

Going Green Together at the Workshop on Model-Based Space Systems and Software Engineering (MBSE2024)

Sustainability is a part of the of the [DLR Sustainability strategy](#) and [SDGs@DLR Initiative](#).

As an organizer of the [MBSE 2024](#) we have taken the relevant measures to make the MBSE 2024 more environmentally friendly. We have set ourselves an aim of harmonizing the three goals of the Sustainability Perspectives: Ecological, Economic and Social and implementing as many sustainable measures as possible and communicate them transparently.

By taking steps to make the MBSE 2024 more sustainable, we accept our responsibility.

Our goal is to launch successfully this MBSE professional event / workshop as a new platform for all interested science colleagues and to encourage also young scientists to meet experts during this first MBSE workshop. We intend to generate a new awareness for the topic of the Workshop on Model-Based Space Systems and Software Engineering with great opportunities to meet each other and to enable a great networking platform for the scientist in this field during all event days. Therefore, we have made the decision for a face-to-face format instead of a hybrid conference format this time.

We hope this event will inspire a more sustainable focus on organizing MBSE in the future.

Sustainable Event Management of MBSE 2024

In the context of the ongoing digitalization of events, all event management departments of the German Aerospace Center (DLR e.V.) are particularly challenged because, on the one hand, all events are associated with environmental impacts such as travel, accommodation and catering for participants and, on the other hand, all events play a highly visible role in shaping the new event transformation process.

We are convinced about the [importance of sustainability for the future of all DLR events](#). More information you will [here](#).

The organization of the MBSE 2024 Workshop was professionally supported by the Event Management Support Team of the German Aerospace Center. The professional competence in the field of scientific conferences is characterized by their professionalism, know-how in quality management, sustainable event management, our long-term event expertise and references. To ensure a successful event, we worked closely with the [Bremen convention Bureau](#) - the official tourism and event

partner of the Bremen city. The Convention Bureau was on hand with advice and support for the planning of our MBSE event in Bremen.

For all information about sustainability at MBSE 2024 please contact Petra Naoum, Petra.Naoum@dlr.de,

In order to make this MBSE 2024 Workshop more environmentally friendly, we analyzed and optimizing environmental, financial and social impacts in advance along with the entire value chain. Special preference was given to a venue as well as to all suppliers and event service providers that have a proven track record of sustainable management and leave as small an ecological footprint as possible.

[Our approach by Going Green Together at the Workshop on Model-Based Space Systems and Software Engineering \(MBSE2024\)](#)

- Identification of the sustainability-relevant fields of event action for the MBSE 2024 workshop – we follow the [BMU guidelines for the sustainable organization of events](#),
- Determination of the relevance of the respective fields of action for the MBSE 2024 and its evaluation,
- Determination of the best possible measures to optimize the relevant field of action (always in relation to before, during and after the event).
- After the event we will use the [CO2 calculator](#) of the Federal Environment Agency (UBA) to determine the approx. CO2 emissions. This time the results should help us to find new practical solutions to improve sustainability events in future. Although, we will not offset the emissions that cannot be avoided or reduced at MBSE.

AT A GLANCE – SOME OF THE THINGS WE HAD DONE.....

PARTICIPANT MANAGEMENT AND WEB-BASED APP



For needs-oriented planning it is not only necessary to keep track of the feedback from the invited guests. It is also important to monitor the behavior of the participants during the entire registration process.

Therefore, we use an online-based multitool for the whole participant management to manage all event-related data via a registration website, including participant registration, submission of abstracts, invoicing and administration.

In addition to it, our participants will have access via [web-based conference app](#)

- to the entire MBSE workshop information
- the MBSE scientific programme
- to the extended abstracts

Besides driving attendee networking, the additional benefits of using an event app are:

- Improving customer service
- Increasing attendee engagement
- Simplify information distribution
- By providing all event information and materials directly via the app, we avoid the whole preparation of programme booklets
- Saving on costs by eliminating paper and consolidating providers
- The web-based app is great for networking. We provide here a digital solution for a 1:1 chat as another way to encourage the participants interaction

By providing a web-based app we get all kinds of benefits, both for the MBSE organisers in the lead-up to the event and for all our attendees that experience smoother and more easily accessible event information. As well as helping with planning and scheduling, another area where event apps are making an impact is sustainability.

MOBILITY



We have selected the [Bremen-City \(dorint.com\)](#) as venue for the MBSE 2024. Bremen is easy to reach from a lot of [international German Airports](#) by using [public transport](#) (Deutsche Bahn; ICE trains and local public transport system) – we followed here the principle of keeping distances short to the destination of Bremen.

As part of our participant management, we only inform our participants about the offers for climate-friendly optimization of their travel to and from the event.

However, as the organizer, we take measures to avoid traffic-related environmental impact, although, we decide not to collect the participants travel data during the registration process. The choice of transportation (aircraft, train, car, and etc.) to Bremen is within the sphere of influence of the participant.

While planning the MBSE Workshop, we made sure that the venue is within walking distance of the Bremen train station and many hotels of Bremen - furthermore, short distances have also been taken into account for the [social programme](#), e.g. the [Guided Tour at Bremen Ratskeller](#) and the [Restaurant](#) can be reached on foot in a few minutes. DLR and OHB, which were planned for the guided technical tours, can be reached by public transportation in approx.25 minutes.

As part of our participant management, we inform the participants of MBSE 2024 about the possibilities of public transportation, how to reach easily the venue in Bremen, via the web-based app.

