EUROPEAN COMMISSION
DIRECTORATE-GENERAL FOR COMMUNICATIONS NETWORKS, CONTENT AND TECHNOLOGY
Digital Excellence and Science Infrastructure
High Performance Computing and Applications

9th Meeting of the Destination Earth Coordination Group (DCG)

On-site (Brussels, Room LOI 130.A) and Online meeting (Webex)

13 March 2025 – 09:00 - 16:30

MINUTES OF MEETING

The agenda and the slides supporting the discussion points mentioned in the agenda were distributed before the meeting date. The meeting had two parts:

- PART 1: Workshop on co-design of tailored service
- PART 2: DCG meeting

The Chair informed that the meeting will be recorded for the purpose of minute taking. There were no objections.

Part 1: Workshop on co-design of tailored services

The Chair welcomed the members and ad hoc experts from France, Germany and the Netherlands, invited to support the members in the workshop.

The Chair continued to explain that the purpose and aim of the workshop is to continue and go deeper in discussing the ideas for potential joint services, based on the initial list of joint service ideas gathered and presented in the last meeting. The intention is not to define services or making final decisions at this stage, but to agree on the formation of a dedicated sub-group to take the work further.

Presentation by DCG members on possible topics for co-design services

All members, but especially those who had already presented ideas for the services in the previous round and meeting, had been invited to make presentations, with the support of domain experts. BE, DE, FR and NL had agreed in advance to present with the support of the ad hoc experts. In addition, AT had indicated that it could share some ideas in the meeting itself.

The BE expert from the VITO research centre presented an *Urban heat use case overview*. The goal of the initiative is to deliver high-resolution urban heat maps for cities across Europe to underpin and motivate urban climate adaptation measures, supporting the EU adaptation policy and the measures of local administrations related to urban resilience against exposure to extreme heat.

NL asked about the capability for computing cold stress. The BE expert explained that if the cold signal is included in the Climate DT, it will be integrated into the model. NL asked if there is any link to census data. The BE expert expressed the challenges for integrating census data, as local data is not always available at European level. FR asked about the method for selecting the cities involved in the initiative. The BE expert stated that initially the cities with close contacts were selected, and for the future the plan is to work closely with the major city networks.

The DE expert from Deutscher Wetterdienst made a presentation on *combining climate data from a reliable ensemble with high resolution data for the benefit of climate adaptation in Europe*. The presentation outlined a methodology for using DestinE Climate DT data in combination with traditionally used data, which is well known and accepted in the adaptation community for adaptation strategies and adaptation measures.

FR asked if the project was already ongoing and the expected timeline. The DE expert stated it is still a project idea, so at conceptual stage.

Another DE expert from Julius Kühn-Institute (JKI) (online) made a presentation on *the first digital twin prototype for the heavily damaged forest in the Harz Mountains in Germany*. The goal of the initiative is to develop short to long-term strategies and solutions to strengthen the resilience of the forest.

EE and SE expressed strong interest for the topic and shared interest to collaborate.

The third DE expert from German Aerospace Center (DLR) made a presentation on *co-design for renewable energy grid integration*. The presentation focused on the concept of extreme events and climate impact for the energy supply sector.

SE commented on potential methods to include load balancing methods in the solution.

The FR expert from the National Institute of Geographic and Forest Information made a presentation on *the digital twin of France and its territories*. The goals of the initiative are to reduce the costs of local projects and facilitate their replication in other areas, to cross-fertilise expertise and viewpoints relating to different public policies by establishing a framework for interoperability and interface, to set up a science platform to facilitate the development of technological advances from R&D and to encourage the development of an economy around territory digital twins. The initiative is ongoing and financed by national funding.

DE asked if the project is useful for energy providers. The FR expert explained that in the initial phase, there have been no discussions with energy providers, but only with mayors of cities.

The NL expert from Netherlands Space Office made a presentation on *(inter)national activities related to DestinE & potential codesign in The Netherlands*. The goal of the initiative is to analyse the synergies between different institutes and projects in NL.

Another NL expert made a presentation on *LTER-LIFE: a research infrastructure to develop Digital Twins of ecosystems in a changing world*. LTER-LIFE is a scientific infrastructure aimed

at supporting shared and integrated ecological research towards the creation of digital twins of ecosystems.

The Chair thanked all experts and indicated that there are many topics of joint interest and baseline for collaboration for the Member States and Associate Countries. The diversity of topics is also evident as is the level of maturity, so good baseline to start looking into the ideas through a sub-group.

Discussions and next steps

The Chair presented the rules and procedure for forming the sub-group. The EC will formally create it as well as define the Term of Reference, and it will also chair the sub-group meetings. The Rules of Procedure do not need to be drafted separately, as the existing ones of the DCG can be used for the subgroup as well. Member States and Associated Countries nominate their respective representatives and can also delegate the representation to an expert. The subgroup Terms of Reference will set clear targets for its activities, as well as a timeline for the expected deliverables for achievable outcomes. The subgroup will not make any decision nor vote, it will report to the DCG where any recommendations would be made. The subgroup exists for as long as it has completed its mandate.

