

BIT Manual

Welcome to the BioReCer ICT Tool (BIT)

This manual will guide you through the functionalities of the BIT and answer key-questions to help you make the most of bio-based feedstocks and solutions. It supports you by

- Visualising the supply chain,
- Enabling digital tracking of feedstock and derived products throughout the lifecycle,
- Mapping of bio-based standards and certificates, and
- Identification of companies with the best industry scores.
- Efficient self-assessment.

Through all these features, the BIT aims to enhance the environmental performance, traceability, and social acceptance of biobased products. It addresses feedstock producers, stakeholders from the bio-industry and certifiers. The tool is tailored to the framework of the BioReCer project.

What is BioReCer?

The EU-funded project **BioReCer** (Biological Resources Certifications Schemes) aims to strengthen the EU-bioeconomy by providing actionable guidelines for the certification of bio-based feedstock (biogenic waste, residues and by-products). A key element of the project is to enhance tracking and traceability of these feedstocks and define new circularity indicators. Implementing these elements in the BioReCer ICT Tool forms the technical pillar of the BioReCer project.

The Problem

Feedstock providers and users of biomass face the challenge of optimising processes, ensuring sustainability, and complying with regulations in the bio-based sector. One key quest is the increasing pressure for environmental performance and traceability of feedstock from its origin through the value-chain. Here, especially bio-based value chains struggle with the complexity of supply chains and data management. This is where BioReCer steps in and helps bio-based businesses, certification bodies and feedstock providers to make informed decisions that can drive sustainability and circularity.

What is the BioReCer ICT Tool?

The **BioReCer ICT Tool** is the solution to this challenge. This digital platform is designed to help industry stakeholders make informed decisions, find mapped bio-based standards and certificates, and improve sustainability. It also helps identify the most sustainable players in a regional sector.

What it does:

- Gathers data, tools and insights in one place.
- Helps optimise processes, ensures sustainability and circularity, and compliance with regulatory standards.
- Informs on mapped standards and certificates and identifies companies with the best industry scores.
- Provides a competitive advantage in the bio-based industry.

Key Benefits for Industry Stakeholders

What's in for YOU?

- **Improved Decision-Making:** Access to real-time data and actionable insights.
- **Enhanced Sustainability:** Tools to assess and improve environmental performance.
- **Simplified Compliance:** Streamlined processes for meeting regulatory requirements.
- **Increased Efficiency:** Optimised operations through data-driven insights.
- **Transparency and Traceability:** Track and trace biomass resources and bio-based products through the supply chain.
- **Self-Assessment:** Information on whether a company is fit for certification and what levers exist to achieve a higher certification.

What is in it for Certification Bodies?

- **Streamlined auditing:** Access to data in one place and allows faster pre-audit assessments which saves resources and reduces the time and effort for verification.
- **Enhances credibility:** The real-time data validation helps in enhancing credibility of the certification outcomes.
- **Facilitates communication:** Industries can signal certification interest and audit needs in the platform which allows certification bodies to offer tailored services.
- **Informed readiness of the company:** Access to the scores obtained by the self-assessment by industries via BIT advisor helps certification bodies to understand their readiness for meeting BioReCer requirements.
- **Ease the audit process for certification.**
- **Facilitate communication between companies and certification bodies by identifying company needs.**

Navigating the BIT Platform

Getting started with the BIT: A Walkthrough

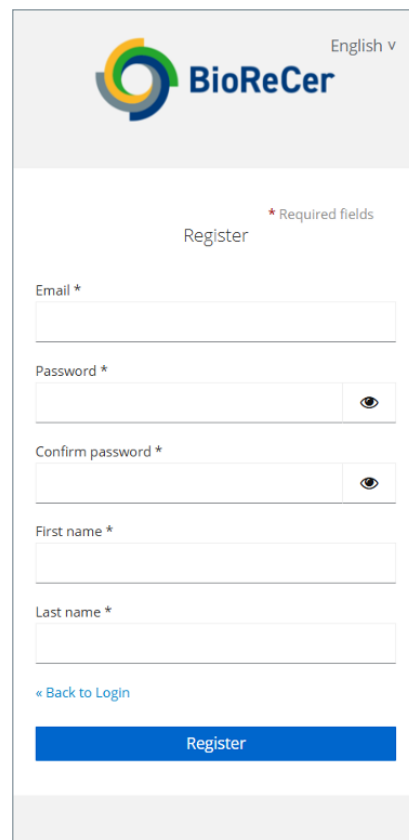
1. Landing-Page

Go to <https://biorecer-ict-staging.stellio.io>

The BIT landing page is your starting point. You can log in if you already have an account or register as a new user. The BIT works seamlessly across desktop and mobile devices, yet it is optimised for mobile use.

2. Logging in and user roles

To register, provide your email, password, first and last name, and choose your profile type. Are you a biomass producer, a stakeholder from the bio-industry, a certifier or other? Please select your profile accordingly. This selection filters the content and options available to your account. You can always switch your profile type if needed.



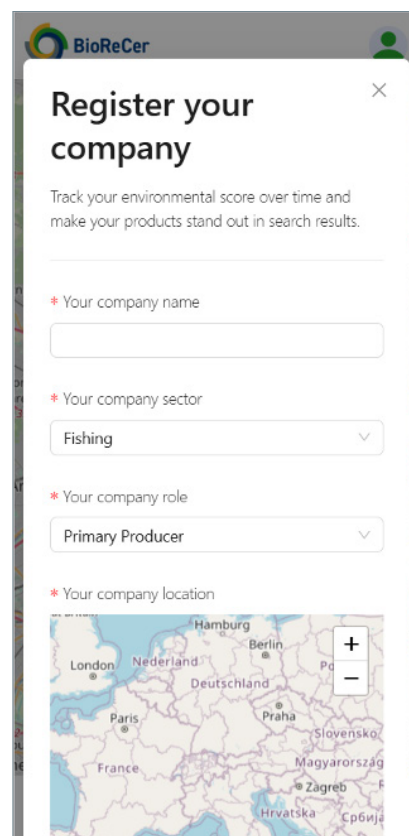
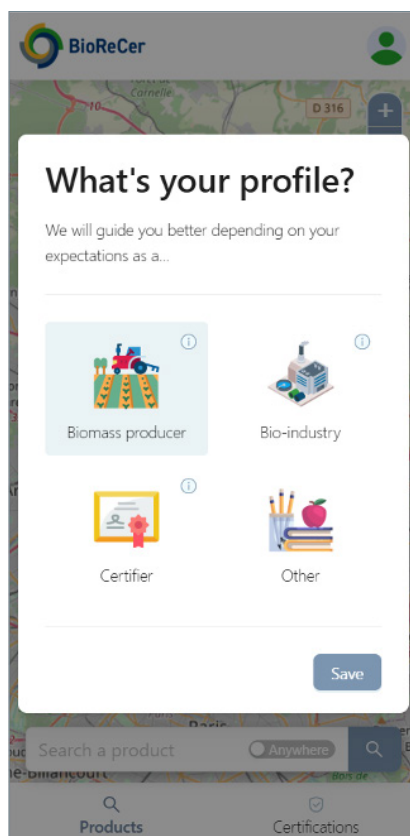
The screenshot shows the BioReCer registration interface. At the top, there is a header with the BioReCer logo and a language selector set to 'English v'. Below the header, the word 'Register' is displayed, followed by a red asterisk and the text '* Required fields'. The form contains several input fields: 'Email *', 'Password *' (with a toggle for visibility), 'Confirm password *' (with a toggle for visibility), 'First name *', and 'Last name *'. At the bottom of the form, there is a blue button labeled 'Register' and a link that says '« Back to Login'.

3. Overview of the main sections

Upon login, the BIT app shows the main navigation bar with access to Products, BIT Advisor, and Certifications modules.

