

WEC 2023

7TH WORLD ENGINEERS
CONVENTION

PRAGUE, CZECH REPUBLIC

11 - 13 OCTOBER, 2023

FINAL

PROGRAMME



PETR FIALA
Prime Minister
of the Czech Republic

www.wec2023.com

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To make our country cleaner year by year.
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TABLE OF CONTENTS

WELCOME LETTERS	2
CONGRESS VENUE	4
REGISTRATION	4
EXHIBITION	5
PROGRAMME AT A GLANCE 11. 10. 2023	6
PROGRAMME AT A GLANCE 12. 10. 2023	8
PROGRAMME AT A GLANCE 13. 10. 2023	10
STUDENTS PROGRAMME	11
INSTRUCTIONS FOR AUTHORS	11
PARTNERS AND EXHIBITORS	12
SOCIAL EVENTS	13
OTHER INFORMATION	14
CONGRESS SECRETARIAT	14
NOTES	15

WELCOME LETTER

Honourable Members of the Government, Excellencies, Magnificences, Honourable Presidents of WFEO, Ladies and Gentlemen, dear engineer friends!

It is my great honour and pleasure to welcome you and thank you for your participation and cooperation on behalf of this event's co-organisers, the Czech Association of Scientific and Technical Societies, and the World Federation of Engineering Organisations.

The World Engineering Convention is the largest gathering of engineers, scientists and technical experts, held every four years on different continents. It is the most important event in the world of engineering.

The Prague Convention is the seventh in a row and I would like to remind you that the General Assembly of the World Federation of Engineering Organizations is returning to Prague after 34 years!

The theme of the Prague Congress - Engineering for Life - Breakthrough Technologies and Capacity Development - reflects the main objective of the event, which is to explore and find ways in which innovative and breakthrough technologies can effectively respond to planetary challenges and ensure environmental sustainability and a secure future for humanity.

The scientific programme of the congress includes important communications from top experts from all over the world, documenting the contribution of engineering to further development and ensuring a good and safe life on our planet for all its inhabitants.

It is a great honour for us that the auspices of this conference were assumed by the Director-General of UNESCO, Ms Audrey Azoulay, the Prime Minister of the Czech Republic, Mr Petr Fiala, the Mayor of Prague, Mr Bohuslav Svoboda, the Ministry of Industry and Trade, the Ministry of Education and Youth, the Ministry of Foreign Affairs, the Ministry of the Environment and the Minister of Science and Research, Ms Helena Langšádlová. Our event is also under the auspices of Mr António Guterres, Secretary-General of the United Nations, whose toast you will hear in a few minutes. Mr António Guterres is also an engineer!

I would also like to thank the platinum partner CEZ Group for its very significant support and other partner institutions, CzechInvest, the members of the Partner Alliance for their support of the congress in the current difficult times, as well as the WFEO co-organizer and its standing technical committees for their cooperation and assistance.

Ladies and gentlemen, I now hand over control of the ceremony to my colleagues, Ms Daniela Rybková and Mr Jonathan Woolliff.

I thank you for your attention and wish you an enriching participation in the congress, many friendly meetings with colleagues worldwide and a wonderful stay in Prague.



Daniel Hanus
WEC 2023 Chair



WELCOME LETTER

Dear Participants,

I am proud to welcome you to the most important event in celebration of engineering. The World Federation of Engineering Organizations (WFEO) created those 'Olympics of Engineering' in 2000, with the aim of showing the many ways in which engineers contribute to improving daily lives and shaping the future.

Five WECs have been taken place since this time, and it is our shared responsibility to acknowledge the evolution of the environment, with the increasing global challenges posed by climate change, and the implementation of the United Nations Sustainable Development Goals outlined in the 2030 Agenda

WFEO has developed a vision and strategy that has integrated this agenda: this is why our flagship event showcases engineering initiatives and innovations that foster sustainability and inclusion in every aspect of life, education and culture, economy, industry, building, transportation, health and communication. Engineering and applied science can make a difference in each of them, by providing technological solutions and adaptations through circular economy, water, sanitation and hygiene, decarbonized energy, artificial intelligence and robotics, and many other paths to explore.

