Competition](#)
- [WFEO participation in the 62nd IAEA General Conference](#)
- [Celebrating WFEO 50th anniversary and membership of Myanmar Engineering Council and Myanmar Engineering Society](#)
- [Celebrating WFEO 50th anniversary at FEIAP General Assembly and WFEO CIC Seminar of 4th Industrial Revolution](#)
- [Africa Engineering Week 2018 / Africa Engineering Conference](#)
- [WFEO attends Inaugural General Assembly of International Science Council](#)
- [World Engineers Convention 2019 Call for Abstracts](#)
- [Massive Open On-Line Course – Engineers Canada – Sustainability in practice](#)
- [WFEO meeting with OECD](#)

[Read it in your browser](#)

EU News

Press Release: Canada and the European Union forge Agreement to Recognize Architect Credentials

CALA-ACE Mutual Recognition Agreement Makes It Possible for Architects to take advantages of trans-Atlantic opportunities to work

Montréal- October 26, 2018 Representatives from the architectural regulatory authorities of Canada and European Union, signed a Mutual Recognition Agreement (MRA) giving architects opportunities to work across the trans-Atlantic. The Canadian Architectural Licensing Authorities (CALA) in conjunction with the Architect' Council of Europe (ACE) announced the completion of the ACE-CALA Mutual Recognition Agreement for the Practice of Architecture among member states in the European Union and Canada. The Agreement comes into force in 2019.

The Agreement represents a decade of negotiations, bringing trans-Atlantic recognition of Professional credentials under the auspices of the Comprehensive Economic and Trade Agreement (CETA), a free-trade agreement between Canada, the European Union and its member states.

Qualified architects, from each country, who satisfy the requirements of the Agreement, will be granted a credential that will lead to a license to practice architecture in the host country. The agreement opens doors to qualified architects as the world and architectural practices become more globally connected.

This pact outlines specific requirements that architects must satisfy when pursuing mutual recognition. These include education, internship and work qualifications, as well as submitting documentation to confirm the individual's credentials. The basic eligibility requirements include:

- A qualified Architect from the EU and Canada shall be registered or licensed or otherwise recognized and is a member in good standing in their home jurisdiction and have completed a minimum of twelve years' education, training and practice in the field of architecture, in one or more of the States, Provinces or Territories of their home jurisdiction, of which a minimum of four years shall be post registration/licensure experience;
- Proof of "Good Standing" in the home jurisdiction, as verified by the local regulatory authority;
- Knowledge of the codes, laws, and other matters applicable to the practice of architecture in the host country;
- Mobility across borders in the European Union and across Provinces and Territories in Canada and
- European Architects seeking licensure in Canada must complete a ten-hour online course on Canadian domain specific requirements in architecture.

CALA would like to thank the federal government for the financial support from the Employment and Social Development Canada through its Foreign Credential Recognition Program. As well, Global Affairs Canada provided advice and direction concerning the development of credential recognition under the auspices of CETA. This MRA will provide new access for Canadian architects to undertake projects in the European Union.

Architects interested in pursuing the opportunity for licensure outside of their home country should review the eligibility requirements and program information in greater detail which are available on the CALA website cala-roac.ca as of January 2019.

About CALA

The Canadian Architectural Licensing Authorities (CALA) represents nationally the eleven architectural regulators in Canada. These 11 provincial and territorial regulatory bodies are responsible for setting the standards for entry into the profession and for issuing registration/licenses to those who meet established standards of qualifications and practice. The regulators individually regulate the practice of architecture in order that the public interest is protected within their respective jurisdictions. Through CALA, the Canadian architectural regulators work collectively to develop and adopt nationally recognized standards and programs that meet their regulatory responsibilities as well as the needs of the architectural profession. CALA and its International Relations Committee represent the provincial/territorial regulators international. Work on international matters, is supported by the Canadian federal government.

