



MBSE2024 Hackathon

In May 2024, Bremen will welcome the most important workshop in 2024 related to Model-Based System Engineering applied to space systems in Europe. As part of the workshop, we are calling all interested students to participate in an MBSE hackathon. Embark on a cosmic journey of collaboration and innovation by joining us in solving a space-related challenge through Model-Based Systems Engineering. This hackathon is your ticket to dive deep into the realm of space systems engineering, where learning meets hands-on problem-solving. Gear up to elevate your skills, forge new connections, and pitch your solutions to an international audience of MBSE professionals! The best solution and pitch will be crowned winners of the #MBSE2024Hackathon!

The Hackathon will be structured into four key components:

1. Part: Kick -Off Event -- 23rd April 2024 (BREMEN)

The chosen hackathon participants are invited to an on-site Kick-off event in Bremen, hosted at the “[FreiRAUM](#)” facilities of the Bremen University of Applied Sciences (HSB). During this Kick-Off, the participants will receive an introduction to the challenges selected for this year's workshop and have the opportunity to form teams. Additionally, tutors will provide a brief overview of Model-based Systems Engineering (MBSE) and introduce the tools that may be utilized in the context of the challenges.

2. Part: Teamwork on Challenges: 23rd April 2024 – 10th May 2025

Teams have a two-week period to independently tackle their challenges with the freedom to choose their working approach (on-site or remotely). At the conclusion, the teams will submit their results for review by the Jury.

3. Part: Workshop – 27.05.2024 (BREMEN, MBSE2024)

The day preceding the MBSE2024 Workshop, the teams will reconvene with their tutors at [FreiRAUM](#) in Bremen. Here, they can share their experiences, showcase their results and findings, and fine-tune their pitch presentations for the following day. The FreiRAUM team will provide professional pitch training to ensure participants are thoroughly prepared for the final part of the hackathon the next day.

4. Part: Pitch Presentation and Award Ceremony – 28.05.2024 (BREMEN, MBSE2024)

Teams will have the opportunity to participate in the MBSE2024 Workshop, where they will be allocated a dedicated slot to present their pitches to a large audience and the jurors. The winning team(s) will be determined based on the delivered model and the team's performance during the pitch.

Timeline:

Call for applications: 15th December 2023 until 29th February 2024

Participants' Selection Announcement: 2nd April 2024

Kick-Off: 23rd April 2024

Application:

For the application, we anticipate the following information:

- Name, Surname, E-Mail, Affiliation
- For team applications: Reference to Team Name / Team List
- Additionally, please provide a one-pager detailing your MBSE experience and motivation

Priority will be given to academic applications, such as students and research fellows. Please send the application to mbse2024@dlr.de with the subject "MBSE2024 Hackathon".

Challenges:

The Organizing Committee will define the challenges. Anticipate realistic space missions that require the application of MBSE. The goal is not to create the most flawless technical solutions but to showcase MBSE capabilities and methodological excellence.

Teams:

We have capacity for approximately 5 teams with a team size of 5-7 members. While team applications are welcome, individual applications will be given equal consideration. Teams can also be formed during the Kick-Off event.

Tools:

Tool support will be provided by Dassault (Catia NoMagic) and OBEO (Capella).

Tutors:

Experienced space systems engineers with a strong expertise in MBSE will be engaged as tutors.

Jury:

Selected Members from the ESA MB4SE Advisory Group and the MBSE2024 Program Committee will form the jury.

Registration to MBSE2024 Conference:

The participation in the hackathon is not sufficient to attend the full program of the MBSE2024 conference. For full participation on both days, please register individually via the MBSE2024 website. For the pitch and award ceremony on the first conference day, there is no need for a registration. The winning team will be invited to the second conference day as an additional award.

Don't miss this chance to be part of a groundbreaking event where your innovative solutions will be acknowledged and celebrated by industry experts. Join us in Bremen for the MBSE2024 Hackathon and set the stage for the future of space systems engineering!

Reference to MBSE2022 Hackathon:

1. <https://indico.esa.int/event/407/page/675-hackathon>