



THINK TANK SUSTAINABLE BUILDINGS
EUROPEAN SPACE AGENCY
EUROPEAN SPACE ASTRONOMY CENTRE
SUSTAINABLE BCC EELISA COMMUNITY



THINK TANK ESA–ESAC - SUSTAINABLE BCC : **SUSTAINABLE BUILDINGS**



What is **EELISA**
European University



EELISA
European University

The European Engineering Learning Innovation and Science Alliance (EELISA) is the first alliance of Higher Education Institutions from different countries in Europe meant to define and implement a **common model of *European engineer*** rooted in society.

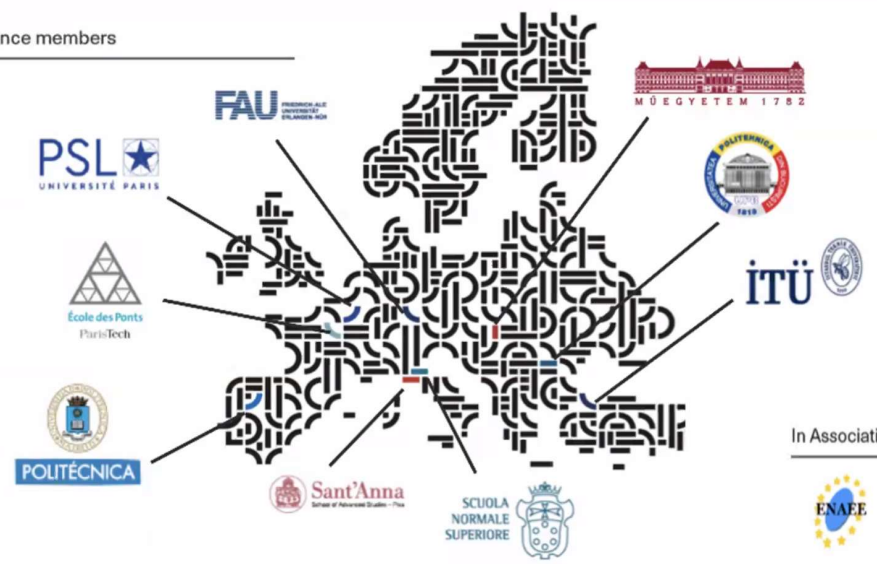


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Who is EQUIS European University

Alliance members



In Association with



Alliance Members

"Where Knowledge, Technical Innovations and Social Commitment Meet" is the motif of this alliance, led by Universidad Politécnica de Madrid, that brings together nine of the most prestigious universities of Europe. All with different sizes, history and disciplines but same goal – to transform European Tech Higher Education.



Budapesti Műszaki és Gazdaságtudományi Egyetem



École des Ponts ParisTech
Ecole des Ponts ParisTech, created in 1747 under the name Ecole Royale



Friedrich-Alexander-Universität Erlangen-Nürnberg



İstanbul Teknik Üniversitesi



Scuola Normale Superiore



Scuola Superiore Sant'Anna



Universitatea Politehnica din București



Université Paris Sciences et Lettres



Universidad Politécnica de Madrid



What are the EELISA communities European University

Diverse and ever-expanding nodes where education, research, professional experience, and societal challenges merge.

The EELISA communities are mission-driven working groups that bring together students, teachers, and researchers from all partner universities with prestigious professionals, grassroots organizations, citizens, private companies, and public institutions to find innovative solutions to real-world challenges.

Each community will define its main elements: mission, challenges, people/organization, activities, and evaluation criteria.





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Our community SUSTAINABLE BCC

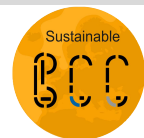
SUSTAINABLE BCC. TECHNICAL AND SOCIAL CHALLENGES FOR SUSTAINABLE BUILDINGS, CITIES AND COMMUNITIES



Foster a European university ecosystem to leverage synergies, to innovate and educate by stimulating technical and social challenges for more efficient and sustainable buildings, cities and communities.