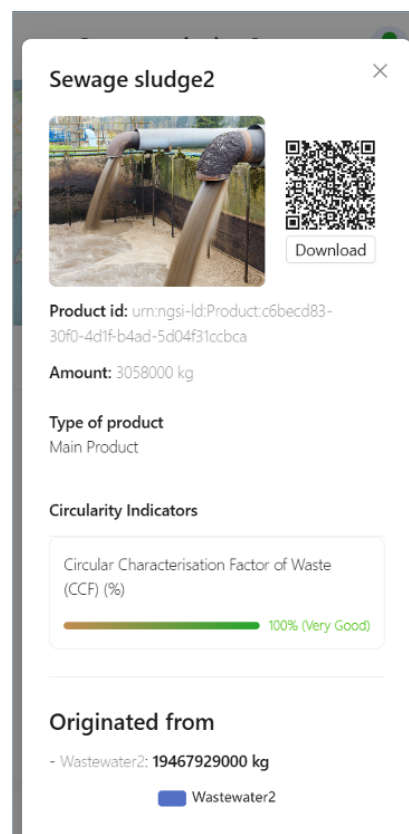
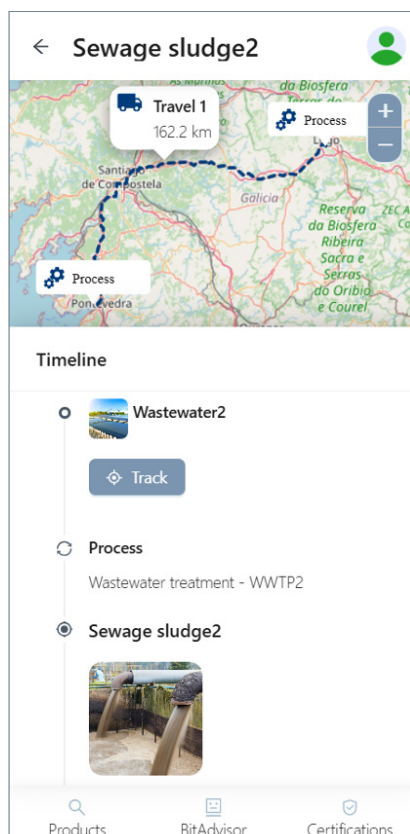
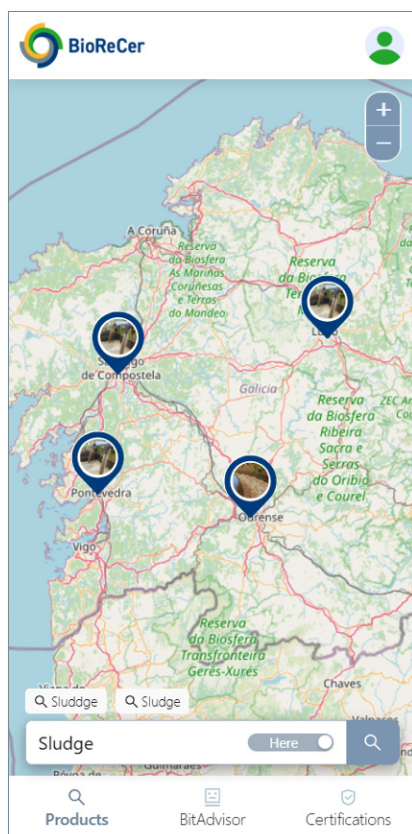
- **Products:** View feedstock passport info and emissions data.
- **BIT Advisor:** A self-assessment tool for certification readiness.
- **Certifications:** View sector scores, schemes, and standards.

Add your company details: name, sector, role, and location.



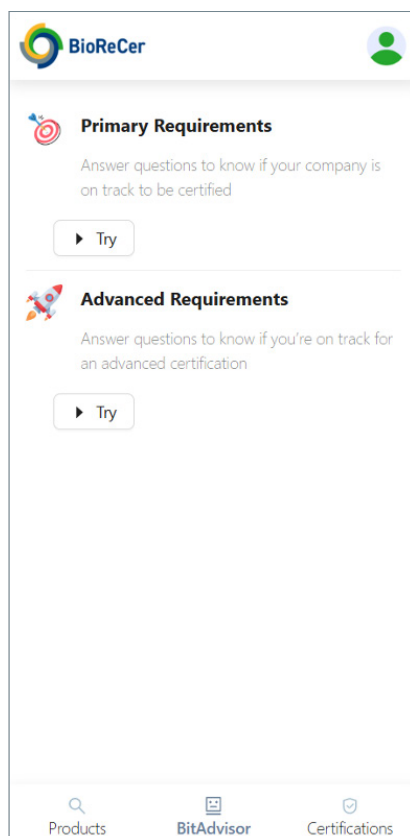
4. Products

The BIT offers the option to retrieve data on feedstock, see processes, input and output of products, storage locations, CO₂-emissions during transport, circularity indicators, and more.



5. BIT Advisor

Here you can inform yourself on primary and advanced requirements for certification of your company. Simply answer questions on social, economic and environmental aspects and get your score. You will also receive recommendations on what improvements are needed for certification.

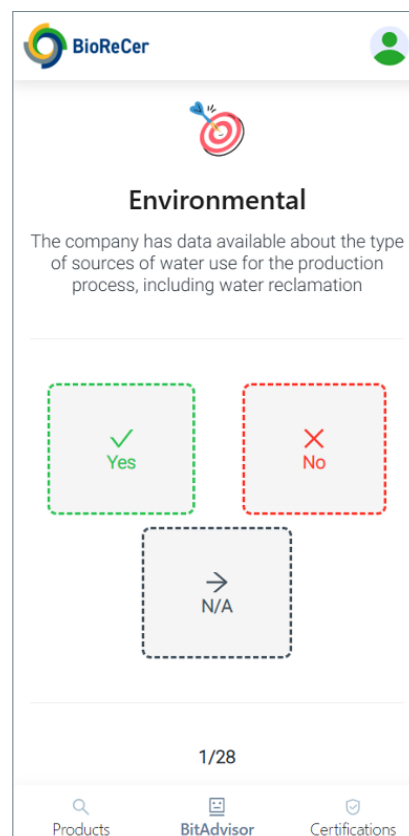


BioReCer

Primary Requirements
Answer questions to know if your company is on track to be certified
▶ Try

Advanced Requirements
Answer questions to know if you're on track for an advanced certification
▶ Try

Products BitAdvisor Certifications



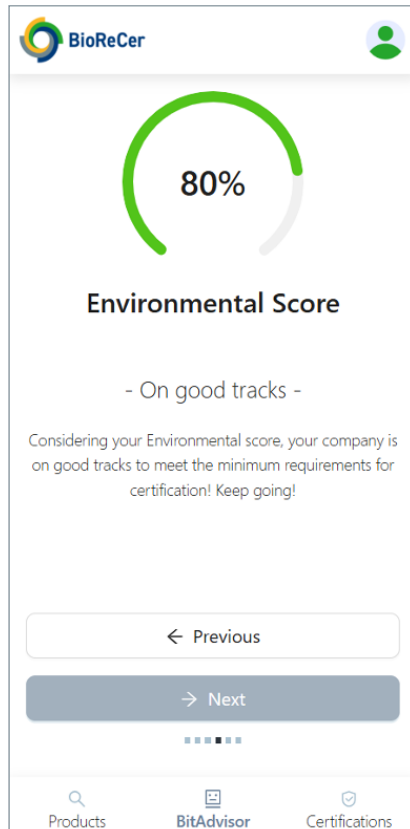
BioReCer

Environmental
The company has data available about the type of sources of water use for the production process, including water reclamation

Yes No N/A

1/28

Products BitAdvisor Certifications



BioReCer

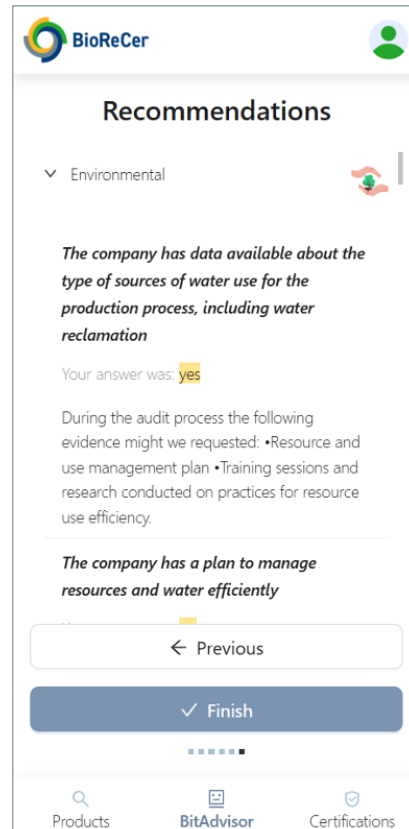
80%
Environmental Score

- On good tracks -

Considering your Environmental score, your company is on good tracks to meet the minimum requirements for certification! Keep going!

← Previous
→ Next

Products BitAdvisor Certifications



BioReCer

Recommendations

Environmental

The company has data available about the type of sources of water use for the production process, including water reclamation

Your answer was: **yes**

During the audit process the following evidence might we requested: •Resource and use management plan •Training sessions and research conducted on practices for resource use efficiency.

The company has a plan to manage resources and water efficiently

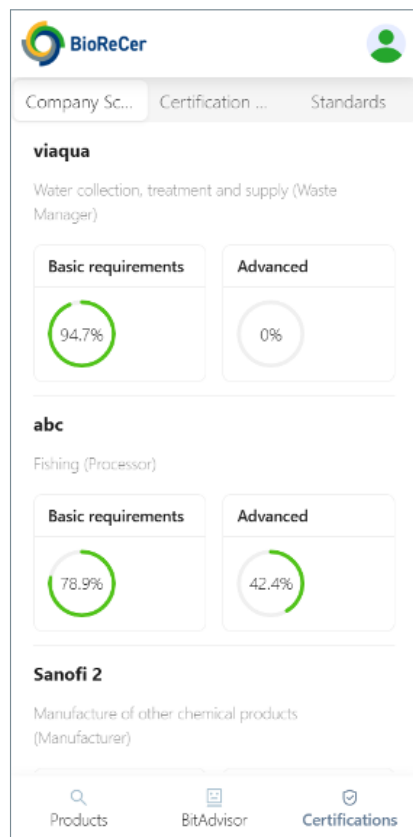
← Previous
✓ Finish

Products BitAdvisor Certifications

6. Certifications

Here, you get information on companies' scores, certification schemes and standards.

