

ESA DESP

User Exchange

2024, October 15th & 16th



Destination Earth

Funded by
the European Union



Implemented by



1
What's a
demonstrator?

2
Demonstrator 1
DestinE Climate Game

3
Demonstrator 2
Climate chatbot companion

4
Platform usage &
integration feedback

1. What's a demonstrator?

1. What's a demonstrator?

OBJECTIVES

Showcase the potential of Destination Earth's platform (data, infrastructure, ecosystem, etc.)

Highlight technical feasibility and innovation

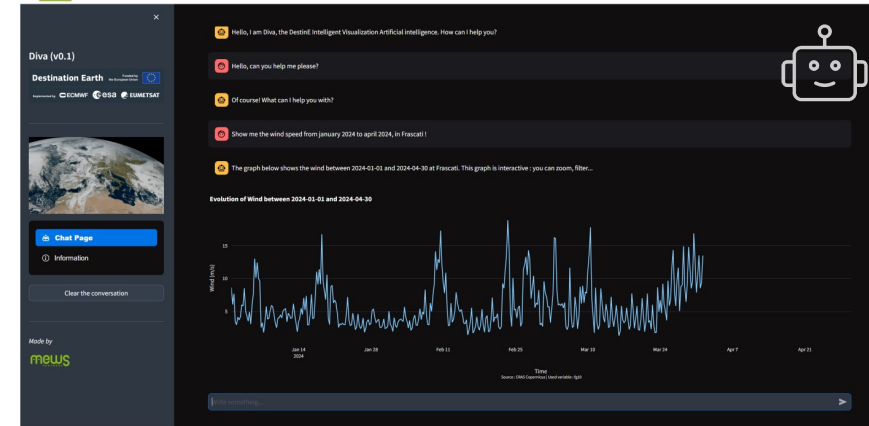
Inspire future development and accelerate adoption of DestinE's capabilities

Objective: Create a **small game on climate change** based on facts & scientifically **observed or simulated data**, to raise awareness of **good practices**



Based on
 **GODOT**
Game engine

Objective: Enable journalists to **access complex data** and **generate/download graphical illustration** on **climate-related analysis**



Based on
 **MISTRAL AI**

Journalists' contribution from:

 **AFP**

 **BBC**

 **DER SPIEGEL**

2. Demonstrator 1 - DestinE Climate Game

2. Demonstrator 1: DestinE Climate Game > Gaming around climate change

Goal of the game



Slow down climate change:
By reducing temperature to stay around +2°C

Indicators to manage (through actions):

- Temperature
- CO2 concentration
- Sea level
- Local temperature

Game sequence



Timeline: 2020 - 2100 per steps of 20 years

Location choice: To be in the player's environment

Points of interest: To learn about nature & climate change

Action choice: 1 per step

Closing part: Win/Lost, Summary of player's actions, Comparison between 1850 & worst 2100