UNIVERSIDAD
POLITÉCNICA
DE MADRID



Our community SUSTAINABLE BCC



- Around **120 professors & Researchers**
 - UPM — 65 (From 8 schools and 13 Departments)
 - BUDAPEST — 10
 - ITU — 19
 - PARIS TECH — 9
 - PSL 5
 - S. NORMALE SUPERIORE — 2
 - S. SUPERIORE ST' ANNA — 2 (5-6)
 - FAU — Pending confirmation
- 5 Big Professional associations
- 2 Foundations (EEF) + Non-profit organization (GBCE)
- 2 Research Centres in Spain + 1 in Turkey
- 9 companies + 10 professionals
- ITU ARI — 400 companies



THINK TANK ESA-ESAC - SUSTAINABLE BCC : SUSTAINABLE BUILDINGS



POLITÉCNICA

Our partners in SUSTAINABLE BCC

Professional associations



Consejo Superior de Colegios de Arquitectos de España



asefave
ASOCIACIÓN ESPAÑOLA DE FABRICANTES DE FACHADAS LIGERAS Y VENTANAS

ANERR
Asociación Nacional de Empresas de Rehabilitación y Reforma

Rehabilitación Eficiente



IFMA™ España Chapter
International Facility Management Association

Research institutions



CSIC
CONSEJO SUPERIOR DE INVESTIGACIONES CIENTÍFICAS

INSTITUTO EDUARDO TORROJA



GOBIERNO DE ESPAÑA

MINISTERIO DE CIENCIA E INNOVACIÓN

Ciemat
Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas

Companies



esa

VELTIS®
First Real Estate Rating Agency



energy endeavour
FOUNDATION



Fundación Miguel Aguiló

Foundations

ITUARI
TEKNOKENT

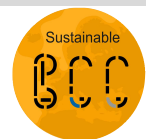
BRIGHTER TOGETHER

ARUP

FMHOUSE®

Non-profit organization

GBCe
green building council españa



THINK TANK ESA–ESAC - SUSTAINABLE BCC : **SUSTAINABLE BUILDINGS**



POLITÉCNICA

Our activities in **SUSTAINABLE BCC**



With **BOTTOM-UP** initiatives

NOT studying BUT..... **Imagining, creating, solving, doing, exploring, participating.....**

A bottom-up activity :**THINK TANK SUSTAINABLE BUILDINGS ESA – ESAC - SUSTAINABLE BCC**



With **TOP-DOWN** projects

Solar Decathlon: SDE25 +

Shared Solar Decathlon - SUSBCC infrastructure

IUR-LAB Integrated Urban Regeneration Living-Lab

GESLAB Global Energy & Sustainable Laboratory in Building



To support more efficient and sustainable buildings, cities and communities



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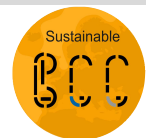


POLITÉCNICA



23rd to 27th January 2023

Welcome to the environment in which We all will be operating in the coming years : SUSTAINABLE & DIGITAL BUILDINGS. Enjoy!!



THINK TANK ESA-ESAC - SUSTAINABLE BCC : SUSTAINABLE BUILDINGS



The Activity:

The ESA-ESAC - SUSTAINABLE BCC think tank is an educational activity to promote innovation and generate fresh ideas to launch a comprehensive sustainable refurbishment of the European Space Agency (ESA) building “A” in Spain. Together with ESA-ESAC (partner of SUSBCC) we will organise a high impact activity consisting of a large think tank, with the participating students and the support of professors, researchers, and professionals, to undertake a comprehensive rehabilitation operation in the spirit of the New European Bauhaus and with the triple bottom line approach of sustainability (social, economic, and environmental).

This activity is a very good opportunity for students who participate both in person and virtually, to acquire a global and integrative vision from the spirit of the New European Bauhaus and sustainability, gaining awareness and commitment to social, economic, energy, and environmental concerns, as well as discovering the potential offered by current digital trends to support and promote them from a perspective of efficiency.

This activity will take place in a creative and collaborative international environment with the participation of an estimated 300 international students and more than 100 international professors, researchers and professionals.