You can select the latter by choosing area and keywords.



viaqua
Water collection, treatment and supply (Waste Manager)

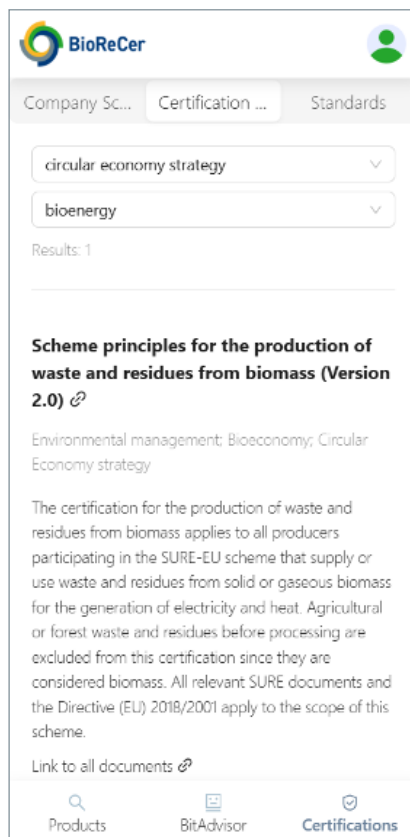
Basic requirements	Advanced
94.7%	0%

abc
Fishing (Processor)

Basic requirements	Advanced
78.9%	42.4%

Sanofi 2
Manufacture of other chemical products (Manufacturer)

Products BitAdvisor Certifications



Company Sc... Certification ... Standards

circular economy strategy

bioenergy

Results: 1

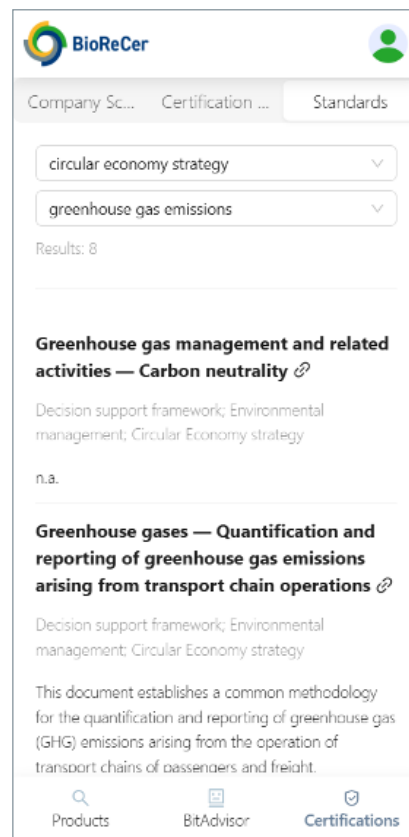
Scheme principles for the production of waste and residues from biomass (Version 2.0)

Environmental management; Bioeconomy; Circular Economy strategy

The certification for the production of waste and residues from biomass applies to all producers participating in the SURE-EU scheme that supply or use waste and residues from solid or gaseous biomass for the generation of electricity and heat. Agricultural or forest waste and residues before processing are excluded from this certification since they are considered biomass. All relevant SURE documents and the Directive (EU) 2018/2001 apply to the scope of this scheme.

[Link to all documents](#)

Products BitAdvisor Certifications



Company Sc... Certification ... Standards

circular economy strategy

greenhouse gas emissions

Results: 8

Greenhouse gas management and related activities — Carbon neutrality

Decision support framework; Environmental management; Circular Economy strategy

n.a.

Greenhouse gases — Quantification and reporting of greenhouse gas emissions arising from transport chain operations

Decision support framework; Environmental management; Circular Economy strategy

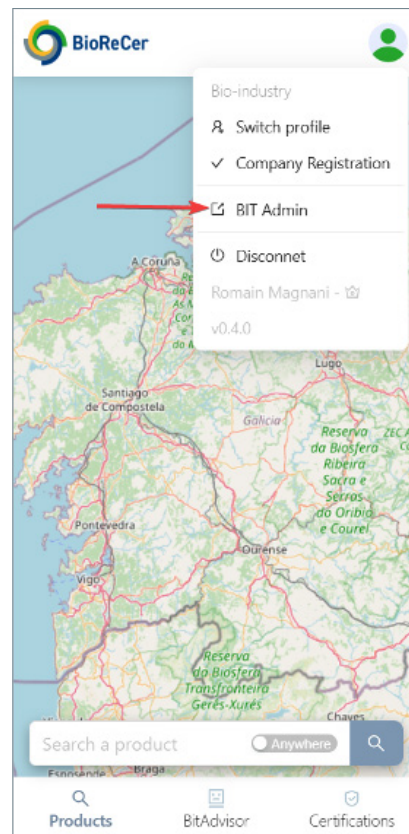
This document establishes a common methodology for the quantification and reporting of greenhouse gas (GHG) emissions arising from the operation of transport chains of passengers and freight.