WEC 2023 promises to be a dynamic platform where brilliant minds from around the world come together to exchange ideas, share insights, and spark transformative solutions. Together, we will set the direction for achieving engineering excellence, sustainability, and progress.

Feel free to start this enthusiastic journey of knowledge, discovery, and innovation with us. Welcome aboard, and let's engineering the future!



José Manuel Pereira Vieira
WFEO President

CONGRESS VENUE



PRAGUE CONGRESS CENTER

Address:
5. Května 1640/65, 140 00 Prague 4
Entrance No. 4

WI-FI CONNECTION

Name: WEC2023
Password: WEC_2023

REGISTRATION

Registration desk will be placed in Prague Congress Center, please follow the signs WEC 2023. At the entrance to the Prague Congress Centre you will find entrance 4. Registration will be located directly across from the entrance.

OPENING HOURS:

Wednesday, 11 October, 2023	07:30 – 19:30
Thursday, 12 October, 2023	07:30 – 19:00
Friday, 13 October, 2023	07:30 – 17:45

Registration fee for delegates includes:

- Entrance to Scientific Sessions and Exhibition
- Entrance to Poster Session Area
- Free ticket to Public Transportation valid within the Congress Days (11 – 13 October 2023) – You will be able to collect the ticket at our hostesses upon your registration.
- Free Entrance to the Opening Ceremony to be held on October 11th



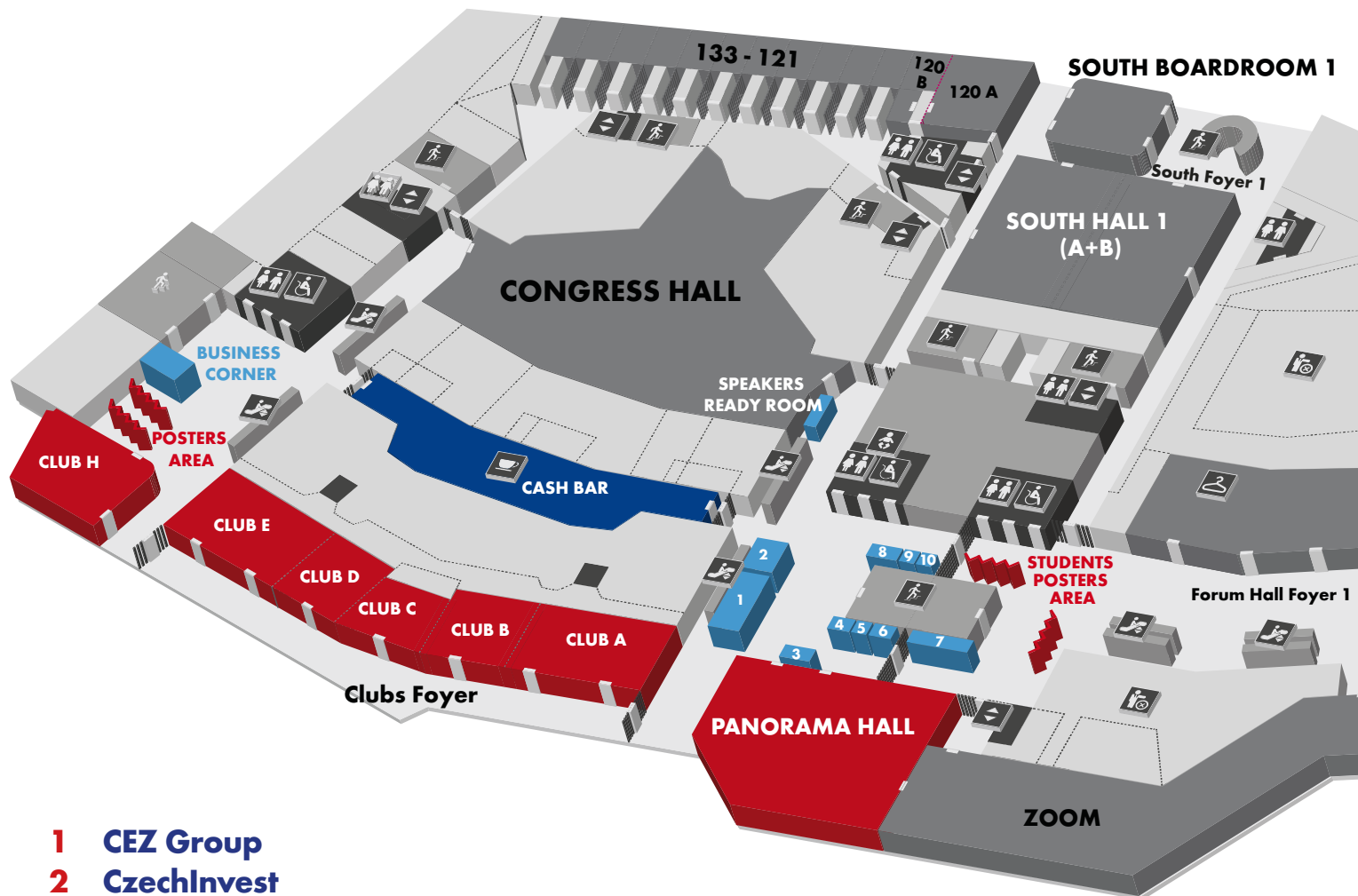
EXHIBITION

EXHIBITION AREA IS LOCATED ON THE 1ST FLOOR.

Wednesday, 11 October, 2023 09:00–18:00

Thursday, 12 October, 2023 09:00–18:00

Friday, 13 October, 2023 09:00–17:00



- 1** CEZ Group
- 2** CzechInvest
- 3** The Czech Architecture Award
- 4** Central European Aerospace corp.
- 5** Metrans a.s.
- 6** FACULTY OF ELECTRICAL ENGINEERING/ Czech Technical University in Prague
- 7** Czech Chamber of Authorized Engineers and Technicians active in construction
- 8** IQLANDIA, o.p.s.
- 9** Rewat Energy s.r.o.
- 10** The Tomáš Baťa Foundation

PROGRAMME AT A GLANCE 11. 10. 2023

Panorama Hall	Club A	Club B	Club C
09:00 - 09:30 Opening Ceremony			
09:30 - 10:00 Plenary Lecture 1 - José Manuel Pereira Vieira			
10:00 - 10:30 Plenary Lecture - Chen Xuedong			
10:30 - 11:00 Break			
11:00 - 12:00 ČEZ GROUP Panel Session - The future of Energy	11:30 - 12:30 Students Job Fair		
12:00 - 12:45 Plenary Lecture 3 - Jack Dangermond			
12:45 - 14:15 Lunch Break			
14:15 - 15:00 Plenary Lecture 4 - Josef Michl			
15:00 - 15:15 Break			
15:15 - 16:45 1. New Solutions for Energy	15:15 - 16:45 4. Engineering Education and Continuing Professional Development	15:15 - 16:45 7. Innovative Technologies in Industry	15:15 - 16:45 Committee on Water (CW) SDG Goals: Water Challenges
16:45 - 17:15 Break			
17:15 - 18:45 1. New Solutions for Energy	17:15 - 18:45 4. Engineering Education and Continuing Professional Development	17:15 - 19:00 7. Innovative Technologies in Industry	17:15 - 18:45 Committee on Information and Communication (CIC)



PROGRAMME AT A GLANCE 11. 10. 2023

Club D	Club E	Club H	Poster Area
			12:45 - 15:00 Students Poster Session
15:15 - 16:45 WFEO-UN Relations Committee (WURC)	15:15 - 16:45 11. Climate Change Mitigation and Adaptation	15:15 - 16:45 13. Young Engineers Forum	
16:45 - 17:15 Break			
17:15 - 18:45 Committee on Women in Engineering (WIE) Engineering for Life, and the role of women	17:15 - 18:45 11. Climate Change Mitigation and Adaptation	17:15 - 18:45 13. Young Engineers Forum	