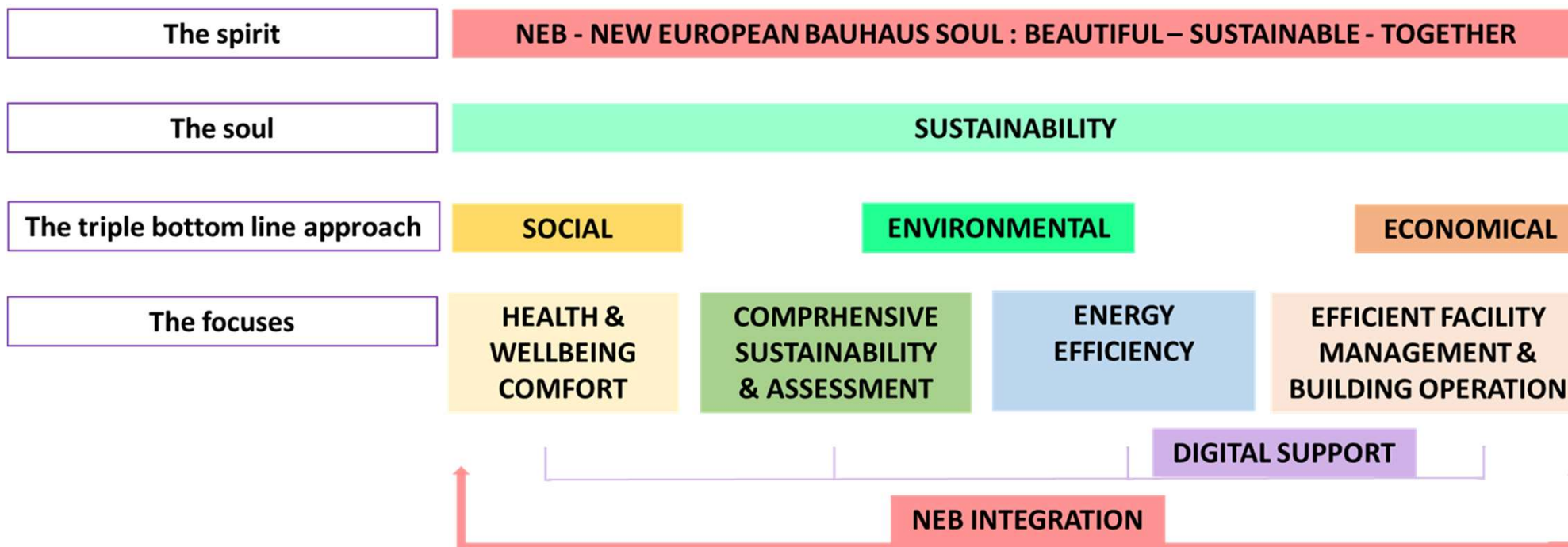
[https://www.esa.int/About Us/ESAC](https://www.esa.int/About_Us/ESAC)

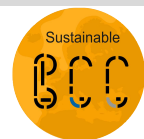


The Think Tank:

The development of this ESA-ESAC-SUBCC think tank will take place in a hybrid format in the last week of January 2023 (23-27 January) at the ESA-ESAC headquarters in Villanueva de la Cañada, with the participation of around 300 international students (50 on-site). The scope of development will cover the entire academic year 2022-2023, with activities in both the first and second semester.

The think tank is actually composed of **6 different think tanks: 4 working in thematical parallel sessions** from the three pillars of sustainability, **1 cross-cutting** think tank on digitalisation, and **1 collective think tank on integration** through the New European Bauhaus Spirit.





The Workshops:

Each of the parallel think tanks consists of **8 thematic workshops of 2h each** in which the different **collaborative working groups** (4 to 8 per parallel think tank) will be proposed **specific challenges** to discuss and generate ideas, analysing and trying to reach common conclusions. In addition to this, there will be four workshops for analysis, recapitulation, and integration of conclusions and lessons learned.

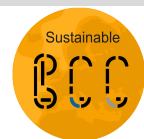
Prior to the development of the activity, the students and professionals will have access to a repository of teaching and informative material on each of the topics under analysis, in the form of a flipped classroom.

Every thematic workshops of each of the think tanks will be organised with 30 minutes of a master class to unify criteria, resolve doubts and define the specific challenges proposed to each working group. These challenges will be the object of collaborative work and reflection for 1 h (mixed face-to-face-virtual groups) and an additional half hour of sharing the findings and conclusions consolidated in the workshop.