Products BitAdvisor Certifications

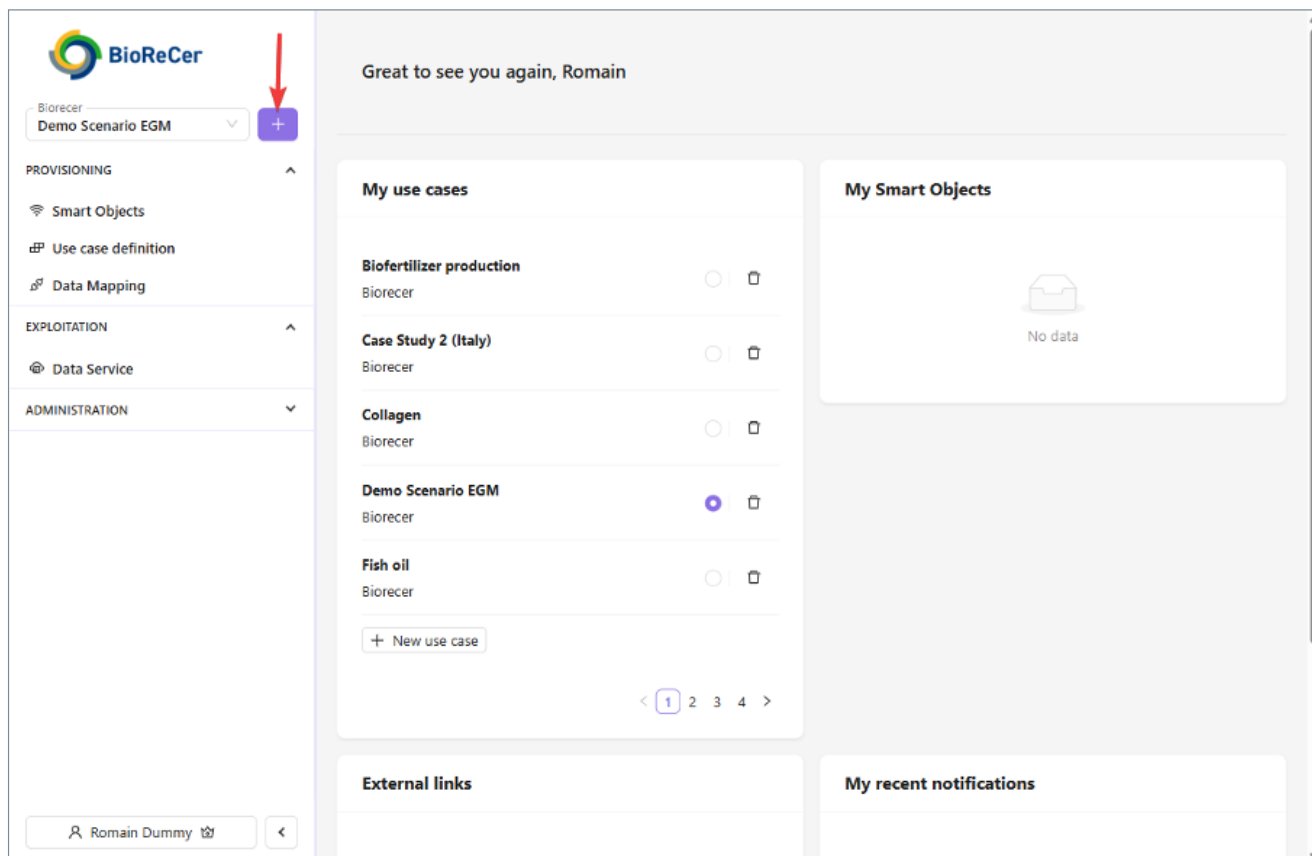
Data Input and Management

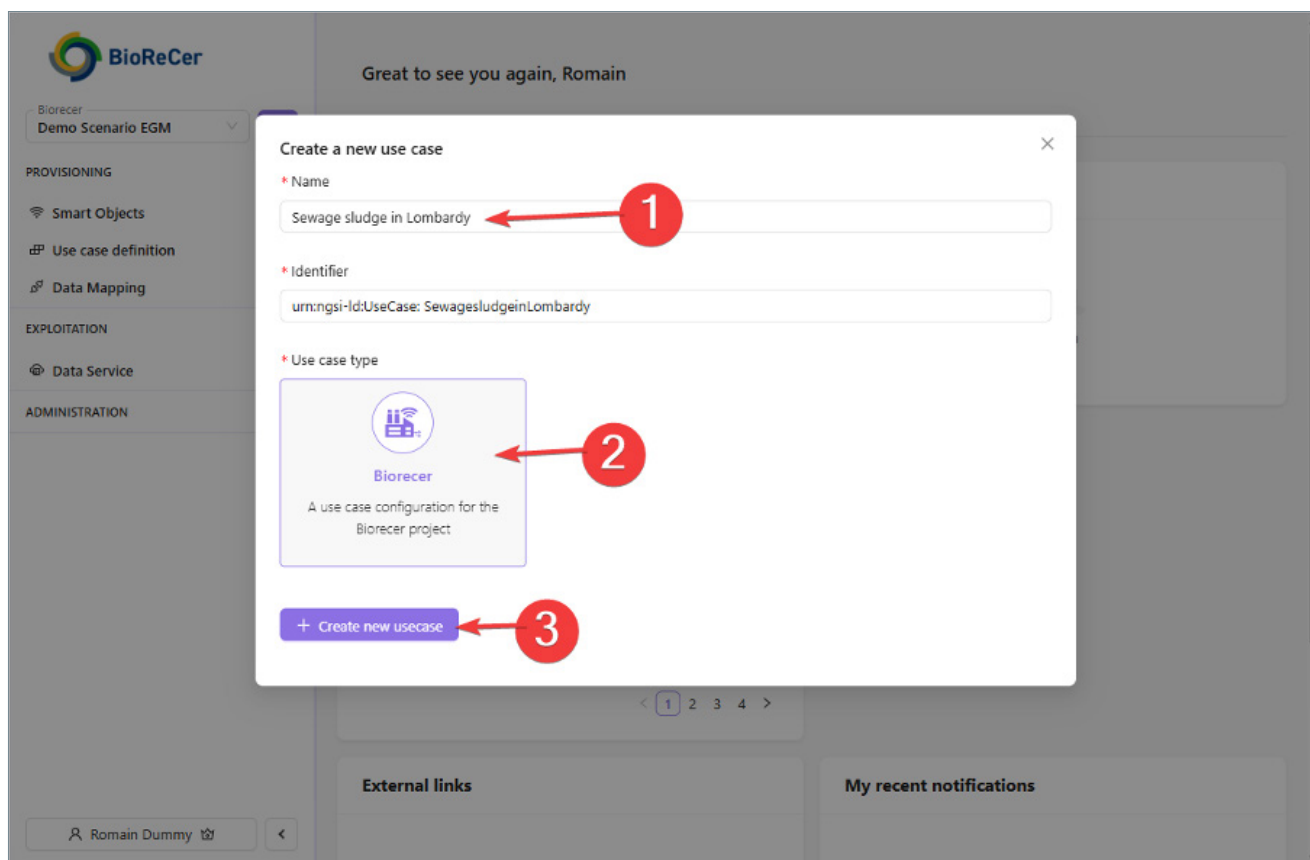
Feeding the BIT: How to add and manage data

Access the BIT Admin interface from the user menu:

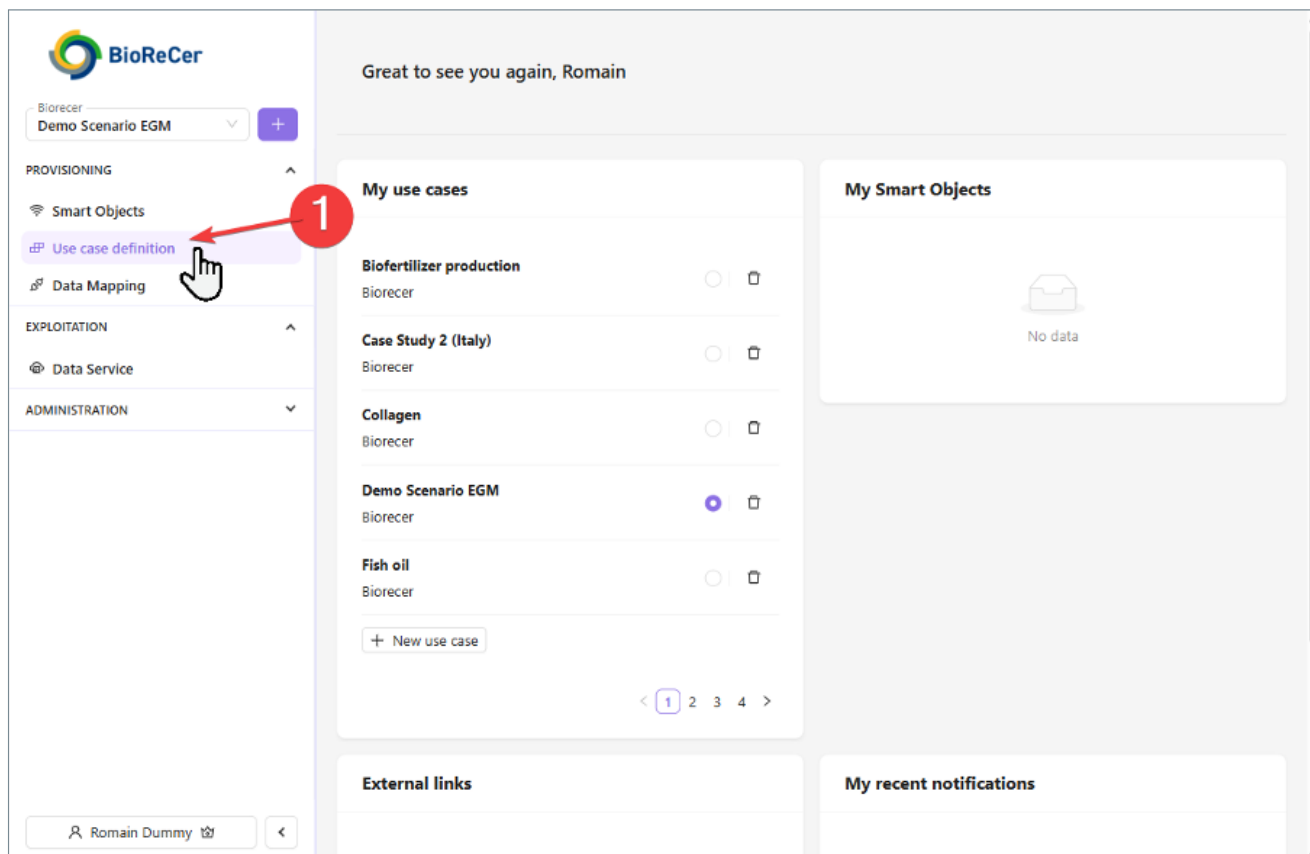


Create a new Biorecer use case (or select an existing one):