NL supported the idea of forming a sub-group to support the DCG and asked clarification about the role of the existing DCG members and the ad hoc experts that could be nominated to the sub-group. The Chair clarified that it is up to each MS/AC to decide if they want to participate in the sub-group and who to nominate. The Chair also explained that due to the narrower scope of the sub-group, focusing on the co-design of services, only those MS/AC with immediate interest and available experts should join, as the work will be intense and result-oriented within short timeframe. The Chair also repeated that the work of the sub-group will be presented to the full DCG and all MS/AC can then make recommendations on basis of its work.

FR asked about the distinction between the subgroup and SAB (Strategic Advisory Board). The Chair clarified that SAB is formed of independent domain experts, they do not represent the MS/AC. The sub-group members would still be government experts or working on the mandate of the MS/AC they represent. The new SAB is being constituted on basis of the open call, and synergies between the SAB, the DCG and its sub-group can always be considered.

ES questioned the need to form the sub-group and proposed to first create a task-force to prepare for it. The Chair explained that the EC rules regulating the expert groups enable forming of expert groups and sub-groups to support their work, but there is no provision for a task-force. The sub-group enables in-depth discussions on specific topics to support the DCG, which in turn advises the EC.

DE asked about the final objectives of the sub-group. The Chair expressed that these will be defined during the first constitutive sub-group meeting on basis of its mandate and Terms of Reference. NL and DE supported the approach and the need for clear objectives set for the sub-group.

It was concluded that there is enough support for the EC to start internal preparations for the sub-group formation, and it will inform the DCG members about the proceedings in run-up for the preparation for the next DCG meeting. The were no objections.

Before closing the workshop part of the meeting, the Chair proposed that the ad hoc experts who had been supporting the members in the workshop would be allowed to join also the formal DCG meeting as there were many agenda points of relevance for them as well. The members agreed on the proposal.

Part 2: DCG meeting

Adoption of the agenda and minutes of the last meeting

DE had sent written comments on the previous minutes of 8th meeting that the EC had taken into account in the new version of the minutes that was uploaded in the Circabc before the current meeting. The changes concerned mainly more detailed wording of the interventions made by DE in the previous meeting. The Chair asked if the members were in agreement to adopt the minutes as amended.

The amended minutes of previous 8th DCG meeting were accepted.

In order to have accurate and timely version of the minutes available, the Chair proposed a deadline of two weeks for receiving comments from the members after the draft minutes have been distributed to the members by the EC through Circabc. There were no objections to this new practice.

Presentation of the co-design methodology

As requested by FR in the previous meeting(s), the European Space Agency ESA was invited to this meeting to present a co-design methodology that had been developed in an earlier Horizon project. It had been adapted and used also for Destination Earth as a way to co-design. The presentation was around the methodology and how the city of Marseille had used it through a series of co-design workshops to identify several potential concrete use cases for the city.

NL asked in which format the methodology is available to be used. ESA mentioned the methodology will be available via a toolkit hosted on the DestinE platform, planned to be released in the second half of this year. The toolkit will be available to everyone. The ESA expert added that there is also a journal for the methodology, still work in progress, and that the toolkit is tested so it can be used in specific situations, with the goal for moderators to be trained using this co-design method. The city of Marseille was given as an example, where they decided to use the co-design methodology on their own without support but had been trained for its use before.

DG CNECT asked about the specificity of this methodology for DestinE, giving that many co-design methodologies exist and they follow similar structure and format. ESA mentioned two distinctions. The first specificity is related to the distance between users and data, as there is a risk the user does not know what their needs are and DestinE does not know who the relevant users are. This co-design methodology aims to bridge this gap. The second specificity is that the methodology aims to achieve generic and reusable elements, which can be employed to other cities

as well. Marseille was given as example, where some building blocks can already be diffused on the platform for other users.

ES raised the concern about the legal implications for using the services resulting from this kind of co-design methodology. ESA argued that it is important to include from the beginning various departments in the co-design process, including legal experts, to ensure the final services would be in line with the existing legislative framework.

Presentation of current Horizon Europe RI WP 2024 projects

This presentation was also put on the agenda of the meeting at the request of the MS in the previous 8th DCG. The coordinators of the three new digital twin projects selected from the Horizon Europe research infrastructures call / topic HORIZON-INFRA-2024-TECH-01 were presenting.

The ECMWF presented the recently started WeatherGenerator project. The goal of the project is to build the machine-learning based weather generator, which will be the world's first European foundation model for weather and climate applications that will serve the existing digital twins of Destination Earth.

NL asked clarifications on the weather elements which are modelled and the validation methods. The ECMWF explained that the entire atmosphere and land are included, and that validation is done on datasets which already exist at the ECMWF. Following the question from DE on the project duration, ECMWF mentioned the 1st of February as the start date, with a duration of four years.

