



SPACE DESIGN COMPETITION Italy

11 December 2021



In collaboration with



POLITECNICO
MILANO 1863

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DO YOU WANT AN INVITATION TO NASA?

Join your region's first-ever Space Design Competition (SDC) and earn the chance to represent your country at the annual international World Final (ISSDC) at NASA's Kennedy Space Center, Florida. 1 student from the winning company are invited to attend this prestigious event. Will you be one of them? **Enrol now and find out.**

THE SPACE DESIGN COMPETITIONS

The SDCs are a set of **free-to-enter** aerospace industry simulation competitions created for students between the ages of 15-18. The SDC is a 2-day event that is typically hosted at prestigious academic institutes or industry venues throughout the world, often simultaneously. Mind, no two competitions are the same.

Today, the SDCs are proposed in a digital format to accommodate for the needs of COVID-19 induced restrictions. Rest assured, the value and thrill of the Competition remains.

The SDC revolves around the design of a space settlement, *somewhere out there*. Such settlements are not designed solely by engineers. To accomplish such a feat, a truly diverse team is required. This includes the help of doctors, lawyers, designers and architects, computer and natural scientists, and even business-minded individuals! If you are any of the above, this event is for you.

Enrol now in the first-ever European-wide Space Design Competition hosted by the reputable International Space University (ISU) and join an influential community of STE(A)M students, academics, and industry professionals.



KEY LEARNING OBJECTIVES

HOW DOES THE SDC IMPACT STUDENTS?

- ◆ Encouraging initiative to be taken in a professional setting centered around the context of space
- ◆ Empowerment through the handling of real and success-dependent responsibilities independently and collaboratively
- ◆ Application of classroom learning to real industry challenges within Science, Technology, Engineering, Arts, & Mathematics (STEAM), business, psychology, and more
- ◆ Stimulates leadership traits and the acknowledgment of one's output capacity in an immersive, intensive, & inspiring setting
- ◆ Enable students to experience the hardships, challenges, & successes of industry life by answering to contract proposals

UNIQUE VALUE PROPOSITION

- ◆ Gamified aerospace industry simulation event of up to 200 individuals split into four companies competing for a lucrative contract
- ◆ Entirely student led with minimal adult interference
- ◆ Immersive experience that wholly engages students with effective application of STEAM learnings from classroom
- ◆ Invokes creative thinking and ideating in a team environment
- ◆ Networking with experts, academics, and industry representatives
- ◆ Preparing students for the current and imminent reality of operations and, ultimately, life in space
- ◆ Fosters an enjoyable learning environment that is rooted in fun



OVERVIEW

The Competition is an immersive and exhilarating space industry simulation challenge crafted for any pupil aged 15-18. The Competition comprises National Heats, Video Competitions, and an annual National Final. The winners go on to qualify for the Regional EUSDC, and then onwards to the World Final at NASA's Kennedy Space Center.

THE CHALLENGE

The Competition challenges up to 200 pupils to conceptually design and pitch a space settlement that answers to the requirements of a Request for Proposal (RFP); a "contract" outlining the requirements of the settlement. The winners are the ones who perform the best based on multiple factors (e.g. most innovative design).

STRUCTURE

The participants are grouped into four "companies" of up to 50 which they will represent and collaborate within to create a bid for the RFP. Each company requires leadership roles (e.g. Company President, VP, Heads of Departments) which, critically, the students elect. Each company has dedicated CEOs whose role is strictly to advise. Roaming Technical Specialists are available to all companies for advice throughout the Competition.

FACILITATION & MENTORING

Although staff and technical experts are present and play an active role within the competition as facilitators, one of the key unique value propositions of the SDC is its student-led mechanism. Facilitators are told not to instruct, teach, or educate participants, but provide them the tools necessary to overcome the challenges they will inevitably face.



Below is a sample timetable* of the Space Design Competition

Italian Space Design Competition	
Time	11 December 2021
7:30 - 8:30	Registration & Troubleshooting
8:30 - 8:55	Welcome & Introduction Competition Expectations, How Companies Work, Space Quiz
9:00 - 9:25	CEO Introductions & Elections of Leadership Roles
9:30 - 9:55	Technical Training Sessions
10:00	RFP Delivered to President & Work Begins
10:00 - 18:00	Work Continues
14:00 - 15:30	Mid-Progress Reviews All teams will present their current work progress to a panel of reviewers for feedback
18:00	Deadline for Submissions
18:30	20-minute presentations & 5-minutes of Judge questions
20:00	Judges Deliberate
20:30	Winners announced & Certificates distributed Closing of the competition

*Timings may need to be adjusted

The European Space Design Competition (EUSDC) community is a rapidly growing network and community of space enthusiasts looking to expand its outreach for the purpose of educational value.

1. If you would like to **join** an SDC, please click the Register Now button below, and follow the instructions online.
2. If you would like to **organise** an SDC, get in touch via email at k.lewis@ssef.org.uk and join our SDC community.

Register now



Dr Randall Perry

SSEF & SDC Founder,
Senior Research Investigator
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University of Oxford Fellowship



Marcus du Sautoy

FRS, OBE
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Jeremy Curtis

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Opto-Mechanical Engineer
at Surrey Satellite Technology



Bertrand Goldman

EUSDC Lead Organiser,
Associate Professor, Research
Facilitator, & Holder of the
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Tommaso Tonina

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Space Technologies,
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Kareem S. Lewis

Director of SSEF Europe &
Middle East
UKSDC & ISSDC Alumnus
Director of KPHorizons



Dr Richard Ghail

SSEF Trustee
Chair Lecturer Engineering
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Built on the same model of the Space Design Competition, the Galactic Challenge is a free-to-enter 1-day competition tailored to students aged 9-14. Run independently and at anytime of the year, the Galactic Challenge is the official feeder for the SDC. Visit <https://gchallenge.org> for more.



The Global Space Design Challenge is a paid-for 2-week summer camp designed for students aged 15-18 to elevate their university applications. Taster courses, subject-specific teaching, and exposure to world-class universities. The GSDC culminates with an SDC, with 12 students invited to attend NASA's ISSDC. Visit <https://gspacedc.com> for more.





EUSDC Partners



**Imperial College
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ssef.org.uk

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ITALY SPACE DESIGN COMPETITION

The SDC is an immersive 1-day space industry simulation event where you are tasked to design a settlement *somewhere* out there...

Transforming into a specialist up to 80 years in the future, do you have what it takes to satisfy the Foundation Society?

INVITATION TO NASA



15-18
Year Olds



11th
Dec 2021



Virtual
Competition

Join the first-ever virtual Italian Space Design Competition & earn the chance to represent your country at the annual International Space Settlement Design Competition (ISSDC) at NASA's Kennedy Space Center, Florida.

1 student from the winning company will be invited to attend the ISSDC. Will that be you?

Enrol and find out.

Register now eusdc.org

Closes 18:00 10th Dec