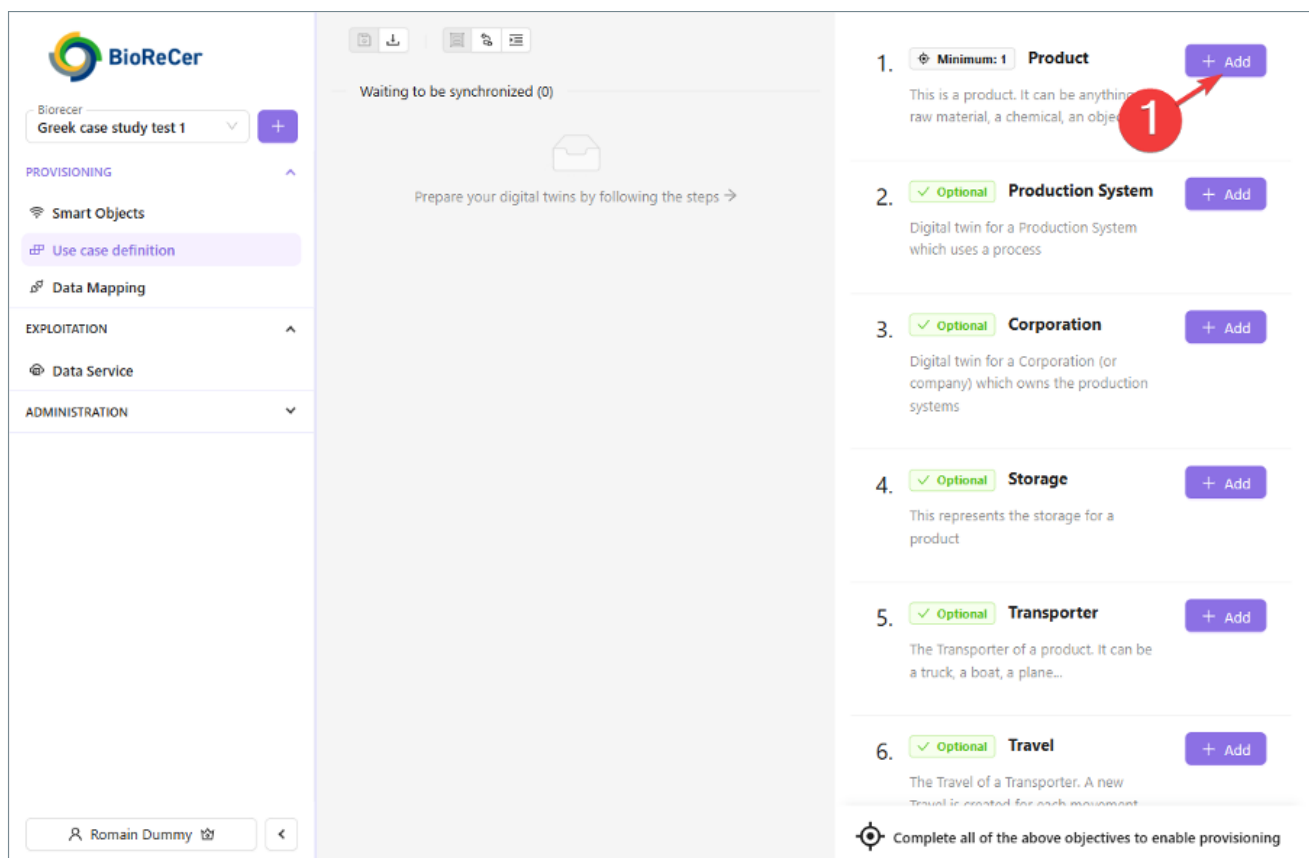




Go to use case definition:



To start provisioning, add your first Product as a digital twin with detailed attributes:

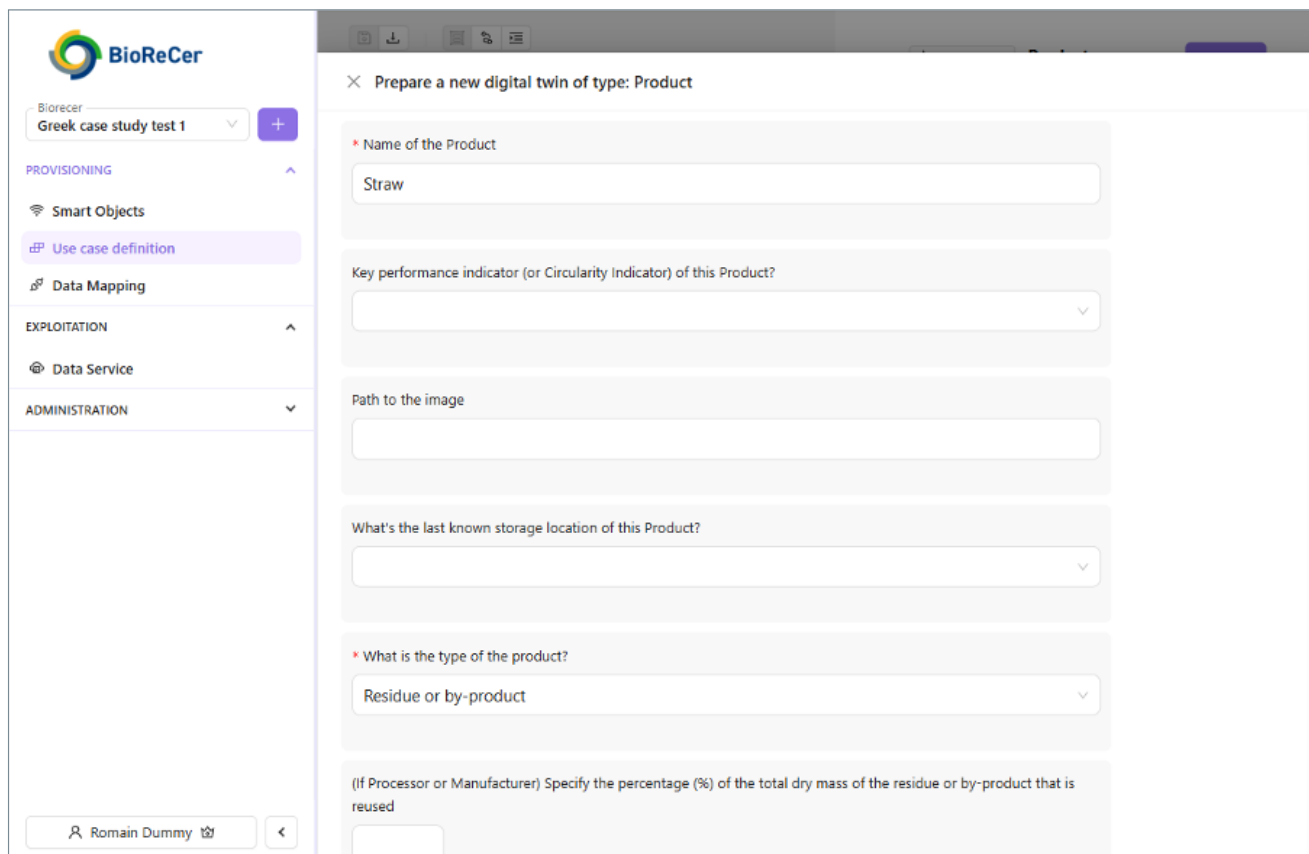


The screenshot shows the BioReCer provisioning interface. On the left is a sidebar with the BioReCer logo, a dropdown menu set to 'Greek case study test 1', and a list of sections: PROVISIONING (with sub-items Smart Objects, Use case definition, and Data Mapping), EXPLOITATION (with Data Service), and ADMINISTRATION. The main area shows 'Waiting to be synchronized (0)' and a message 'Prepare your digital twins by following the steps ->'. On the right, a list of digital twin types is displayed, each with an 'Add' button. A red circle with the number '1' highlights the first item, 'Product'.

- 1. Minimum: 1 Product** + Add
This is a product. It can be anything: raw material, a chemical, an object...
- 2. Optional Production System** + Add
Digital twin for a Production System which uses a process
- 3. Optional Corporation** + Add
Digital twin for a Corporation (or company) which owns the production systems
- 4. Optional Storage** + Add
This represents the storage for a product
- 5. Optional Transporter** + Add
The Transporter of a product. It can be a truck, a boat, a plane...
- 6. Optional Travel** + Add
The Travel of a Transporter. A new Travel is created for each movement

Complete all of the above objectives to enable provisioning

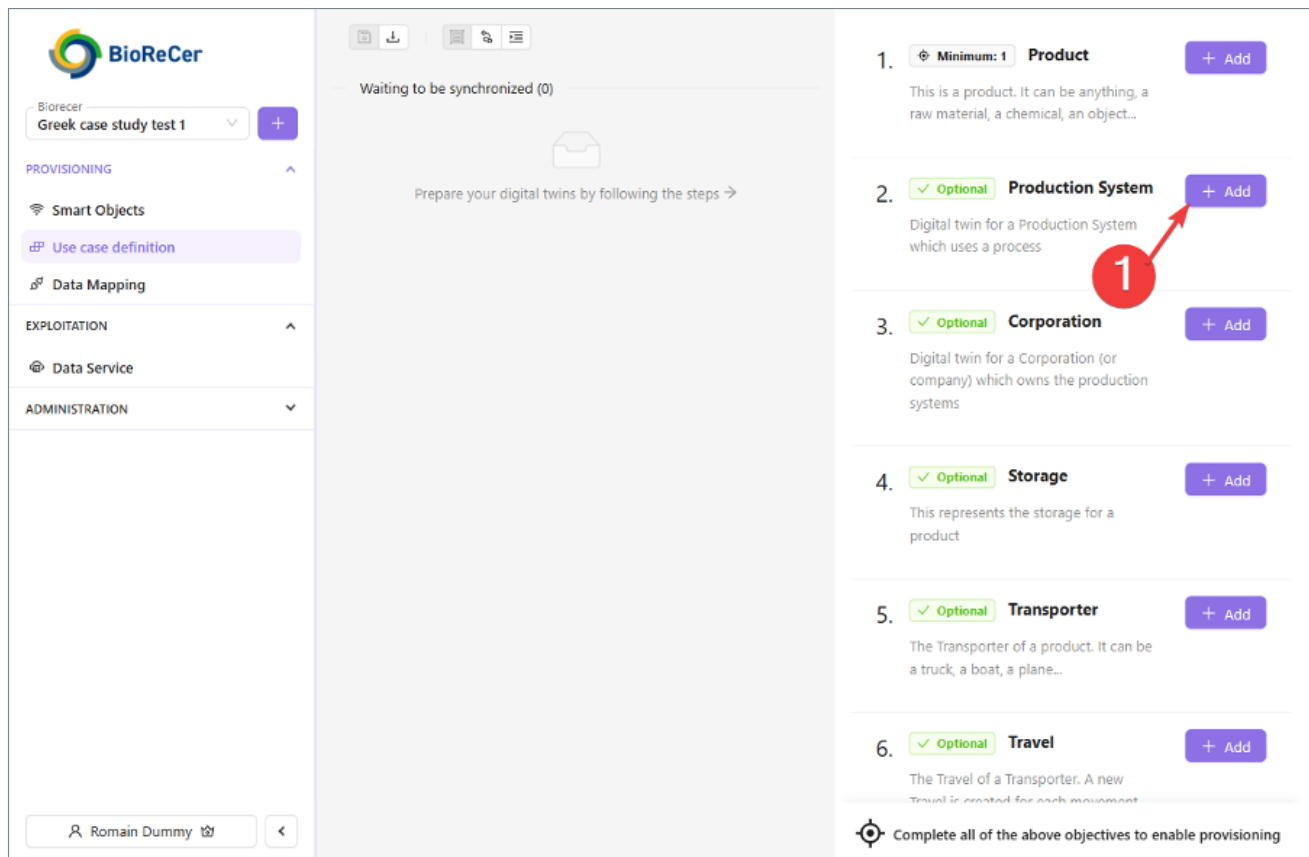
Fill the product name, select product type, and specify the last known storage location (important so the product can appear on the map search). At least one product is required to proceed.



The screenshot shows the BioReCer interface with the 'Prepare a new digital twin of type: Product' form. The sidebar is the same as in the previous screenshot. The main area displays the form with the following fields:

- Name of the Product:** Text input field containing 'Straw'.
- Key performance indicator (or Circularity Indicator) of this Product?:** Dropdown menu.
- Path to the image:** Text input field.
- What's the last known storage location of this Product?:** Dropdown menu.
- What is the type of the product?:** Dropdown menu containing 'Residue or by-product'.
- (If Processor or Manufacturer) Specify the percentage (%) of the total dry mass of the residue or by-product that is reused:** Text input field.

Link your Product to a Production System. Specify the production system details and location. This helps track where your product is processed or stored:



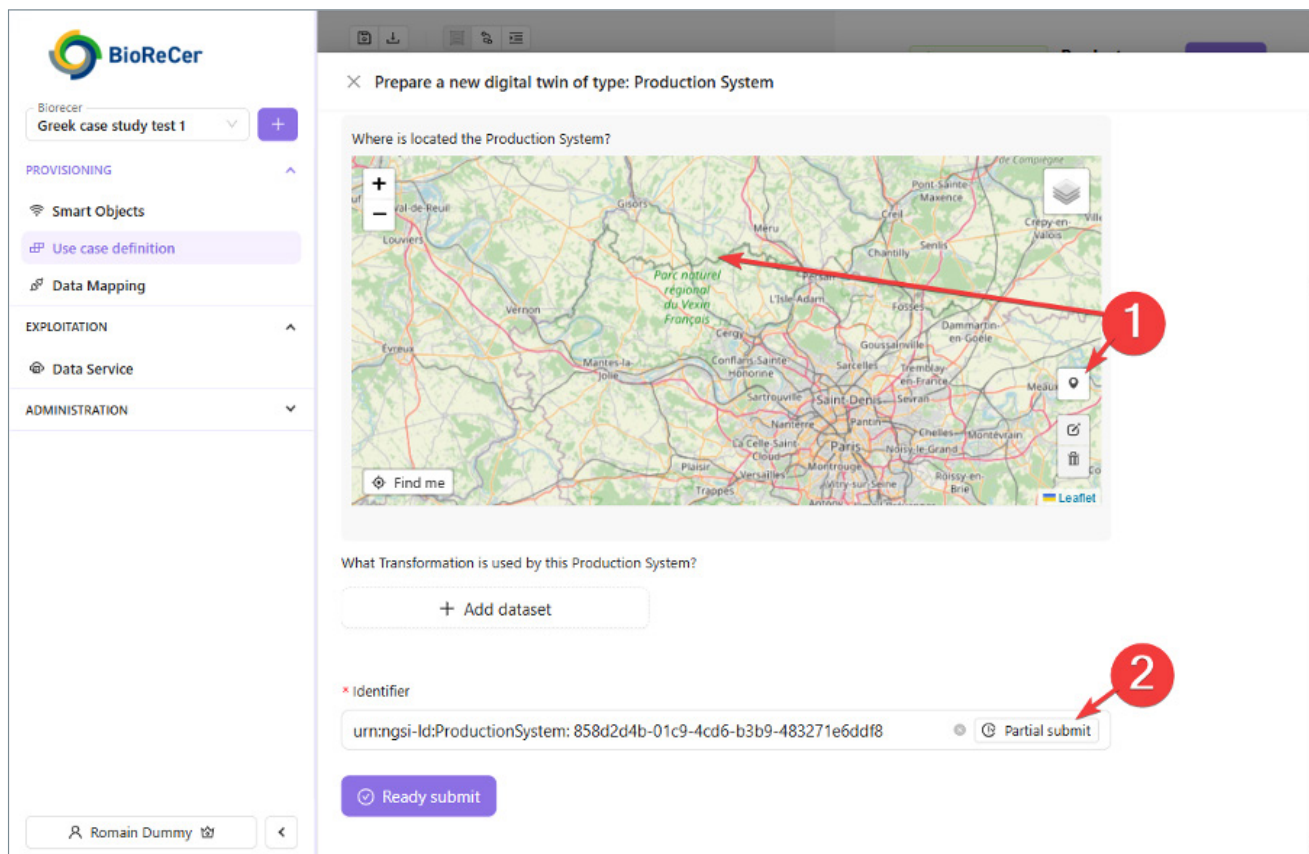
Waiting to be synchronized (0)

Prepare your digital twins by following the steps →

- 1. Minimum: 1 Product** + Add
This is a product. It can be anything, a raw material, a chemical, an object...
- 2. Optional Production System** + Add
Digital twin for a Production System which uses a process
- 3. Optional Corporation** + Add
Digital twin for a Corporation (or company) which owns the production systems
- 4. Optional Storage** + Add
This represents the storage for a product
- 5. Optional Transporter** + Add
The Transporter of a product. It can be a truck, a boat, a plane...
- 6. Optional Travel** + Add
The Travel of a Transporter. A new Travel is created for each movement

Complete all of the above objectives to enable provisioning

Click on “Partial Submit” to indicate that we will have to come back later to update this Production System after we’ll create the related Transformation:



Prepare a new digital twin of type: Production System

Where is located the Production System?

What Transformation is used by this Production System?