About ACE

The Architects' Council of Europe is composed of 43 Member Organizations which are the national regulatory and professional representative bodies in the EU Member States, the accession countries, Switzerland and Norway. Through its members, the Architects' Council of Europe represents the interests of over 600,000 architects from 31 countries in Europe. ACE's mission and objectives include:

- Promoting Architecture in Europe
- Advancing Architectural Quality in the Built Environment
- Supporting Sustainable Development of the Built Environment
- Ensuring High Standards of Qualification for Architects
- Advocating Quality in Architectural Practice
- Fostering Cross-Border Cooperation and Facilitating European Practice
- Acting as the Single Voice for Architects in Europe

For further information contact:

Nathalie Dion

Legislative Scrutiny: Professional Qualifications Directive and the European Professional Card

On 22 November, IMCO held a scrutiny session on the implementation of the Professional Qualifications Directive, and in particular on the application of the European Professional Card (EPC). The Commission noted the success of the EPC which was introduced as a pilot project for a first set of professions, such as nurses, mountain guides, real estate agents, etc. Members enquired about the possibility to further extend the EPC to other professions, in particular civil engineers or architects. The Commission expressed readiness to start working on a new implement-

ing act as regards civil engineers and especially architects, given that the latter benefit from automatic recognition, but highlighted the need to ensure support from Member States.

European Commission Work Programme 2019: Which social priorities?

On 23rd October, the European Commission presented its work programme for 2019. It focuses on 15 new initiatives, one of which foresees to expand the number of social policy areas on which Member States can rule by a qualified majority vote rather than unanimously.

The Commission also lists 45 pending legislative proposals, which should be adopted before the forthcoming European elections. Amongst these 45 priority proposals we highlight :

1. The proposal establishing a "European Labour Authority" (ELA);
 2. The proposal for a Directive on "Transparent and predictable working conditions in the EU";
 3. The third revision of the "Carcinogens" Directive;
- The proposed revision of the "Social Security" Regulations.

[Read more](#)

Connecting Europe Facility renewed until 2027

MEPs have voted to renew the Connecting Europe Facility, which oversees development of transport, energy and telecommunications networks.

The European Committees for Industry, Research and Energy (ITRE) and Transport and Tourism (TRAN) on 22nd November 2018 laid out their funding priorities for transport, energy and telecommunications projects in order to maximise future growth. The two committees agreed to increase funding for the Connecting Europe Facility by nearly €6 billion compared to initial proposals by the European Commission between 2021 and 2027.

The agreed Connecting Europe Facility funding model will now be passed to the European Parliament and EU ministers for confirmatory negotiations.

[Read more](#)

Smart transportation infrastructures and the future

José F. Papi, president of the Smart Transportation Alliance explains how smart mobility is impossible without smart transportation infrastructures.

The smart transportation infrastructures of the future: connecting people and businesses

Our lives are becoming 'smart': we enjoy smartphones, our urban environments are evolving into smart cities, and our automobiles are incorporating smart features, assisting our driving and increasing our safety. In this context, smart transportation infrastructures are a key player in a changing world, becoming more competitive and cohesive every day.

With some minor geographical exceptions, in general people and goods will be moving around the globe further and faster. Roads being the essential link in the modal chain, transportation systems will become fully integrated, allowing travellers and freight to switch seamlessly between modes and across borders. All major airports and sea-ports will connect to the rail network; intermodal terminals for passenger and freight should be 'smartly' designed and equipped accordingly. In the case of freight, cooperative systems, seamless trans-shipment and smart route design will lead to the sector's optimisation.

The world needs smart transportation infrastructures that are able to process the vast amount of information collected in real time and provide the most effective transportation services to businesses and citizens alike.

[Read more](#)

Climate neutral by 2050: European Commission's pledge

The European Commission has adopted a long term strategy to make the European economy fully climate neutral by 2050.

The strategy will see EU Member States investing in technical solutions, encouraging citizens to contribute; and diverting action in key areas such as industrial policy, finance and research to ensuring Europe can be climate neutral by 2050.