The integration workshops are to share the partial and final conclusions of each of the think tanks in the different thematic workshops.

PARALLEL THEMATIC THINK TANKS

Think tank	COMPREHENSIVE SUSTAINABILITY	HEALTH AND WELLBEING	ENERGY EFFICIENCY	EFFICIENT FACILITY MANAGEMENT
Workshops	Code	Code	Code	Code
1	CSA1	H&W1	EE1	EFM 1
2	CSA2	H&W2	EE2	EFM 2
3	CSA3	H&W3	EE3	EFM 3
NEB 1	NEB 1	Sustainable Building Retrofitting		
4	DS4	Digital Twins & BIM		
5	DS5	Data Governance & Prioritisation		
6	DS6	Internet of Things & Artificial Intelligence		
7	CSA7	H&W7	EE7	EFM 7
8	CSA8	H&W8	EE8	EFM 8
NEB 2	NEB 2	Innovation in Buiding Retrofitting. Towards NZEB and NZEC		
9 Wrap up	ES9 WUP	H&W9 WUP	EE9 WUP	EFM 9 WUP
NEB wrap up	NEB WUP	Think Tank Wrap up conclusions and Lessons Learned		

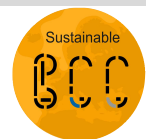


The Workshops and the topics:

PARALLEL THEMATIC THINK TANKS. WORKSHOPS AND TOPICS

Think tank Workshops	COMPREHENSIVE SUSTAINABILITY & ASSESSMENT		HEALTH - WELLBEING & COMFORT		ENERGY EFFICIENCY		EFFICIENT FACILITY MANAGEMENT & BUILDING OPERATION	
	Code	Topic	Code	Topic	Code	Topic	Code	Topic
1	CSA1	What? Sustainability Assessment	HWC1	Vegetation and outdoor space	EE1	Passive strategies	EFM 1	Facility Management in a nutshell
2	CSA2	Circular Economy - 6R in new building	HWC2	Physical activity and health at the workplace	EE2	Thermal Energy. Active technologies	EFM 2	Integration of FM in daily operations
3	CSA3	Circular Economy - Use of building waste	HWC3	Comfortable and natural lighting	EE3	Renewable electrical energy - BIPV	EFM 3	Application of sustainability in FM
NEB 1	NEB 1	Sustainable Building Retrofitting						
4	DS4	Digital Twins & BIM						
5	DS5	Data Governance & Prioritisation						
6	DS6	Internet of Things & Artificial Intelligence						
7	CSA7	When? Life Cycle Perspective	HWC7	Air quality and hygrothermal comfort	EE7	NZEB - Net Zero Energy Buildings	EFM 7	Technology as part of the FM model
8	CSA8	How? Sustainability strategies	HWC8	Acoustic comfort	EE8	NZEC - Net Zero Energy Clusters	EFM 8	Human centric Models in FM
NEB 2	NEB 2	Innovation in Buiding Retrofitting. Towards NZEB and NZEC						
9 Wrap up	CSA9 WUP	Think Tank Wrap up conclusions and Lessons Learned	HWC9	Think Tank Wrap up conclusions and Lessons Learned	EE9 WUP	Think Tank Wrap up conclusions and Lessons Learned	EFM 9 WUP	Think Tank Wrap up conclusions and Lessons Learned
NEB wrap up	NEB WUP	Think Tank Wrap up conclusions and Lessons Learned						

(*) Since we are in the planning and development phase, the title and/or content of some workshops may be adjusted.