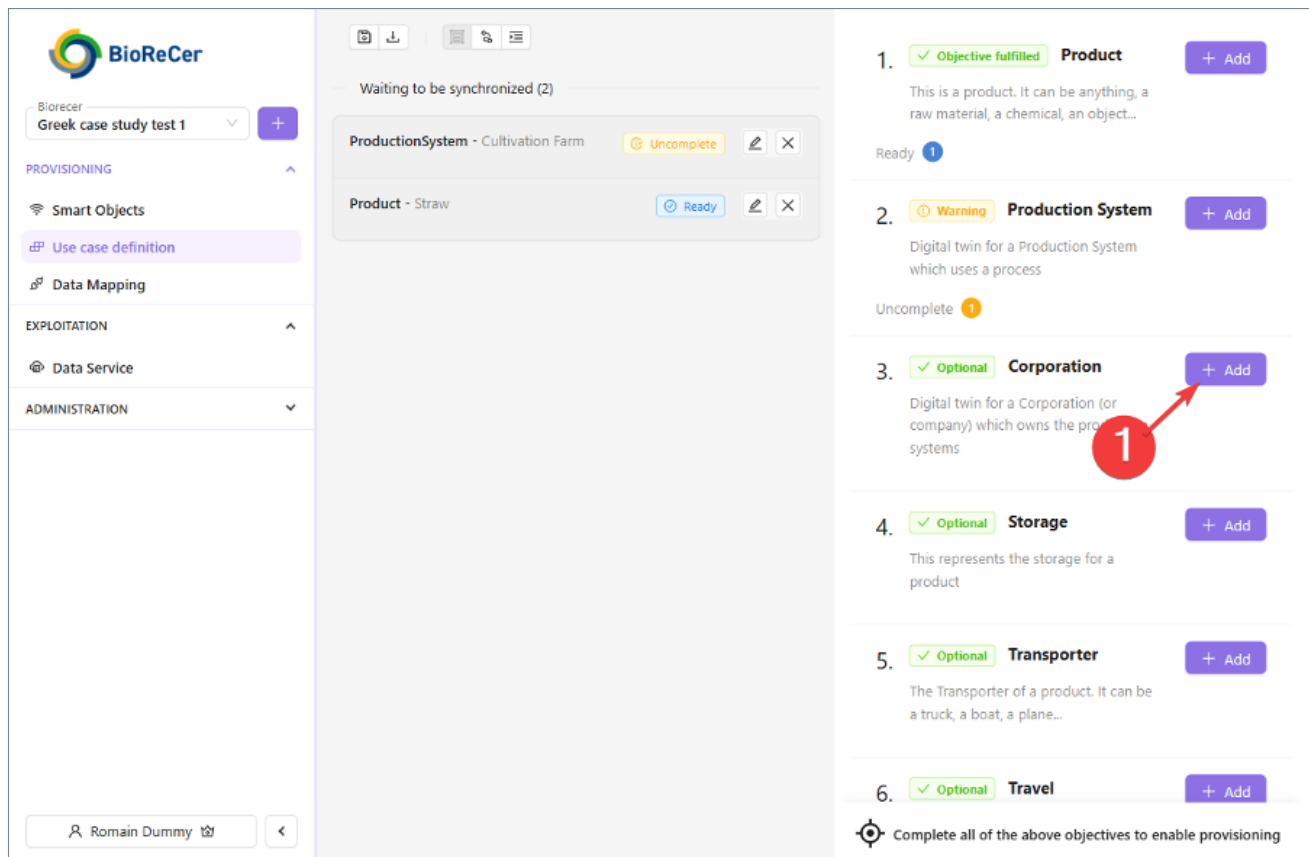
+ Add dataset

* Identifier

urn:ngsi-Id:ProductionSystem:858d2d4b-01c9-4cd6-b3b9-483271e6ddf8 Partial submit

Ready submit

Choose or create your corporation profile and complete linking production systems to company entities:



Waiting to be synchronized (2)

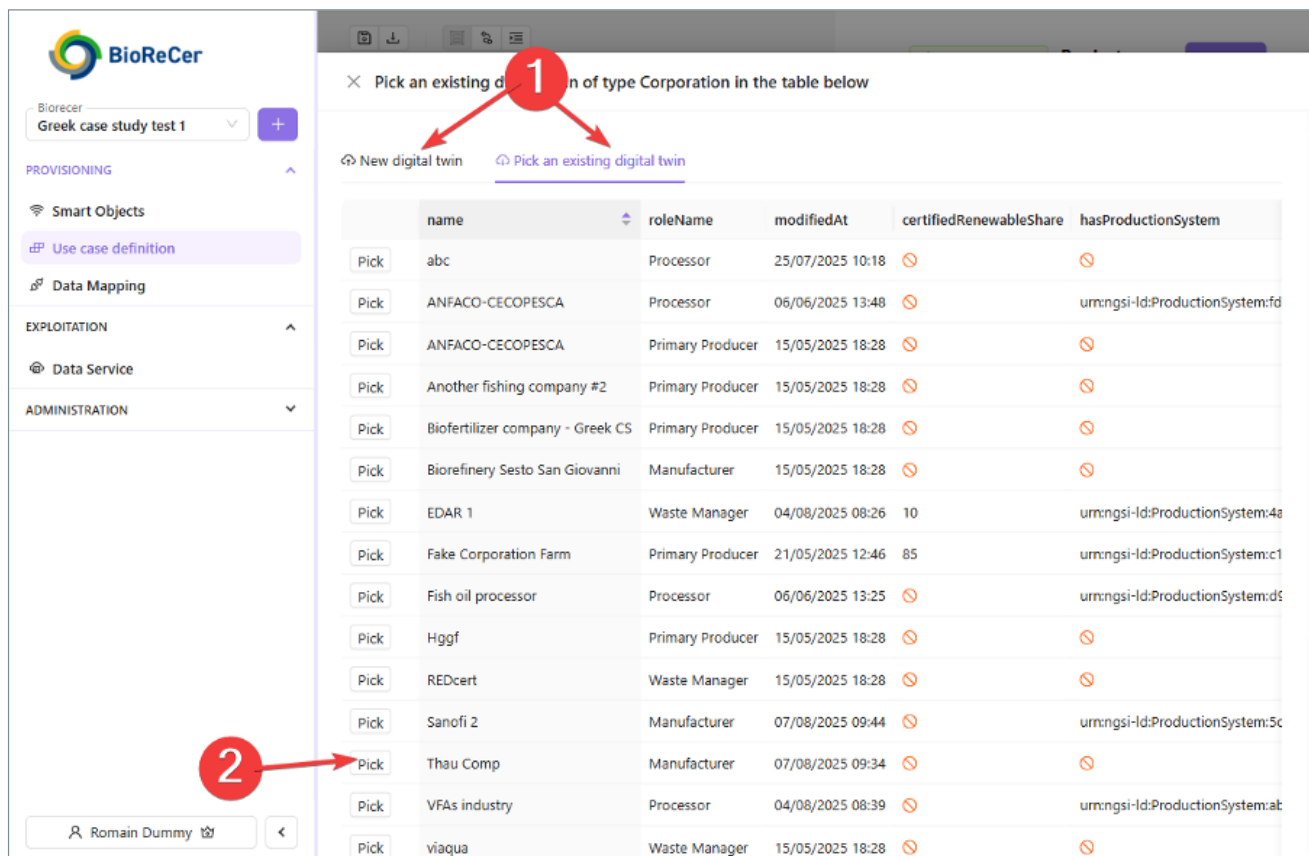
ProductionSystem - Cultivation Farm Uncomplete

Product - Straw Ready

- Objective fulfilled **Product** + Add
This is a product. It can be anything, a raw material, a chemical, an object...
- Warning **Production System** + Add
Digital twin for a Production System which uses a process
- Optional **Corporation** + Add
Digital twin for a Corporation (or company) which owns the production systems
- Optional **Storage** + Add
This represents the storage for a product
- Optional **Transporter** + Add
The Transporter of a product. It can be a truck, a boat, a plane...
- Optional **Travel** + Add

Complete all of the above objectives to enable provisioning

If you have already registered your company, click on "Pick an existing digital twin":

