

## Webinar “Harnessing the Power of Destination Earth – Part 2: Digital Twins Driving the Future of Energy Risk Management”

### Q&A

#### Answers by THU, OHB Digital Services, and Reuniwatt

#### EO4ER DTC and the Destination Earth Platform

**Q. How can your digital twin be accessed?**

**A. OHB DS:** Our digital twin can be accessed via the webpage <https://eo4er.energydttc.ohb-ds.de/>, and potentially later through the DestinE online platform: <https://destination-earth.eu/>. Users can apply for free access to all digital twins that have been or are being developed as part of the underlying project.

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**Q. Are you planning to offer EO4ER through APIs? What is an API?**

**A. OHB DS:** API stands for Application Programming Interface. In the context of APIs, the word application refers to any software with a distinct function. The interface can be thought of as a contract of service between two applications. While access through an API is not planned yet, the application is built in such a way that this could be offered in a future version.

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**Q. When does ESA funding for the EO4ER project expire? What are the next steps for the project? When is commercialization scheduled to begin, and who should be contacted at that time?**

**A. THU:** The current funding phase by ESA is under evaluation, with the final assessment scheduled for February 2026. The final project version is expected by the end of January 2026. Next steps focus on further development within the DestinE environment, including model optimization, integration of smart meter data, geographical extension, and synergies with other digital twin components such as flood risk, extreme weather resilience, and rooftop PV potential. For a European-scale rollout, planned activities include smart meter integration, standardized network data formats, a European DER registry, rooftop potential mapping, and cooperation with European PV and smart grid platforms.

Different commercialization approaches are possible and are guided by stakeholder feedback. Related activities are expected to follow after the 2026 evaluation, and interested parties will be able to engage via the project consortium and the DestinE user framework.

**A. OHB DS:** The evaluation of the EO4ER project by ESA, which will inform potential follow-up activities within the DestinE environment, is scheduled for February 2026. Therefore, the final version is expected to be available by the end of January 2026. However, the DestinE platform already offers a selection of operational services available to all registered users. These services can include access to Digital Twin data. For more advanced features and data, such as high-resolution climate simulations, users are required to apply for upgraded access. This level of access is typically granted to specific user categories, including public authorities, academia, research

organizations, SMEs, and start-ups, provided their activities align with the objectives and scope of DestinE.

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**Q. What are the Destination Earth outputs EO4ER is using as inputs?**

**A. THU:** We use the SSP3-7.0 climate scenarios provided by the DestinE Climate Adaptation DT, which follow the scenario framework defined in the IPCC AR6.

**A. OHB DS:** Moreover, we use weather forecast information via the DestinE polytope service.

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**Q. How would you proceed as a prosumer in order to use this project efficiently? Are there training sessions available for users to learn to effectively utilize the tool?**

**A. THU:** As a prosumer, you can use the tool by modeling your own PV system within the application. This enables self-consumption optimization and load shifting, allowing you to maximize the use of your own PV generation - especially for high-power consumers such as heat pumps, EV charging, or industrial loads. As the project evolves into its next iteration, additional user support such as training sessions, guided tutorials, or onboarding formats could be introduced, depending on project scope and user needs.

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**Q. And how can I find out whether or when my municipal utility company will start working with this data? What documents can I use to make the project appealing to my DSO?**

**A. THU:** We are actively interested in collaborating with additional distribution system operators. If you would like to see these services adopted by your local utility, we encourage you to reach out to them and highlight the potential benefits - such as improved active operation of low-voltage networks and enhanced long-term planning under increasing weather extremes. We are happy to support these discussions by providing technical information and project documentation to demonstrate the value of these future services.

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**Q. Why does the prototype you showed in your live demo only have one PV system? Is it possible to place multiple PV systems, and place PV systems outside of Hittistetten?**

**A. THU:** The prototype shown in the live demo includes only one PV system within the testing area of Hittistetten purely for demonstration purposes. There are no technical limitations in the software that would prevent deploying multiple PV systems or placing systems outside this area. Future versions are designed to support multiple systems at any location worldwide.

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**Q. Which widgets would you like to have implemented in the digital twin that are still missing?**

**A. OHB DS:** Currently, our solution does not provide features to analyze historical outputs, and in some cases further insights derived from statistical methods can be added to the interface to increase the actionable information provided by our solution. In addition to that, we would like to extend the scope of our prototype by collaborating with other digital twin solutions (e.g., to integrate flood risk maps or rooftop solar potentials) as well as extend the geographical region, scaling our prototype to support European low-voltage grid networks.

## **EO4ER Digital Twin - weather and climate data**

**Q. Are you considering as well risks from Space Weather (SWE) which could disturb (even destroy) electricity network?**

**A. THU:** Space weather risks, such as solar storms that can induce damaging currents in power grids, are not currently included in our climate-based production assessment. Our modeling focuses on atmospheric climate impacts such as irradiation, wind, temperature, and snowfall.

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**Q. What impacts of climate change are taken into account in the assessment of yearly production under climate scenarios?**

**A. THU:** The assessment accounts for climate-driven changes in irradiation, wind speed, temperature, and snowfall, based on future climate projections from IPCC SSP–RCP scenarios, to estimate their impact on yearly energy production.

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**Q. Could there be more options in terms of climate models used for the projections in the next steps of the project, or a way to have information on this type of variability?**

**A. THU:** Yes, we already account for climate model variability by using multiple models and scenarios. Specifically, we use the SSP2-4.5 scenario from the Pan-European climate database with the models CMCC-CM2-SR5, EC-Earth3, and MPI-ESM1-2-HR. In addition, we use the SSP3-7.0 scenario with the models IFS-NEMO and ICON from the DestinE Climate Adaptation DT. Using multiple scenarios and models allows us to capture part of the uncertainty and variability in future climate projections. More information on the SSP–RCP framework is available in the IPCC Sixth Assessment Report (<https://www.ipcc.ch/assessment-report/ar6/>).

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**Q. How do you ensure the quality and relevance of the weather data sources used?**

**A. THU:** We ensure data quality and relevance by relying exclusively on well-established, quality-controlled operational and climate data sources. Solar radiation forecasts are provided by Reuniwatt as part of their fully commercial, quality-assured products. The remaining weather parameters (such as wind, temperature, and snowfall) are sourced from the DWD ICON model. For future climate projections, we use state-of-the-art climate models that are widely used by the scientific community and subject to evaluation and quality control coordinated by ECMWF.