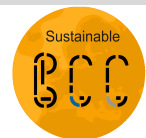
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The Agenda:



Professionals will have the opportunity to sign up for individual workshops of their interest. The agenda scheduled for the think tank is:

ESA-SUSBCC PLANNING	Monday 23				Tuesday 24				Wednesday 25				Thursday 26				Friday 27			
	CS&A	H&W	EE	EFM	CS&A	H&W	EE	EFM	CS&A	H&W	EE	EFM	CS&A	H&W	EE	EFM	CS&A	H&W	EE	EFM
8h00'																				
9h00'					Bus Transfer				Bus Transfer				Bus Transfer				Bus Transfer			
10h00'	Welcome & Organization				Parallel Session 2				CS&A4	Digital Support 4			Parallel Session 7				Wrap up Parallel Sessions			
11h00'	Coffee break				Coffee break				Coffee break				Coffee break				Coffee break			
12h00'	Bus Transfer				Parallel Session 3				CS&A5	Digital Support 5			Parallel Session 8				Wrap up NEB Integration			
13h00'	Visit to ESA facilities																			
14h00'	Lunch time				Lunch time				Lunch time				Lunch time				Lunch time			
15h00'	Parallel Session 1				NEB Integration 1				CS&A6	Digital Support 6			NEB Integration 2				Visit to ESAC, the European Space Astronomy Centre (control and monitoring headquarters for ESA's space telescopes and planetary missions).			
16h00'																				
17h00'	Bus Transfer				Bus Transfer				Bus Transfer ESA-CEDINT				Bus Transfer				Bus Transfer			
18h00'									Visit UPM's Facilities - CEDINT											
									Bus Transfer CEDINT-ETSAM											
20h00'													Final Party							
22h00'																				



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What We need from professionals:



Action for global awareness and commitment

Join the action and help build awareness and commitment for the next generation of professionals to the need to foster more efficient and sustainable buildings, cities and communities.

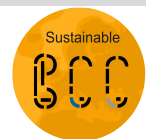
Your experience as a role model for students:

Support to enriching the education of students by contributing your knowledge, experience and your example of how to generate ideas, analyse them and defend them, teaching by your example how to think. The main objective is the joint work of professionals and committed students for mutual enrichment.

Participate in as many workshops as you want:

Sign up and participate in the workshops you are more interested in, or where you think you can contribute the more. Share your ideas with the students. Stimulate and encourage their creativity. Show them how to think. Teach them how to interrelate knowledge and how a global, interdisciplinary and integrated vision can generate inspiring ideas.

Every workshop is two hours long of virtual participation (Teams) with stimulating topics and challenges.



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What participating professionals gain:

Fresh ideas from action:

Join in the activity and together we will generate fresh ideas to solve today's challenges by harnessing the dynamism and creativity of the students, with the expertise and professionalism of our specialists. Welcome to the action!!

Knowledge and information:

Participants will work in a fully international event conducted in English. Students and Professionals will receive an extensive background information with knowledge on all topics related to social, economic, energy and environmental sustainability, digital tools, and integration according to the New European Bauhaus for more efficient and sustainable buildings and cities.

Multidisciplinary and comprehensive enrichment:

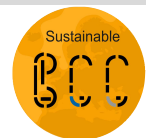
Participants will enrich their experience from a global and comprehensive vision with an interdisciplinary perspective by the participation of students, professors, researchers, and professionals from many different disciplines (architects, engineers, economists, sociologists, facility managers, psychologists,).

Explore and recruit talent for your team

Beyond the generation of fresh ideas with committed and bright young people with creative and skillful ideas, it is an excellent opportunity to identify and select talent for your teams

Acknowledgements:

Participants will receive a certificate from the community coordinator informing of their active participation in the event and in the workshops attended. Professionals will be welcome as member of the EELISA community SUSTAINABLE BUILDINGS CITIES AND COMMUNITIES.



THINK TANK ESA-ESAC - SUSTAINABLE BCC : SUSTAINABLE BUILDINGS



23rd to 27th January 2023

Hybrid format International Think Tank:

50 International students face to face on ESA Campus - Madrid

200-300 international students virtual:

.- Full think tank

.- In the workshops you are more interested in

More than 100 international professors & professionals

Challenge based learning from a multidisciplinary approach

Mixed teams: students, professors, researchers, professionals

4 parallel, 1 cross-cutting, 1 NEB integration Think Tanks

30 thematic workshops with its focus challenges

New European Bauhaus: SUSTAINABLE, BEAUTIFUL, TOGETHER



Register now!!

Updated information at

bit.ly/3Xw7nRB



Our partners participating in this activity:

