

LTM meeting: update on DestinE-LAM

ACCORD/PM, 17 June 2021

Destination Earth Program (DestinE)

- **Develop and implement an environmental service capability that adds up to what the NMSs do today, and that prefigures what such a system could be in a few years from now:**
 - build on concepts like Digital Twins of the Earth System, upcoming very large data handling, cloud infrastructure and pre-exascale HPC
 - change of paradigm for services: data-driven, user-oriented, on-demand (user-tailored)
- **Funded by EU within the Green Deal program & Digital Europe**
- **Strategic partnership: ESA (core service platforms), EUMETSAT (data lakes), ECMWF (Earth Digital Twins)**

Useful links

- ECMWF Science & Technology Seminars:
 - How the EC's DestinE programme transforms environmental policy making - Digital twins as a step-change for Earth-system modelling and data assimilation (P. Bauer & N. Wedi): <https://events.ecmwf.int/event/234/>
 - How the EC's DestinE programme transforms environmental policy making – ESA's and EUMETSAT's perspectives (T. Tolker-Nielsen & L. Wolf): <https://events.ecmwf.int/event/240/>
 - How the EC's DestinE programme transforms environmental policy making: National and collaborative perspectives (J. Kristiansen & F. Doblas-Reyes): <https://events.ecmwf.int/event/242/>

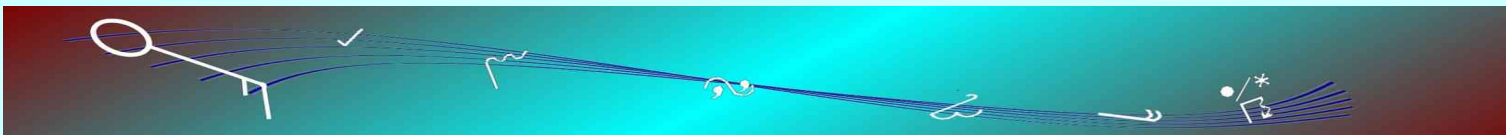


Destination Earth Program (DestinE)

- ECMWF will provide two digital twins, one for climate (by procurement) and one for extreme events
- ECMWF will launch Calls for applications for specific components, including an **on-demand LAM Digital Twin (LAM-DT)** system
- 3 phases (2021-2027+); phase 1 (2022-2023+) is very short and will have a significant technological component !
- Involvement in DestinE can facilitate applications in Horizon-Europe Calls that refer to DE (for research projects)

Information about Destin-E & LAM

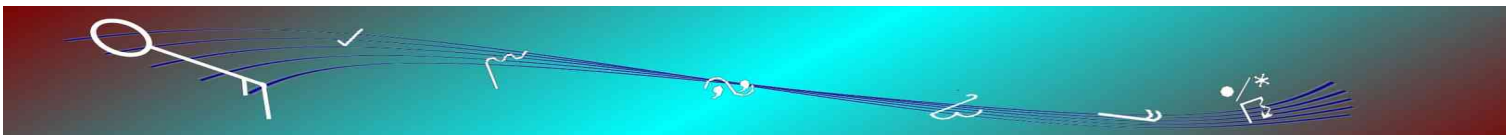
- **The broad technical lines of what's expected:**
 - hyper-resolution forecast models; user or event-driven on-demand facility; added value in form of (one or two) impact-based models;
 - implementation in overall DestinE infrastructure (EuroHPC, Data Lakes etc.);
- **The timeline of the Call: launch in July; submission of proposal in September => to be confirmed ...**
- **Financial envelope 12 M€ in phase 1, fully funded**
- **Steps in ACCORD Governance: Assembly (8 March) => PAC (30 March) => STAC (4 May) => Assembly (2 July)**
- **Discussion/information with MG & LTM (via PM)**



At the ACCORD governance level (1)

• Questions by the Assembly (8 March) towards PAC & STAC:

- What are the potential benefits of DestinE for ACCORD ? What could be the risks or drawbacks
- What is the potential impact of DestinE on the ACCORD strategy ?
- What are the consequences of DestinE on the ACCORD work plans ?
- How can ACCORD contribute ? How can DestinE become relevant for Accord ?



At the ACCORD governance level (2)

• Recommendations by PAC & STAC (to the Assembly – 2 July):

- It is strategic to participate (PAC) and there are significant benefits (STAC)
- PAC advised to form a specific partnership of volunteering members (external members could be possible)
- Discussion about the leading member should take place while building the bid (PAC)
- STAC recommended that the benefits of the DestinE project should be shared among the ACCORD members irrespective of their participation in the project
- STAC recommended the bidding partnership to consider forming an Advisory Board involving ACCORD representatives
- PAC formed a WG to draft an outline note with recommendations for a DestinE-LAM proposal; STAC took over and a STAC-WG prepared **the augmented content note** (distributed to LTMs)

Brief on the augmented content note

- Guidance for the bidding teams
- The STAC-WG addressed several topics that belong to the R&D scope of ACCORD (eg code adaptation to CPU-GPU & link with SPTR1, use of HR observations, etc.)
- ... along with a few that are on the edge or outside of ACCORD
- Link with RWP and Strategy: ambition/feasibility, opportunities for accelerating R&D, outlook beyond 2025
- Risk and mitigation aspects
- Relationship between DestinE and ACCORD
- A few policy issues

Any comments or questions so far ?

- On the steps in ACCORD ?
- On the augmented content note ?
- (next slides: how can ACCORD members participate, more concretely ?)



How can ACCORD members participate ?

- Discuss within your teams. You can use the STAC-WG augmented content note for guidance (mind however that this is not a DestinE-LAM proposal !)
- Discuss with your Direction General
- If there is interest, carefully consider **what you think you can bring in to the DestinE-LAM partnership** (where do you see your expertise, where could you propose a tool or a model etc.). You need to be prepared to explain this to the bidding partnership
- You can approach other LTMs for discussing (interest, grouping ?)
- And there is a caveat to keep in mind: only members from countries who have contributed to Digital Europe are eligible for DestinE



Existing informal discussions and liaison

- There are informal discussions involving MF and UWC representatives
- There also are discussions with potential partners outside ACCORD (eg DWD/MeteoSwiss)
- At ACCORD level:
 - ACCORD can still try to facilitate the preparation and the liaison among members; however it won't prepare the partnership nor the bid proposal (this is left to the bidding teams)
 - The ACCORD/PM proposes a shared Google document where LTMs can register their interest and additional information. This material will be visible to all LTMs and made available to the existing DestinE-LAM discussion forum (MF, UWC)