2. Demonstrator 1: DestinE Climate Game > Gaming around climate change

Game timeline
2020 – 2100
with steps of 20 years

Gamified scene

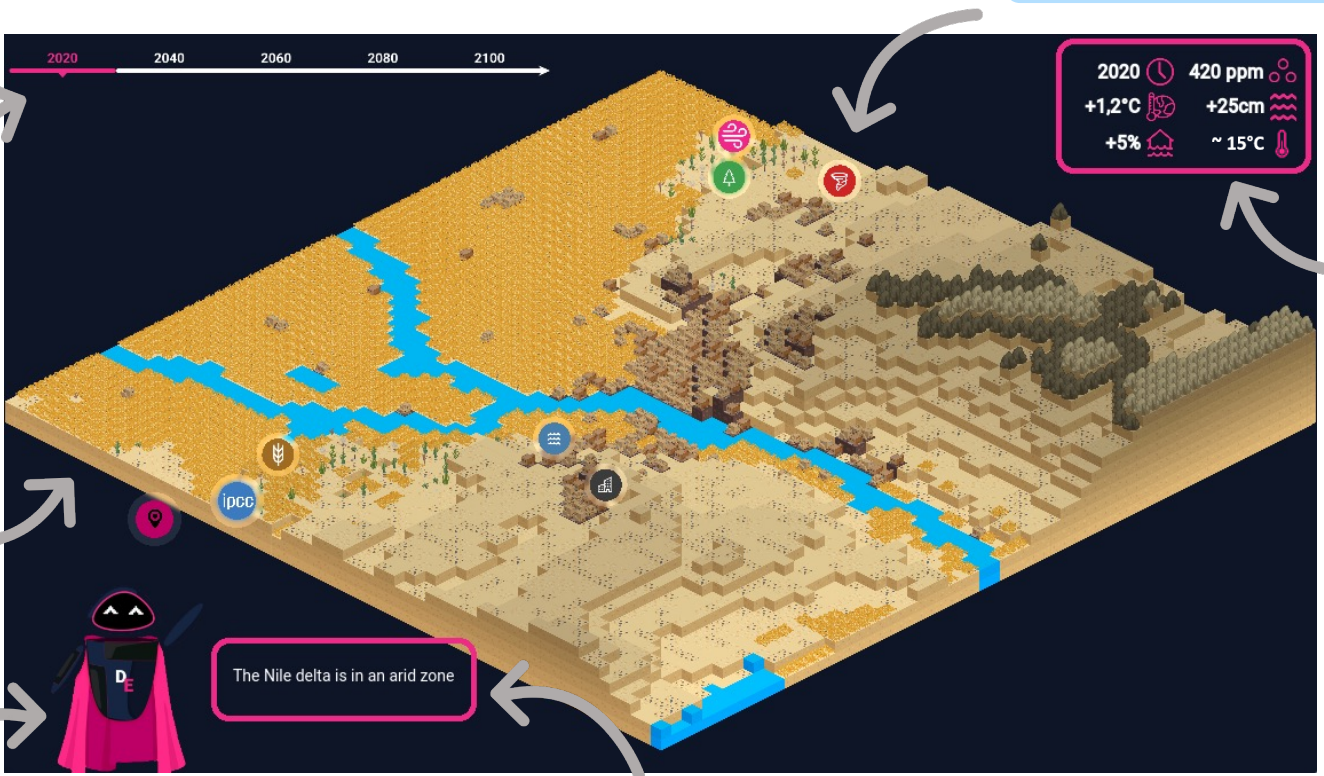
- ✓ 8 Pixels type:
Copernicus Land Cover
- ✓ Elevation:
OpenTopography
- ✓ Empty pixels
management

The avatar “Desty”
Design (still WIP) & Animation

DestinE Climate Game

Help Desty saving our planet!

Points of interest
Content for 8 themes, related to climate change



Indicators

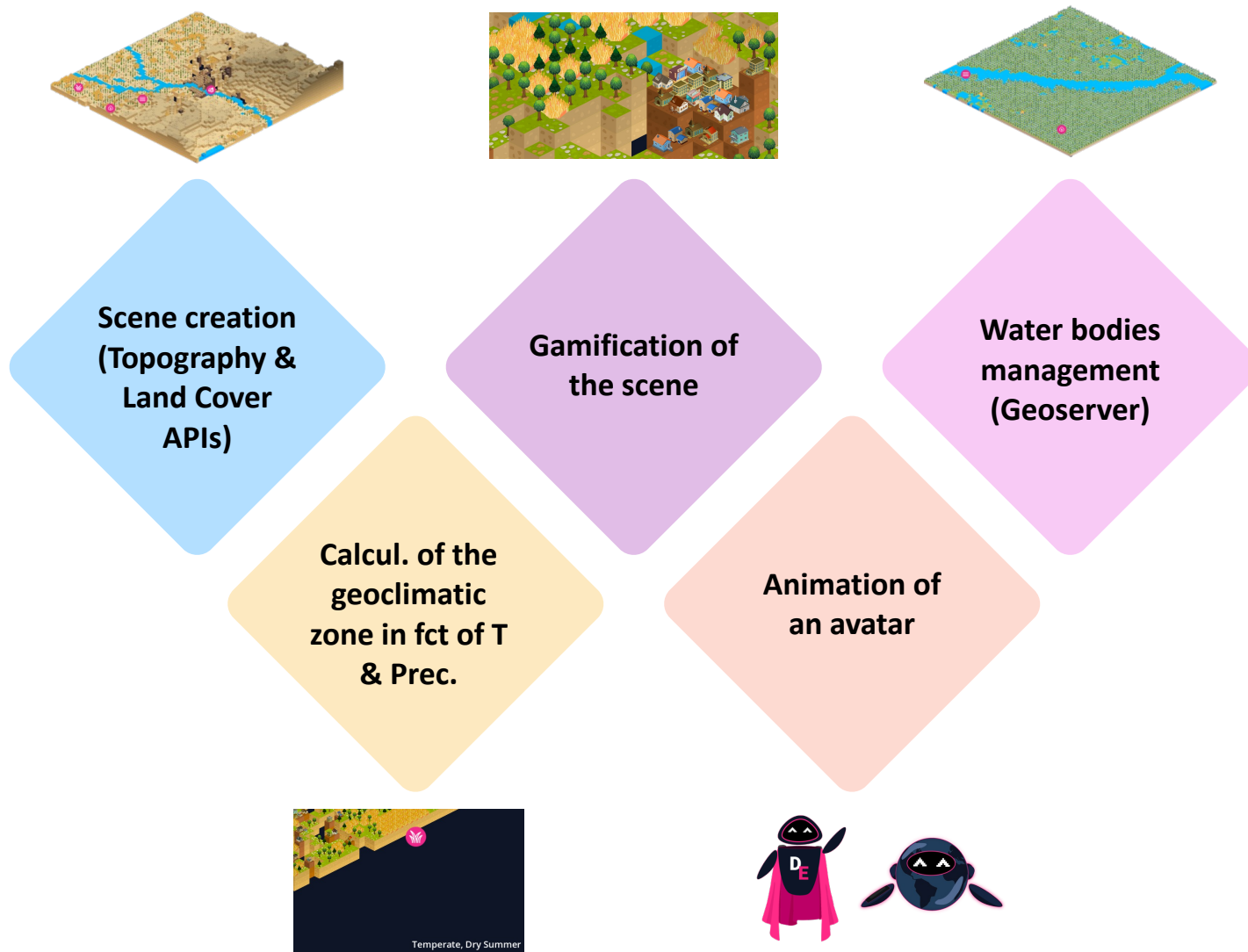
- ✓ Current year
- ✓ Temperature
- ✓ CO2 concentration
- ✓ Sea level
- ✓ Local temperature