Further information:

With the link to the calculators below we would like to inform you about the possibilities for your flight compensation. The calculators are simple to use and require only a limited amount of information from the user. To calculate a flight CO₂ footprint and maybe also offsetting those costs in renewable energy projects is the decision of each participant, as the choice of transportation is in the participant's sphere of influence.

CO₂ calculator flights

FLYGRN

<https://flygrn.com/>

Lufthansa

<https://lufthansa.myclimate.org/en/calculations>

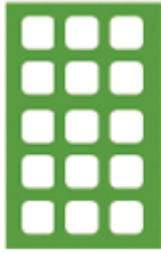
ICAO

<https://www.icao.int/environmental-protection/CarbonOffset/Pages/default.aspx>

atmosfair

<https://www.atmosfair.de/en/offset/flight>

DESTINATION VENUE & ACCOMODATION



Destination - Bremen

Bremen is one of the German greenest cities
More information you will find [here](#) and in the [Sustainable report Bremen](#)
and [Bremen Convention Bureau](#)

Venue - Dorint City Hotel Bremen

We have chosen [Dorint City Hotel Bremen](#) as venue for the MBSE 2024.
The venue Dorint City Hotel Bremen stands for sustainability and is a
certified as a [Green Sign Hotel](#)

Sustainability impacts are continuously measured and evaluated in all Dorint hotels;
and numerous sustainable measures have been already implemented, also at the
Dorint City Hotel in Bremen in order to further reduce the overall CO2 footprint.

For more information follow the link: [GreenSquareConcept](#)
and [Zertifikate \(greensquareconcept.com\)](#)

The Dorint City Hotel Bremen is certified by [GreenSign GmbH](#). It has achieved a high
score of level 4 out of 5 possible levels in the sustainability certification. The
certification proves that the venue and hotel has been doing well thought-out and
committed work in the field of ecological, economic and social sustainability for years.

Accommodation at Dorint: green option at the hotel
Waiver of room cleaning of your room, you will receive a small “thank you” gift.

Various hotels of Bremen set room contingents. They are all located in the city
center. For more information about the hotels please follow [link](#)

Room accommodation contingents had been set in the sustainable hotels (hotels that
have effective and comprehensive environmentally-friendly policies and operations)

or we made sure that the venue and accommodation were as close to each other as possible.

CATERING



Food is another way to make an event more sustainable. Short transport routes for food, drinks and equipment are part of our sustainable specifications.

The daily catering and the welcome reception on Monday will take place at the venue Dorint City Hotel Bremen.

We have paid attention to environmental and social standards while selecting the venue. Dorint sets high standards of quality, freshness, hygiene and sustainability during the selection of its suppliers. More information you will find [here](#)

The Coffee breaks in the morning and afternoon are with fresh and seasonal ingredients such as local fruit like apples and pears, fresh bread from the bakery next door - Enjoy with a clear conscience: seasonal and regional lunch with less meat and a variety of vegetarian and vegan alternatives instead.

Restaurant Bremen Ratskeller combines over 600-year history with modern gastronomy. The restaurant spoils the MBSE participants with the North German classics, light and modern cuisine, cordial service, a rustic ambience and a unique selection of German wines for every connoisseur's heart.

In 2022, the [Bremen Ratskeller won the Tourism Award](#) in the Typical Bremen category, as it is one of Bremen's classic sights and has become an integral part of the city's tourist portfolio.

All air-freighted products from overseas, such as exotic fruits, fish and meat, are avoided.

PROCUREMENT OF PRODUCTS AND SERVICES AND PRINTED MATTERS



We take attention to environmental concerns in all procurement procedures, including avoidance of waste and reduction of waste volumes.

For this reason, we prefer to work with companies and suppliers which already have proven sustainable practice. We look also for local and regional collaborations. Established certifications and environmental labels are important to us too. By cooperating with local suppliers, we achieve a positive sustainability effect for the region.

All printed materials are kept to a minimum. We reduce the paper consumption also by using digital invitation and event management systems, a registration website and a web-based conference app.

Digital room signage and multiple digital information displays for the programme on site will help to reduce the total number of traditional signage and programme posters with paper print during the conference.

We will also use **QR Codes for the web-based app on site.**

If paper is unavoidable, we use recycled paper that has been awarded the Blue Angel label or fulfils its criteria whiteness of recycled paper: maximum 100% (including UV portion) according to DIN ISO 2470 and maximum 135 according to ISO standard 11475 (CIE).

If we have printed programme posters, they are produced by the DLR printing department. Only pollutant-free, environmentally compatible papers and inks are used at DLR. Varnishes and oils are not used.

ACCESSIBILITY



Accessibility is a prerequisite for inclusion and an important part of sustainable interaction. The possibility of participation for all is important to us. The goal is that people with and without disabilities can participate at the MBSE workshop conference without much effort and in a self-determined manner.

We considered accessibility of the venue.

For the Bremen Ratskeller – a UNESCO World Heritage Site and impresses with its more than 600 years of history. [Bremer Ratskeller \(bremen.de\)](https://www.bremen.de)
Information: [accessibility](#)

COMMUNICATION CO₂ AVOIDANCE; REDUCTION AND COMPENSATION



All measures taken to make the MBSE workshop more sustainable are documented and communicated. Therefore, we will inform all participants about sustainability issues after at the [MBSE 2024](#)

Calculating the CO₂ balance (carbon footprint) forms a central element in climate protection.

Avoid – Reduce – Compensate

The calculation of the CO₂ balance (carbon footprint) is an essential component of climate protection.

All CO₂ emissions, which are unavoidable during MBSE, will be calculated with the CO₂ calculator provided by the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV)

We will determine the climate footprint of MBSE and publish this information on the [MBSE website](#) .