

**EDITO**Infra

European Digital Twin Ocean

# EDITO platform introduction

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**Digital Ocean department**

Mercator Ocean international



# Summary

1. EDITO definition
2. Platform overview
3. Upcoming features



# An evolution of marine data portals

## Facilitate the scientist work and reduce costs

1. **Limit data transfer** (dataset sizes )
2. **Ease supercomputer access** (complex integration )

→ Enable **effective data subsets** and **near-data computing** 

→ **Scale up and down resources** to actual usage 

## Facilitate contribution

1. **Improve FAIRness and reproducibility** (complex visibility )
2. **Integrate non-institutional parties** (tedious involvement )

→ Offer **efficient tools** in an **open and collaborative** way 

→ Deliver a **highly-available platform** 

ENTER THE **EUROPEAN DIGITAL TWIN OF THE OCEAN**

# Definition

Integrate data from other European platforms, such as **Copernicus Marine Service** and **EMODnet**.

STAC API supporting **metadata-based** and **semantic search** queries

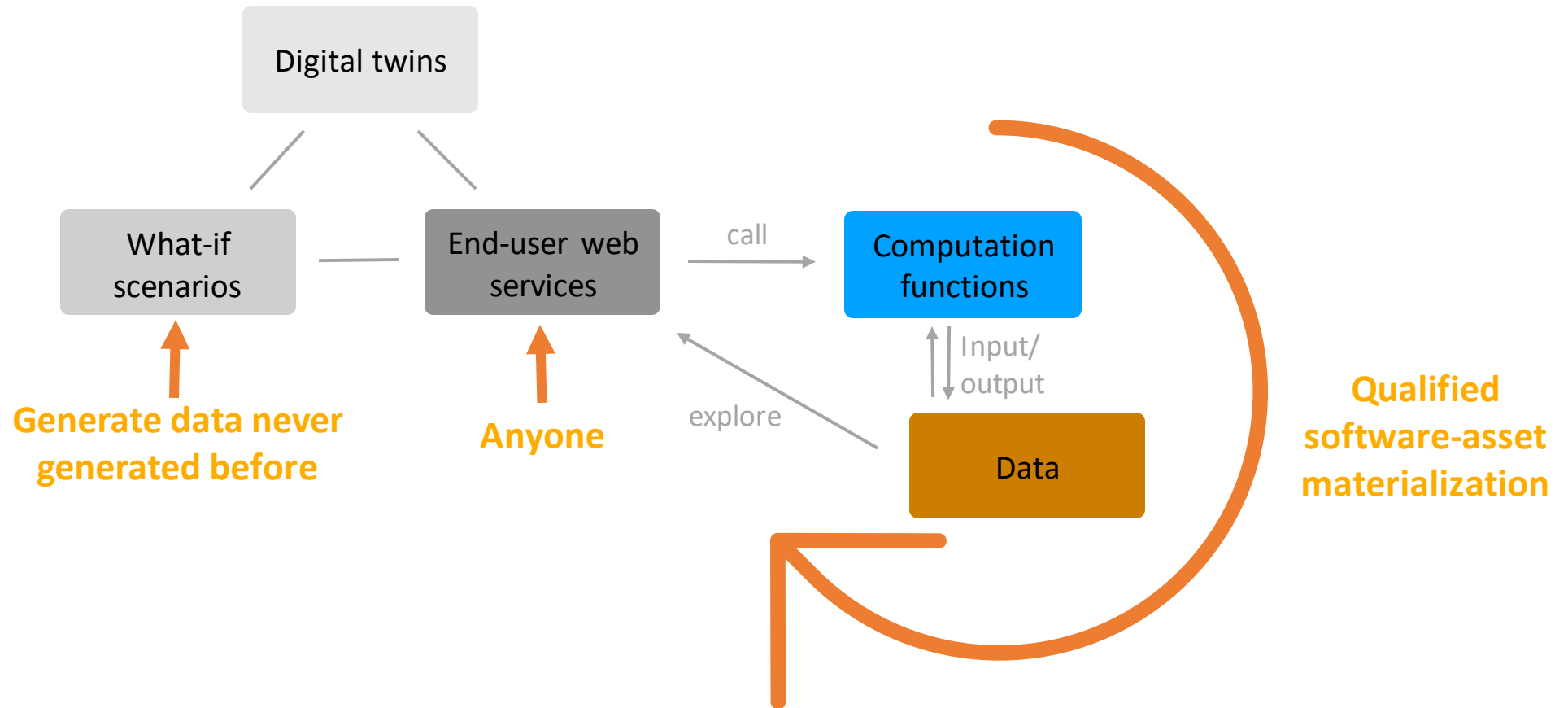
An exhaustive **reference** to all **ocean data products** available