The Technical University of Delft from the Netherlands presented the second recently started project *UrbanAIR*. The goal of the project is to develop decision-support tools that integrate neighbourhood- and street-level atmospheric models with real-time temperature and wind data. These tools help cities improve air quality, reduce heat risks, and enhance resilience.

DE asked if there is any coordination between the project and the cities included in the co-design methodology. The TU Delft explained the method to channel questions to the cities via a single point of contact in the project, to prevent approaching the same city from multiple sides. A coordination across projects or use cases does not exist.

The CSC – IT Center for Science from Finland presented the recently started project *TerraDT – Digital Twin of Earth system for Cryosphere, Land Surface and related Interactions*. The objective is to build and deploy a Digital Twin of the Earth system for cryosphere, land surface and related interactions (TerraDT) to provide improved climate projections and impact assessments for decision-making.

DG RTD asked if there is awareness on other projects on aerosols which are already being funded. The CSC acknowledged the need to identify all relevant project for cooperation. NL asked if the service will be available on the DestinE service platform. The CSC confirmed the plan for the service to be accessible via the platform but stated that no discussions have been started yet with DestinE team. NL asked and ECMWF clarified the situation related to HPC access for TerraDT. DestinE has access to 5%, up to 10%, of EuroHPC resources, but TerraDT will use national quota

of the EuroHPC resources or apply via the usual calls for the other EuroHPC resources. DestinE quota for the HPC infrastructure will not cover TerraDT.

Future events

ESA presented the current state of plans for the *4th Destination Earth User Exchange* that will take place in Vienna, Austria, on 25 and 26 June 2025. NL complimented ESA on the association of the next User Exchange with the Living Planet Symposium LPS, one of world's premier events on Earth observation. ESA indicated that registering via the DestinE website will also enable access also to the LPS and invited all DCG members to join.

Regarding the DestinE national events, ES, NL, DE and CZ expressed interest in organising events during this year (in Q4). The Chair welcomed all these endeavours as a great example for bringing Destination Earth local and make it tangible in the national context and ensured that it will support the members in providing contacts and other support in organising these events, to the extent it can.

Presentation on DestinE platform user analytics

ESA presented the current statistics for DestinE platform. DestinE opened on October 15th, during the *3rd User Exchange* in Darmstadt. Since then, there were 2.013 total registered users, 380 approved upgraded access requests and 29.847 total visits on the platform.

DE asked about statistics related to service usage. ESA stated these statistics do not exist at this moment, but there is close monitoring. These statistics will be available in the near future, when the dashboard will be available for monitoring the usage.

DE asked who is included in the category named "others". ESA explained that this user information has not been requested from the beginning, and it is not enforced, therefore the users who haven't explicitly selected a category fall under "others". No users from this category have upgraded access.

EUMETSAT stated that the edge services from the Data Lake are receiving user requests as well, with 12 different projects requiring access. These are power users needing more advanced technical requirements. These statistics will be shared in the next DCG.

DG CNECT mentioned DG JRC as a DestinE edge services user, contributing to Copernicus CEMS, thus enforcing the example of synergies with Destination Earth.

CZ asked about an easier method for accessing the user statistics. ESA explained this is part of the roadmap and the dashboard that will be available soon.

FR asked about more precise country statistics. ESA confirmed these will be included in future reporting.

Any other business

The Chair reminded the DCG members about the call for joining the Strategic Advisory Board (SAB) which is open until the end of March and share the opportunity to join amongst the national constituencies, as it is important to ensure a wide variety of expertise throughout Europe.

Closure of the DCG

The Chair communicated the 4th of June as the date for the next DCG meeting, again in hybrid format.

The Chair thanked all participants for their attendance.

The Chair closed the DCG meeting.

ANNEX I – Participants

Representatives of the EU Member States (MS) and the associated countries (AC):
Austria, Belgium, Bulgaria, Czechia, Denmark, Estonia, France, Germany, Greece, Iceland, Ireland, Italy, Liechtenstein, Malta, Netherlands, Norway, Romania, Spain, Sweden.

Invited experts:
VITO research centre, Belgium
German Meteorological Service
Julius Kühn-Institute, Germany
German Aerospace Center
National Institute of Geographic and Forest Information, France
Netherlands Space Office
Netherlands Institute of Ecology
Mines Paris – PSL, France
ECMWF
Technical University of Delft, Netherlands
CSC – IT Center for Science, Finland

Representatives of the observers:
European Space Agency (ESA)
European Centre for Medium-Range Weather Forecasts (ECMWF)
European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)
European Meteorological Network (EUMETNET)
WMO EU Affairs Office
Deutsches Zentrum für Luft- und Raumfahrt (DLR)

Representatives of the European Commission Services
Directorate-General for Communications, Networks, Content and Technology, CNECT.C.1 - High Performance Computing and Applications
Directorate-General Defence, Industry and Space, DEFIS.C.3 - Earth Observation
Directorate-General Research and Innovation, RTD.B.3 - Climate & Planetary Boundaries