✓ + Link between the 3 main indicators:
Empirical formulas
→ IPCC projections

Geoclimatic zone
DESP ERA5 (T & Prec.) & Köppen-Geiger algo

Actions
Mechanism & their impact on CO2 concentration

2. Demonstrator 1: DestinE Climate Game > Gaming around climate change



3. Demonstrator 2 - Climate chatbot companion

3. Demonstrator 2: DIVA > Climate chatbot companion

Initial statements



DestinE
Intelligent
Visualisation
Artificial intelligence

- 1 Exploiting & analyzing environmental data is complex**
It is complex for journalists to **find the right data** for their analysis and understand the **full potential of environmental data**
- 2 Climate change becomes an increasingly important topic**
Climate change is a critical topic, gaining growing attention the last years. There is a **rising need to communicate climate change** issues to a **broad audience**
- 3 Not all newsrooms have data journalists**
Newsrooms need “**data journalists**” to generate graphical views using environmental data – It is only available for big newsrooms

3. Demonstrator 2: DIVA > Climate chatbot companion

Technical bricks that can be reused in the future



DestinE
Intelligent
Visualisation
Artificial intelligence

Interpretation of the **parameters** in a prompt (location, time, etc.)

Capability to generate **multiple graphical answers** (line plot, warming stripes, heatmap, etc.)

Discussion capability of the chatbot (non graphical)

Access & preparation of **ERA5 data** for past data

Access & preparation of **Climate Digital Twin** data for future data

Translation brick to allow LLM to discuss in six languages

3. Demonstrator 2: DIVA > Climate chatbot companion


Demonstration



DestinE
Intelligent
Visualisation
Artificial intelligence



Chatbot interface showing a conversation about wind speed data in Frascati, including a line graph titled "Evolution of Wind between 2024-01-01 and 2024-04-30".

If you want to know more on DIVA or want to test it, come to our booth! 

3. Demonstrator 2: DIVA > Climate chatbot companion

DIVA v1.3

Destination Earth Funded by the European Union

Implemented by

Chat Page

Information

Select the language

English

Clear the conversation

Deploy

Hello, I am DIVA, the DestinE Intelligent Visualization Artificial intelligence. How can I help you? (Please read the Information tab before using me)

Wind speed in Tarifa in 2023 ?

Temperature in Paris since 1990 ?

Precipitation in Rome and in Berlin in 2012 ?

Ask question...

4. Platform usage & integration feedback

Advantages so far



Same Identity Access Management for the whole platform

A plurality of data sources with adequate selection of data

Many ways to access data incl. the Climate Digital Twin

Support for onboarding with clear process & documentation

Flexible options to integrate the Cloud of DestinE

Opportunities for the future



Possibility to **reuse technical bricks** from **other services**

European **visibility**

References in a **collaborative Environment**

Scale-up opportunities

Thank you!

For any question, do not hesitate to contact us:

For Desty: kylia.berrebi@atos.net

For DIVA: madleen.bultez@mews-partners.com



Destination Earth

Funded by
the European Union



Implemented by