**EDITO** is a **European** platform that provides a **single point of entry** to **search**, **explore** and **exploit products** and knowledge to support **digital twins of the ocean**.

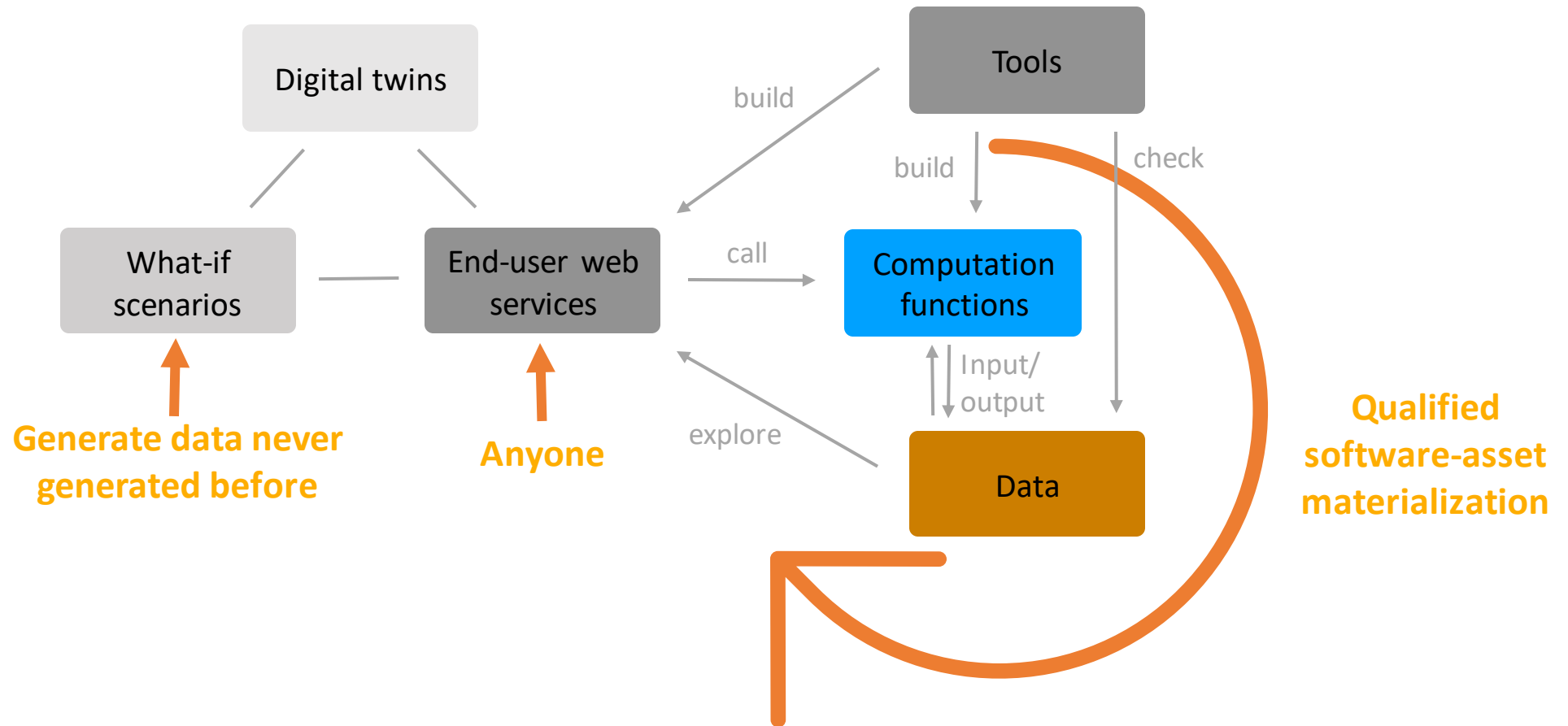
**User can add new data** to the platform either directly (upload) or by deriving existing data to create new data using computational functions.

All processes provided by the platform are **exposed** through **OGC API processes** standard for a **seamless third-party integration**

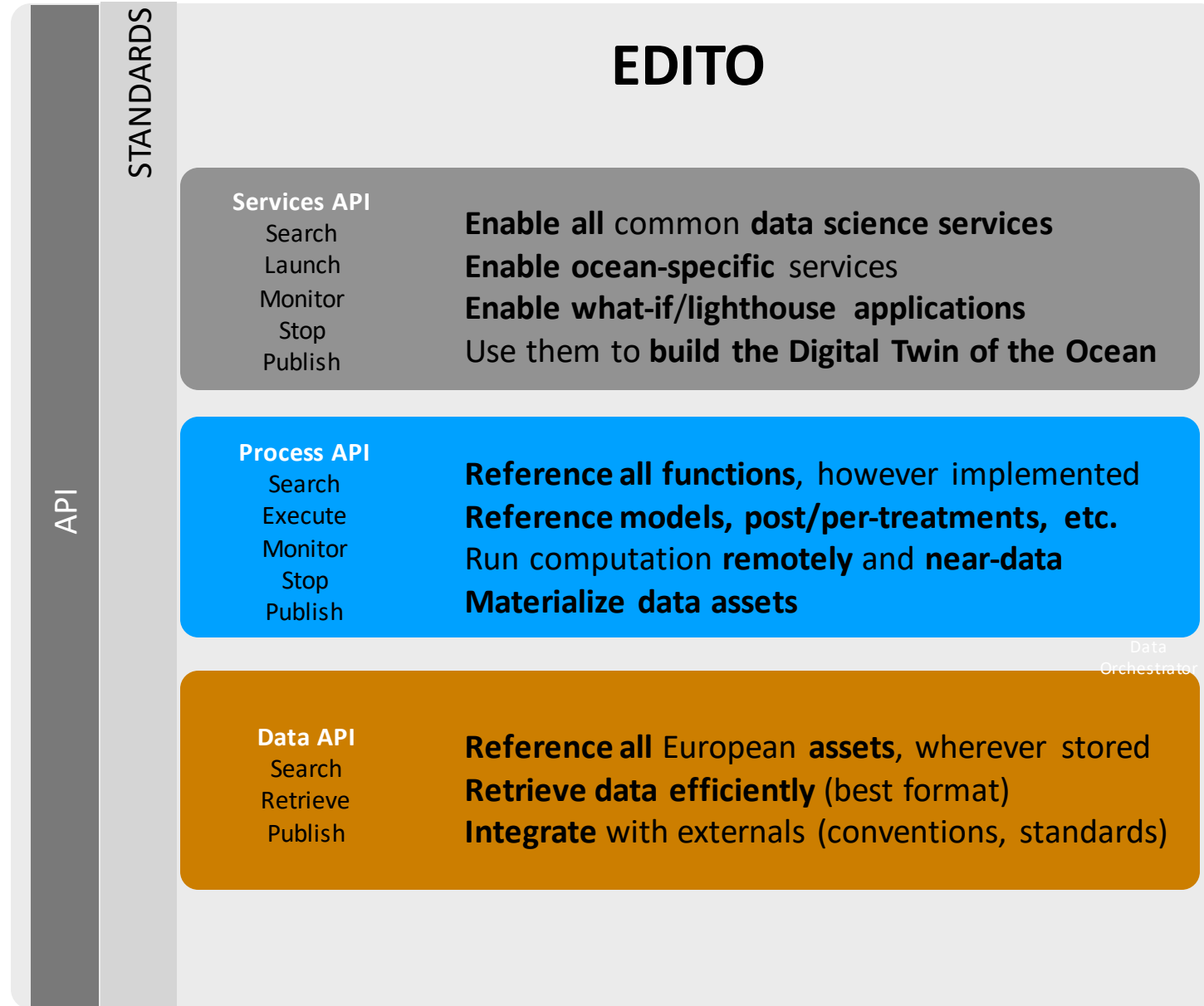
# Digital twin challenge



# Digital twin challenge



# EDITO feature design criteria





# Launch a service

The screenshot displays the EDITO Service catalog interface. At the top, the EDITO logo is on the left, and navigation links for Home, Trainings and tutorials, Datalab, Viewer, About EDITO, and a Logout button are on the right. A left sidebar contains navigation options: Reduce, My account, Service catalog (selected), My Services, My Secrets, and My Files. The main content area is titled 'Service catalog' and includes a search bar and filter tabs for IDE, Databases, Automation, Ocean Modelling, and Playground. A notification banner at the top of the main area reads: 'Explore, launch and configure services with just a few clicks. You are exploring Helm Chart Repository IDE: Services for datascientists.' Below this, a grid of service cards is shown, each with a logo, title, description, and a 'Launch' button. The services include: Jupyter-python, Rstudio, Vscode-python, Jupyter-pyspark, Jupyter-python-gpu, Jupyter-pytorch, Jupyter-pytorch-gpu, Jupyter-r, Jupyter-tensorflow, Jupyter-tensorflow-gpu, Rstudio-gpu, and Rstudio-sparkr. The footer contains copyright information (2017 - 2023 Onyxia, INSEE, CodeGouv), a 'Contribute' link, and language/term of service options (English, Terms of service, v6.2.0).

# EDITO User Data

The screenshot displays the EDITO user interface for managing files. The top navigation bar includes links for Home, Trainings and tutorials, Datalab, Viewer, About EDITO, Support, and a Logout button. The left sidebar contains navigation options: Reduce, My account, Service catalog, My Services, My Secrets, and My Files (which is currently selected). The main content area is titled 'My Files' and features a message about S3 Buckets with links to documentation and configuration. Below this is a toolbar with actions: Refresh, Upload file, Create directory, Delete, and Copy S3 object name. The current directory path is '/ oidc-infradevedito', and a terminal-style command '\$ mc rm s3/oidc-infradevedito/data/.keep' is visible. Two items are listed: a folder named 'OceanData' and a file named 'CopernicusMar...ll.sh'. The footer shows the URL 'https://datalab.digitaltwin-ocean.edito.eu/my-files', language settings (English), Terms of service, version (v6.2.0), and a refresh icon.

# EDITO interoperability design criteria



Web UIs



API

STANDARDS

## EDITO

### Services API

Search  
Launch  
Monitor  
Stop  
Publish

**Enable all common data science services**  
**Enable ocean-specific services**  
**Enable what-if/lighthouse applications**  
Use them to **build the Digital Twin of the Ocean**

### Process API

Search  
Execute  
Monitor  
Stop  
Publish

**Reference all functions, however implemented**  
**Reference models, post/per-treatments, etc.**  
Run computation **remotely and near-data**  
**Materialize data assets**

### Data API

Search  
Retrieve  
Publish

**Reference all European assets, wherever stored**  
**Retrieve data efficiently (best format)**  
**Integrate with externals (conventions, standards)**

Resources controlled via  
Identity and Access Management



Seamless access to external services and  
resources via Secret Management

**EuroHPC**  
Joint  
undertaking

Data  
Orchestrator

# EDITO Processes

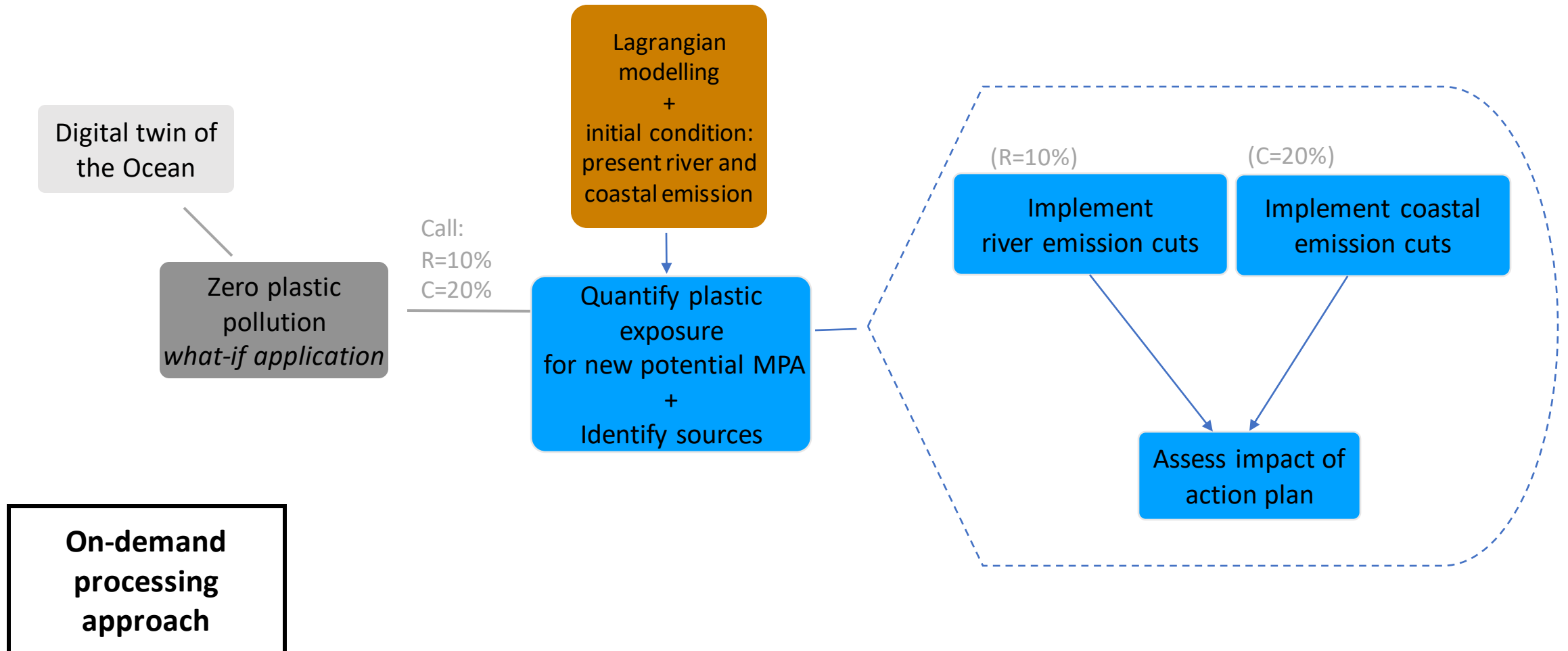
The screenshot displays the EDITO Process catalog interface. At the top left is the EDITO logo. The top right navigation bar includes links for Home, Trainings and tutorials, Datalab, Viewer, About EDITO, Support, and a Logout button. A left sidebar contains navigation options: Reduce, My account, Service catalog, My Services, Process catalog (highlighted), My processes, My Secrets, and My Files. The main content area is titled "Process catalog" and features a search bar. Below the search bar, a notification banner reads: "Explore, launch and configure processes with just a few clicks. You are exploring Helm Chart Repository Ocean Processes: Ocean Processes". Under the heading "Ocean Processes", three process cards are displayed:

- Coral-bleaching-job**: Run process that allows to detect coral bleaching and save output data in your personal datalab storage. [Launch]
- Marine-heat-waves-detection**: Run process that allows to detect marine heat waves and save output data in your personal datalab storage. [Launch]
- Coral-bleaching-detection**: Run process that allows to detect coral bleaching and save output data in your personal datalab storage. [Launch]

The URL at the bottom left is <https://datalab.staging.edito.eu/catalog/oceanprocesses>. At the bottom right, there are links for English, Terms of service, and version v7.8.1.

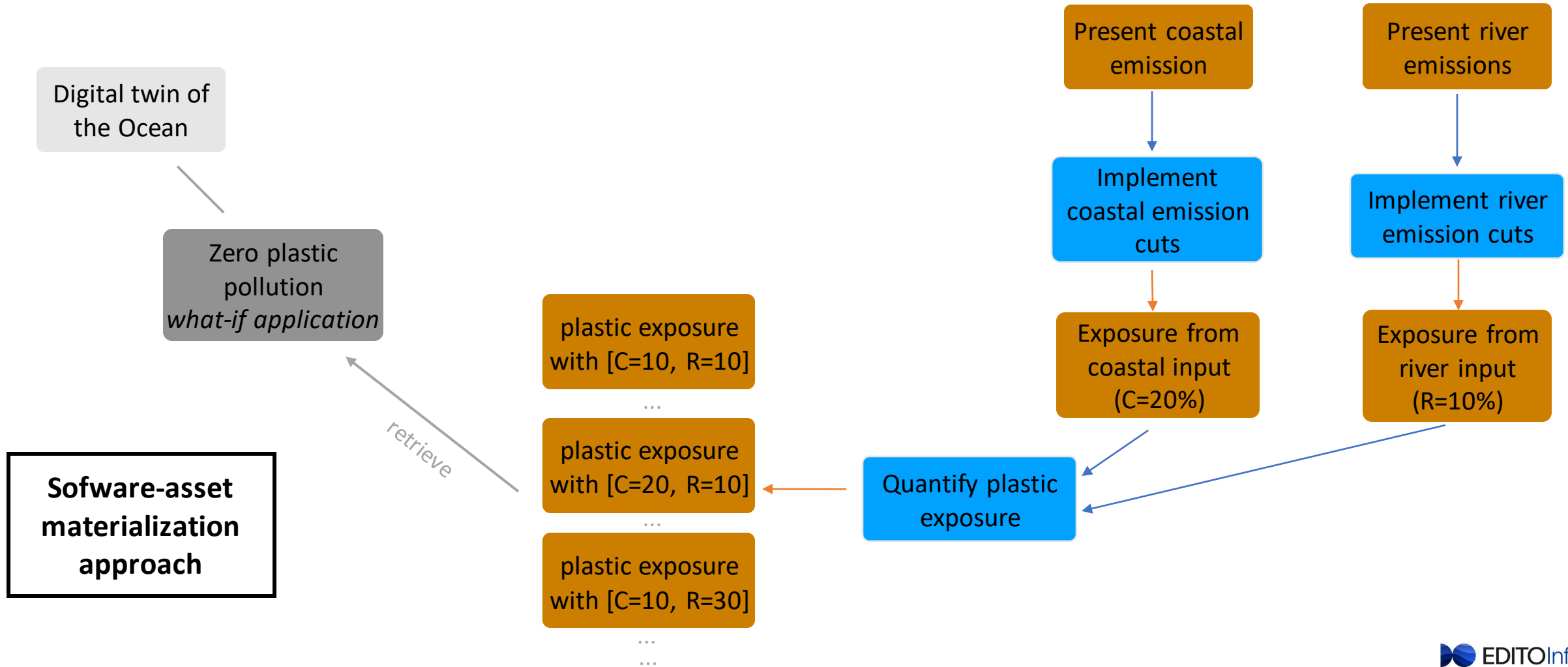
# How you can build what-if scenarios on EDITO all-in service

Example: **How will exposure to plastic pollution change if input from river or coasts are reduced?**

