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Containerization of applications and services in DT-GEO

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DT-GEO aims to provide digital twins of the earth system to mimic different system components and provide analysis, forecasts and what-if scenarios for geophysical extremes, enabling a deeper insight into these events. Addressing the complexity of mimicking the earth system, as well as the multitude of software codes required to realise the DT-GEO vision, demands a modular architecture, where containerization of the workflows provides a path towards easy deployment, maintainability and portability across infrastructures.
The use of containers as a means to deliver and execute applications targeting multiple heterogeneous computing environments is a key aspect of the DT-GEO architecture. In addition, containers also contribute to better reproducibility, facilitate digital preservation, and promote the reuse of the several codes. In this presentation we will discuss how containerization powers the realisation of the DT-GEO modular architecture for the workflows of digital twin components, while enabling the open science principles for the project software assets.

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