Miguel Arias Cañete, European Commissioner for Climate Action and Energy, said: "The EU has already started the modernisation and transformation towards a climate neutral economy. And today, we are stepping up our efforts as we propose a strategy for Europe to become the world's first major economy to go climate neutral by 2050. Going climate neutral is necessary, possible and in Europe's interest. It is necessary to meet the long-term temperature goals of the Paris Agreement. It is possible with current technologies and those close to deployment. And it is in Europe's interest to stop spending on fossil fuel imports and invest in meaningful improvements to the daily of all Europeans. No European, no region should be left behind. The EU will support those more impacted by this transition so that everyone's ready to adapt to the new requirements of a climate neutral economy."

A Eurobarometer survey conducted in November 2018 found that 93 per cent of Europeans believe in man-made climate change, while 85 per cent think European jobs and economic growth could be improved by devoting resources to fighting climate change. The Commission's plan for Europe to be climate neutral by 2050 falls in line with the Paris Agreement, which commits signatories to work to keep the global temperature increase below 2°C.

The European Commission has invited European Council, the European Parliament, the Committee of the Regions and the Economic and Social Committee to consider its plan for Europe to be climate neutral by 2050. Member States will submit their national climate and energy plans, which will lay out nations' individual strategies for meeting climate targets by 2030; the commission hopes these will form part of the greater long term EU climate strategy.

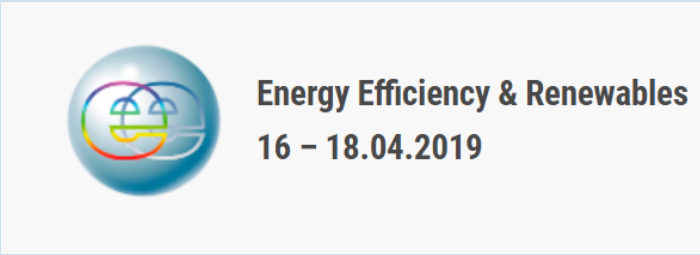
Open Public Consultations

Through public consultations you can express your views on the scope, priorities and added value of EU action for new initiatives, or evaluations of existing policies and laws.

- [Revising the rules for free allocation in the EU Emissions Trading System](#)
Consultation period: 30 November 2018 – 22 February 2019
Topics: Climate action
- [Towards an EU Product Policy Framework contributing to the Circular Economy](#)
Consultation period: 29 November 2018 – 24 January 2019
Topics: Environment
- [Consultation on the list of candidate Projects of Common Interest in electricity infrastructure](#)
Consultation period: 22 November 2018 – 22 February 2019
Topics: Energy
- [Ex-post evaluation of the Trans-European Transport Network \(TEN-T\) programme 2007-2013](#)
Consultation period: 15 November 2018 – 14 February 2019
Topics: Transport
- [Consultation on the establishment of the annual priority lists for the development of network codes and guidelines for 2019 and beyond](#)
Consultation period: 15 October 2018 – 25 January 2019
Topics: Energy
- [Fitness Check of the Water Framework Directive and the Floods Directive](#)
Consultation period: 17 September 2018 – 14 March 2019
Topics: Environment

Upcoming events

| Date | Event | Place |
|------------------|--|-------------------|
| 22.01.2019 | Horizon 2020 Energy Efficiency Info Day  https://h2020-sc3-info-day.b2match.io/?pk_campaign=EE%20Newsletter%20November | Brussels, BELGIUM |
| 27.02-01.03.2019 | European Energy Efficiency Conference 2019  World Sustainable Energy Days 27 February – 1 March 2019, Wels / Austria http://www.wsed.at/en/world-sustainable-energy-days.html | Wels, AUSTRIA |
| 20-22.03. 2019 | 2019 6 th International Conference on Civil and Urban Engineering (ICCUE 2019)  http://www.iccue.org/index.htm | Leuven, BELGIUM |