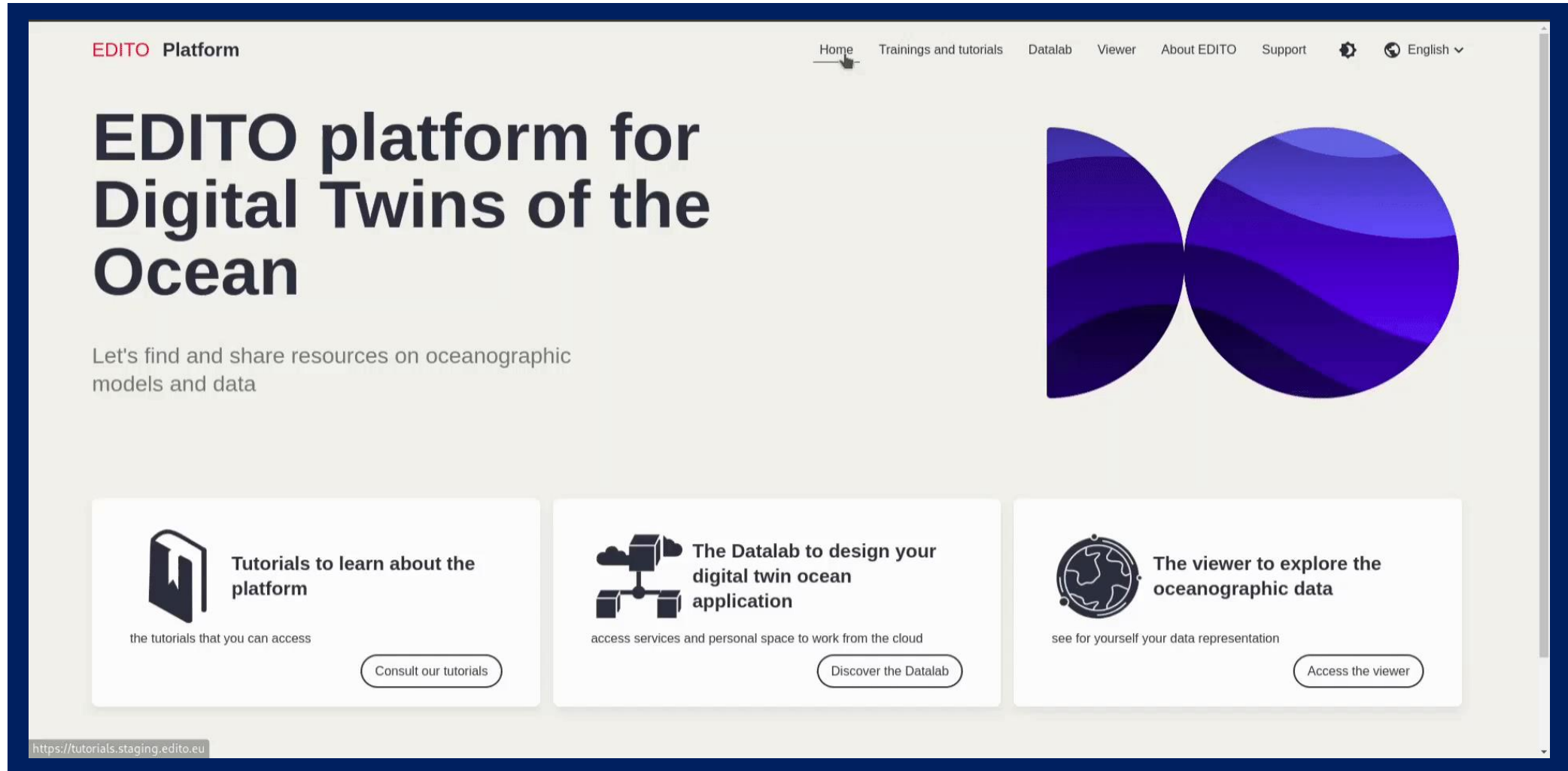


# How you can build what-if scenarios on EDITO all-in service

Example: **How will exposure to plastic pollution change if input from river or coasts are reduced?**



# Get started with EDITO

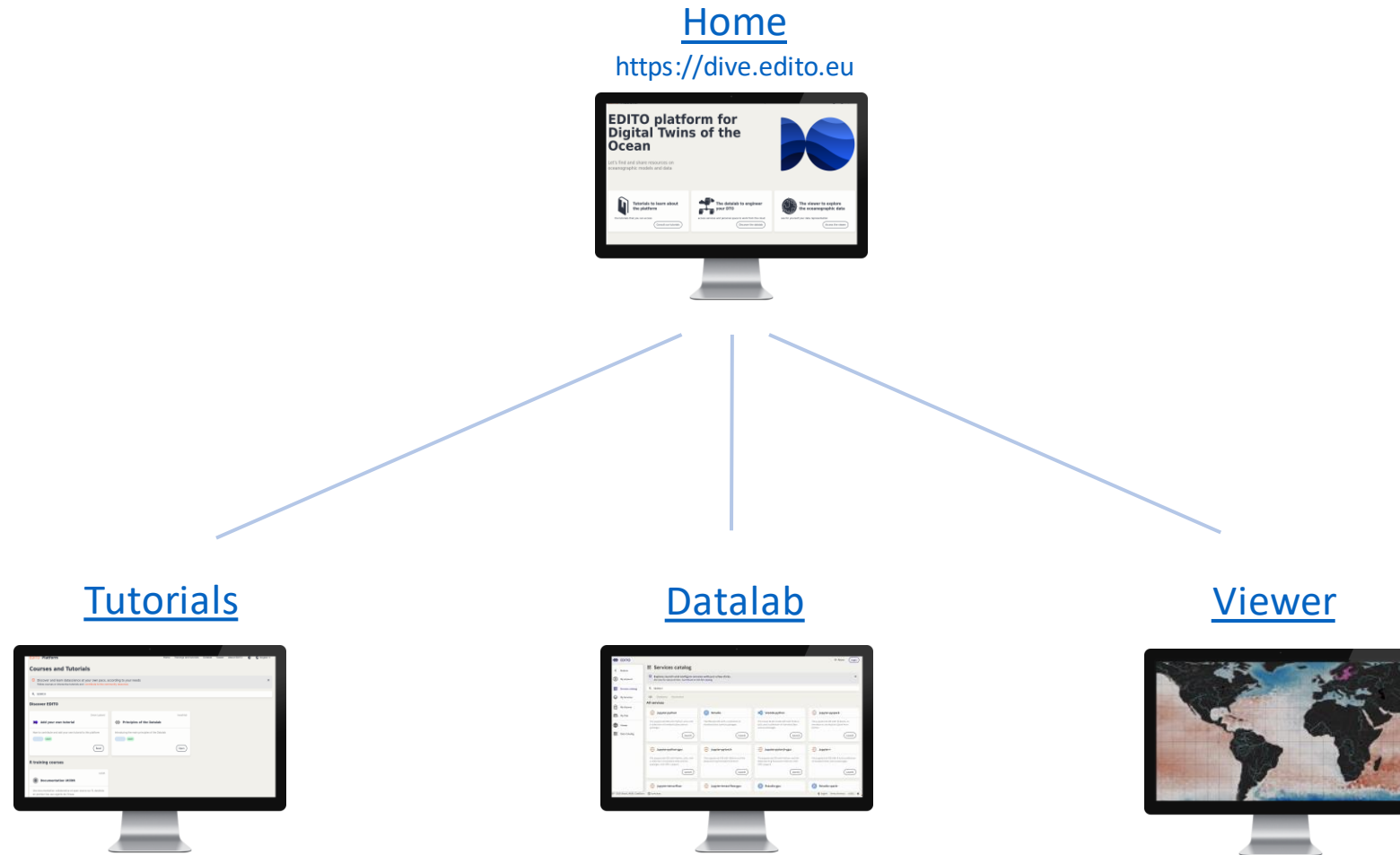


The screenshot shows the EDITO Platform website homepage. At the top left, the logo reads "EDITO Platform". The navigation menu at the top right includes "Home", "Trainings and tutorials", "Datalab", "Viewer", "About EDITO", "Support", a gear icon, and "English" with a dropdown arrow. The main heading is "EDITO platform for Digital Twins of the Ocean". Below this, a sub-heading says "Let's find and share resources on oceanographic models and data". To the right is a large graphic of two overlapping spheres with a purple-to-blue gradient. Below the main heading are three white boxes, each with an icon, a title, a description, and a button:

- Tutorials to learn about the platform**: Accompanied by a book icon. Description: "the tutorials that you can access". Button: "Consult our tutorials".
- The Datalab to design your digital twin ocean application**: Accompanied by a server rack icon. Description: "access services and personal space to work from the cloud". Button: "Discover the Datalab".
- The viewer to explore the oceanographic data**: Accompanied by a globe icon. Description: "see for yourself your data representation". Button: "Access the viewer".

At the bottom left, the URL "https://tutorials.staging.edito.eu" is displayed.

# Get started with EDITO





# The development team



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