PROGRAMME AT A GLANCE 12. 10. 2023

Panorama Hall	Club A	Club B	Club C
09:00 - 09:45 Plenary Lecture 4 - Marlene Kanga			
09:45 - 10:30 Plenary Lecture 5 - Aldert Kamp			
10:30 - 11:00 Break			
11:00 - 11:45 Plenary Lecture 6 - Jean Eudes Moncombe			
11:45 - 12:00 Break			
12:00 - 13:30 Bařa Forum	12:00 - 13:30 4. Engineering Education and Continuing Professional Development	12:00 - 13:30 10. Natural and Industrial Disaster Prevention	12:00 - 13:30 Committee on Education in Engineering (CEIE)
13:30 - 14:30 Lunch Break			
14:30 - 16:30 Bařa Forum	14:30 - 16:30 2.1 Historical Monuments Maintenance and Preservation	14:30 - 16:30 10. Natural and Industrial Disaster Prevention; 14. Women in Science and Engineering	14:30 - 16:00 Committee on Energy (CE), Vulnerability of energy systems
16:30 - 17:00 Break			
17:00 - 19:00 CzechInvest session: From the Earth to the Universe	17:00 - 19:00 2. Smart Cities, Concept of Urbanization	17:00 - 18:30 Committee on Engineering for Innovative Technologies (CEIT) Empowering Engineers - Harnessing Innovative Technologies for Sustainable Development	17:00 - 18:30 Committee on Disaster Risk Management (CDRM) Engineering the resilience and sustainability in growing cities



PROGRAMME AT A GLANCE 12. 10. 2023

Club D	Club E	Club H	Poster Area
12:00 - 13:30 Committee on Engineering and the Environment (CEE) Role of engineering in addressing climate change: systemic solutions for global challenges	12:00 - 13:30 14. Women in Science and Engineering	12:00 - 13:30 3. Engineering Approach to Environment Protection	
13:30 - 14:30 Lunch Break			13:30 - 14:30 WEC Poster Session
14:30 - 16:00 Committee on Young Engineers / Future Leaders (YE/FL)	14:30 - 16:30 12. From the Earth to the Universe	14:30 - 16:30 9. Food and Fresh Water Supply	
16:30 - 17:00 Break			
17:00 - 18:30 Committee on Engineering Capacity Building (CECB)	17:00 - 19:00 8. Engineering in Health Care	17:00 - 19:00 5. Green Transport	



PROGRAMME AT A GLANCE 13. 10. 2023

Panorama Hall	Club A	Club B	Club C	Club H	Mirror Area
					08:00 - 08:45 Women in Engineering - Morning Tea Session: Informal Speed Mentoring/ Networking Session
09:00 - 10:30 3. Engineering Approach to Environment Protection	09:00 - 10:30 14. Women in Science and Engineering	09:00 - 10:30 Committee on Anti Corruption (CAC) Corruption, an impediment to infrastructures development	09:00 - 10:30 Working Group on Infrastructure Report Card (WGIRC)	09:00 - 10:30 6. Safe Digital World; 7. Innovative Technologies in Industry	
10:30 - 11:00 Break	10:30 - 16:00 Break				
11:00 - 11:45 Plenary Lecture 7 - Fiammetta Diani					
11:45 - 12:30 Plenary Lecture 8 - Serkan Saydam					
12:30 - 13:15 Plenary Lecture 9 - Jürgen Kretschmann					
13:15 - 14:15 Lunch Break					
14:15 - 15:00 Plenary Lecture 10 - R. Paul Singh					
15:00 - 15:45 Plenary Lecture 11 - Mustafa B. Shehu					
15:45 - 16:00 Break					
16:00 - 17:00 9. Food and Fresh Water Supply	16:00 - 17:00 2. Smart Cities, Concept of Urbanization				
17:00 - 17:05 Break					
17:05 - 17:50 Closing Ceremony					

**TO VIEW THE DETAILED PROGRAMME
PLEASE SCAN THE QR CODE
AND GO TO OUR WEB APP**



STUDENTS PROGRAMME

STUDENTS POSTER SESSION

Place Poster Area
Date Wednesday, 11 October 2023
Time 12:45 – 15:00

All participants, guests and exhibitors are kindly invited.

OPENING CEREMONY & CONGRESS PLENARY LECTURES

Place Panorama Hall
Date Wednesday, 11 October 2023
Time from 9:00

All students are kindly invited.

YOUNG ENGINEERS FORUM

Place Club H
Date Wednesday, 11 October 2023
Time from 15:15

All students are kindly invited.