| Date | Event | Place |
|---------------|--|---------------------|
| 26-28.03.2019 | FEHRL Infrastructure Research Meeting 2019 (FIRM19)  http://www.fehrl.org/knowledge-transfer/events/firm2019 | Brussels, BELGIUM |
| 27-29.03.2019 | IABSE Symposium 2019  http://www.iabse.org/IABSE/Events/Guimaraes_2019/IABSE/events/Conferences_files/Guimaraes2019/Home.aspx?hkey=1315ed96-28ce-4daf-9a0d-a99c5ebe1991 | Guimarães, PORTUGAL |
| 8-11.04. 2019 | World Construction Forum 2019 - Buildings and Infrastructure Resilience  https://www.wcf2019.org/ | Ljubljana, SLOVENIA |
| 16-18.04.2019 | Energy Efficiency & Renewables, Smart Cities  https://viaexpo.com/en/pages/ee-re-exhibition | Sofia, BULGARIA |
| 1-5.05.2019 | ERACON 2019  http://eracon.info/ | Paphos, CYPRUS |
| 15-16.05.2019 | 13 th International Conference "Modern Building Materials, Structures and Techniques" (MBMST 2019)  https://www.vgtu.lt/civil-engineering/research-and-innovation/scientific-conferences/mbmst-2019/298985 | Vilnius, LITHUANIA |

| Date | Event | Place |
|----------------|--|---------------------------|
| 3-5.06.2019 | <p>VIII International Conference on Coupled Problems in Science and Engineering</p>  <p>http://congress.cimne.com/coUPLED2019/frontal/default.asp</p> | Sitges (Barcelona), SPAIN |
| 25-27.06. 2019 | <p>Urban Transport 2019</p>  <p>https://www.wessex.ac.uk/conferences/2019/urban-transport-2019#Introduction-and-Topics</p> | Aveiro, PORTUGAL |
| 01-06.09.2019 | <p>17th European Conference on Soil Mechanics and Geotechnical Engineering</p>  <p>http://www.ecsmge-2019.com/</p> | Reykjavik, ICELAND |
| 24-26.07.2019 | <p>The ICSA2019 - The 4th International Conference on Structures and Architecture</p>  <p>http://www.icsa2019.arquitectura.uminho.pt/Default.aspx?tabid=1&pageid=29&lang=en-US</p> | Lisbon, PORTUGAL |
| 07-11.10.2019 | <p>Ecocity World Summit 2019</p>  <p>http://ecocity2019.com/</p> | Vancouver, CANADA |
| 09-11.06.2020 | <p>WBSE Conference "BEYOND 2020"</p>  <p>https://beyond2020.se/</p> | Gothenburg, SWEDEN |



The European Council of Civil Engineers
wishes you
A Merry Christmas and
a Happy New Year!

The end of the year brings no greater joy than the opportunity to express to you season's greetings and good wishes. May your holidays and New Year be filled with joy!

We look forward to cooperating with you in 2019 and beyond.

All the best from the President, the Executive Board and Secretary of the European Council of Civil Engineers

Aris Chatzidakis
ECCE President

Maria Karanasiou
ECCE General Secretary



European Council
of
Civil Engineers

European Council of Civil Engineers

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**“Civil Engineers at the Heart of Society
Building Life Quality and a Sustainable
Environment”**

The European Council of Civil Engineers (ECCE) was created in 1985 out of the common concern of the professional bodies for Civil Engineers in Europe that the Civil Engineers working together across Europe could offer much more to assist Europe advance its built Environment and protect the natural environment.

At the European Union level, ECCE aims to promote the highest technical and ethical standards, to provide a source of impartial advice, and promote co-operation with other pan-European organizations in the construction industry. ECCE also advises and influences individual governments and professional institutions, formulates standards and achieves a mutual compatibility of different regulations controlling the profession, and formulates standards for a European Code of Conduct of the Civil Engineering Profession and disciplinary procedures applicable throughout the Union.