INSTRUCTIONS FOR AUTHORS

ORAL PRESENTATIONS

Speakers' Ready Room (Exhibition Area)

You can submit your presentation onsite at the Speakers' Ready Room (Meeting Room 1.1 - located on the level 1). Your presentation must be submitted to the "Speakers' Ready Room" at least 30 minutes in advance of your session.

If using the Speaker Ready Room, we kindly ask you to bring your presentation on USB memory stick or External hard drive (USB-A/USB-C) to the Speaker Ready Room where the technicians will upload the presentation into the system. Presentations must be in PowerPoint form/ PDF only (MAC or PC) in 16:9 format.

Opening hours:

Wednesday, 11 October	8:00 - 18:45
Thursday, 12 October	8:00 - 19:00
Friday, 13 October	8:00 - 17:45

POSTER PRESENTATIONS

All posters will be presented in a "paper" format. Posters will be available during the whole conference in the Poster Area located in the Congress Venue. For the concrete location, contact on site staff during your registration or check our webpage before your arrival.

Poster Session

The poster will be visible for all participants from Wednesday 11 October 9:00 until Friday 13 October 16:00. The poster session will be on Thursday (12 October 2023), from 13:30 to 14:30. Authors are expected to be available at their posters for the whole duration of the poster session to discuss their results and answer questions. There will be no moderated discussions over the posters.

PARTNERS AND EXHIBITORS

PLATINUM PARTNER



PARTNER



LANYARDS PARTNER



SUPPORT

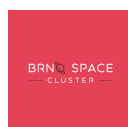
The project is implemented with the financial support of the City of Prague.
Projekt je realizován s finanční podporou hlavního města Prahy.



prague
city tourism



EXHIBITORS



SOCIAL EVENTS

OPENING CEREMONY

- Venue** Panorama Hall, Prague Congress Center
Date Wednesday, 11 October 2023
Time 9:00– 9:30
Price Free of charge

All participants, guests and exhibitors are kindly invited.

WEC 2023 PRESIDENTIAL DINNER

- Venue** Folklore Garden,
At the corner of Na Zlíchově street & Nad Konečnou street,
Prague 5 – Hlubočepy, Czech Republic
Date Thursday, 12 October 2023
Time from 20:00
Dress code Smart casual
Price 120 EUR per person

Experience an unforgettable evening at the Presidential Dinner on Oct 12, 2023, in Prague's Folklore Garden. Join us for an authentic Czech dinner, including a 4-course menu, welcome drink, unlimited drink package, and captivating 2,5h folklore show. Immerse yourself in culture and reserve your seat now!



OTHER INFORMATION

LANGUAGE

The official language of the WEC 2023 is English. Translation services will not be provided.

CURRENCY

Czech Crown (CZK)

TIME ZONE

UTC/GMT +2 hours (CEST - Central European Summertime from March to October)

BASIC CZECH PHRASES

Hi/ Hello - Ahoj/ Dobrý den

Good morning - Dobré ráno

Good afternoon - Dobré odpoledne

Good night - Dobrou noc

Goodbye - Nashledanou

Please - Prosím

You're welcome - Není zač

Thank you - Děkuji

Yes/ No - Ano/ Ne

One beer please - Jedno pivo prosím

Two/ Three beers please - Dvě/ Tři piva prosím

TIPPING

Tipping in the Czech Republic is commonly expected. Foreign visitors are often expected to tip at least 10-15%. (N.B. This practice holds true mainly in Prague and leading tourist famous destinations.

TELEPHONE CODES AND EMERGENCY NUMBERS

The country telephone code for the Czech Republic is 00420 or +420

Emergency numbers: **Police** - 158, **Fire Department** - 150, **Ambulance** - 155

European emergency number: 112

CONGRESS SECRETARIAT

GUARANT International spol. s r.o.

Českomoravská 19

190 00 Prague 9

Czech Republic

Phone reception: +420 284 001 444

E-mail: wec2023@guarant.cz

Website: www.guarant.com | www.wec2023.com





MONTREAL ——— CANADA

WEC

2027 8th WORLD ENGINEERS
CONVENTION



Come
Venezsee
nous
voir

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October 4 - 10, 2027
4 - 10 octobre 2027