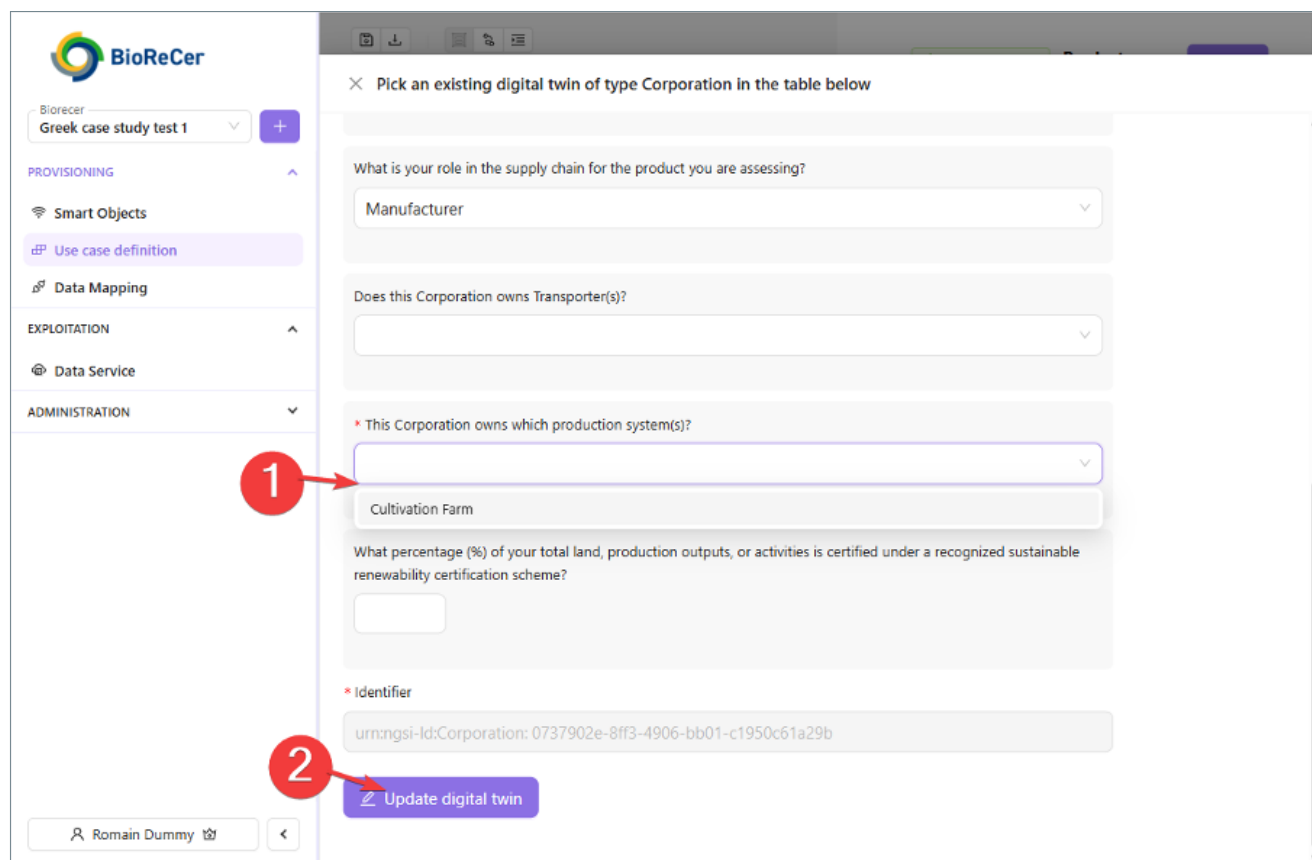


Pick an existing digital twin of type Corporation in the table below

New digital twin Pick an existing digital twin

	name	roleName	modifiedAt	certifiedRenewableShare	hasProductionSystem
Pick	abc	Processor	25/07/2025 10:18		
Pick	ANFACO-CECOPECA	Processor	06/06/2025 13:48		urn:ngsi-Id:ProductionSystem:fd
Pick	ANFACO-CECOPECA	Primary Producer	15/05/2025 18:28		
Pick	Another fishing company #2	Primary Producer	15/05/2025 18:28		
Pick	Biofertilizer company - Greek CS	Primary Producer	15/05/2025 18:28		
Pick	Biorefinery Sesto San Giovanni	Manufacturer	15/05/2025 18:28		
Pick	EDAR 1	Waste Manager	04/08/2025 08:26	10	urn:ngsi-Id:ProductionSystem:4a
Pick	Fake Corporation Farm	Primary Producer	21/05/2025 12:46	85	urn:ngsi-Id:ProductionSystem:c1
Pick	Fish oil processor	Processor	06/06/2025 13:25		urn:ngsi-Id:ProductionSystem:d5
Pick	Hggf	Primary Producer	15/05/2025 18:28		
Pick	REDcert	Waste Manager	15/05/2025 18:28		
Pick	Sanofi 2	Manufacturer	07/08/2025 09:44		urn:ngsi-Id:ProductionSystem:5c
Pick	Thau Comp	Manufacturer	07/08/2025 09:34		
Pick	VFAs industry	Processor	04/08/2025 08:39		urn:ngsi-Id:ProductionSystem:ab
Pick	viaqua	Waste Manager	15/05/2025 18:28		

And update the missing information:



✕ Pick an existing digital twin of type Corporation in the table below

What is your role in the supply chain for the product you are assessing?

Manufacturer

Does this Corporation owns Transporter(s)?

* This Corporation owns which production system(s)?

Cultivation Farm

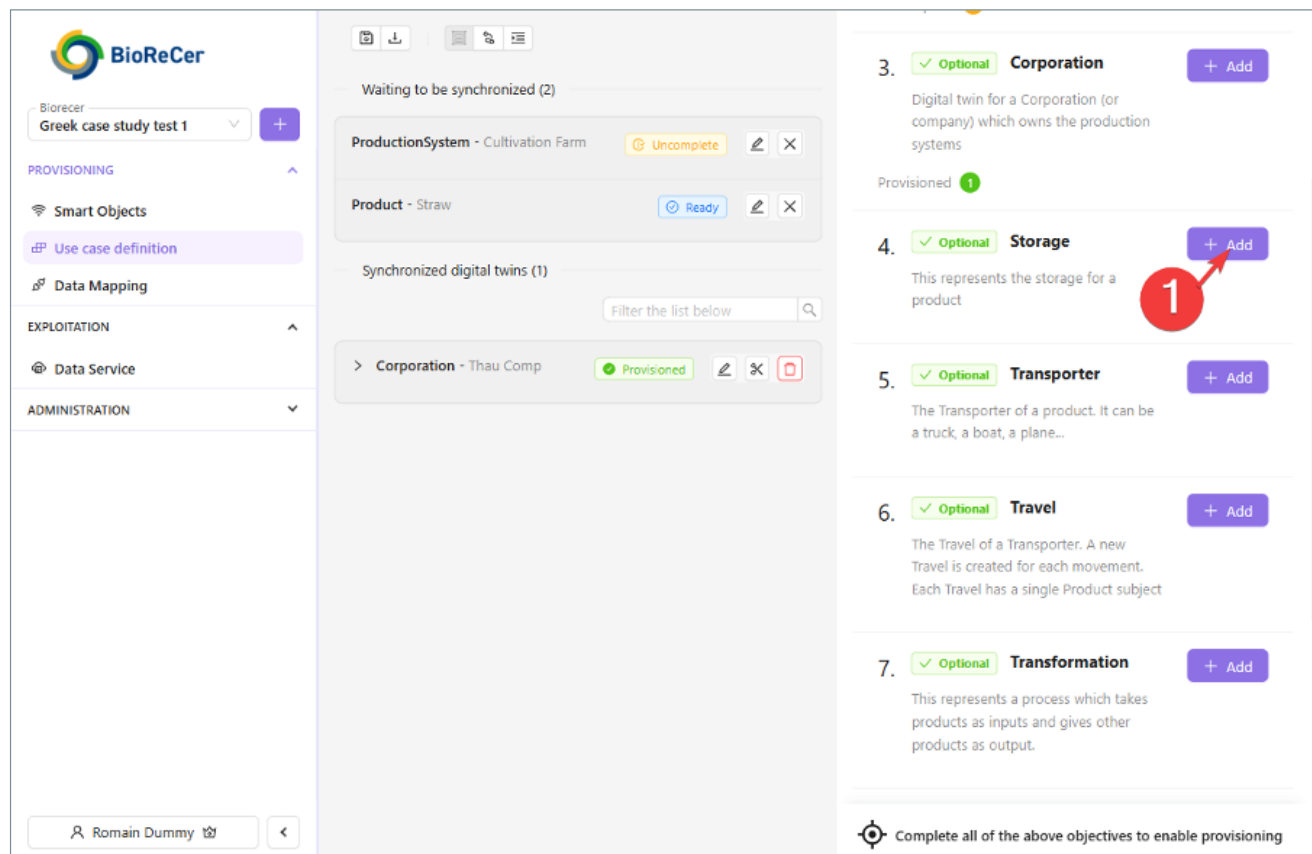
What percentage (%) of your total land, production outputs, or activities is certified under a recognized sustainable renewability certification scheme?

* Identifier

urn:ngsi-Id:Corporation: 0737902e-8ff3-4906-bb01-c1950c61a29b

Update digital twin

Add Storage information to indicate where your product batches are held. Complete storage details to track inventory and traceability along the supply chain:



Waiting to be synchronized (2)

ProductionSystem - Cultivation Farm Uncomplete

Product - Straw Ready

Synchronized digital twins (1)

Filter the list below

> Corporation - Thau Comp Provisioned

3. **Optional Corporation** + Add

Digital twin for a Corporation (or company) which owns the production systems

Provisioned 1

4. **Optional Storage** + Add

This represents the storage for a product

5. **Optional Transporter** + Add

The Transporter of a product. It can be a truck, a boat, a plane...

6. **Optional Travel** + Add

The Travel of a Transporter. A new Travel is created for each movement. Each Travel has a single Product subject

7. **Optional Transformation** + Add

This represents a process which takes products as inputs and gives other products as output.

Complete all of the above objectives to enable provisioning


BioReCer

Biorecer
Greek case study test 1

PROVISIONING

Smart Objects

Use case definition

Data Mapping

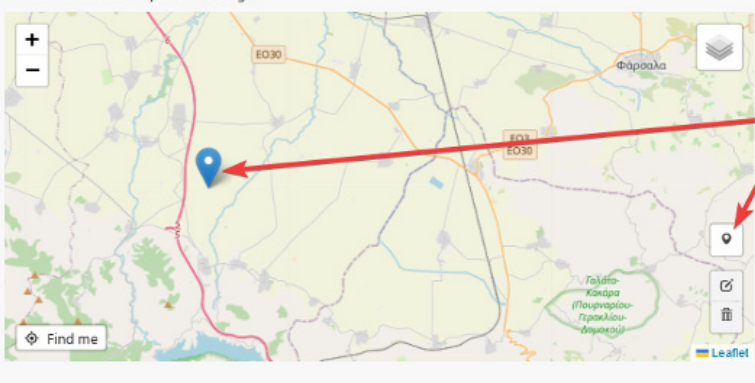
EXPLOITATION

Data Service

ADMINISTRATION

X Prepare a new digital twin of type: Storage

Name of the Storage
Warehouse

Where is located the place of Storage?


Identifier
urn:ngsi-Id:Storage: f027bd1d-0cba-47f4-89b3-d47bd4fa30bc

Ready submit

Define the Transporter entity representing vehicles or modes of transportation moving your product:


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PROVISIONING

Smart Objects

Use case definition

Data Mapping

EXPLOITATION

Data Service

ADMINISTRATION

Waiting to be synchronized (3)

ProductionSystem - Cultivation Farm

Product - Straw

Storage - Warehouse

Synchronized digital twins (1)

Corporation - Thau Comp

3. Optional Corporation

Digital twin for a Corporation (or company) which owns the production systems

Provisioned 1

4. Optional Storage

This represents the storage for a product

Ready 1

5. Optional Transporter

The Transporter of a product. It can be a truck, a boat, a plane...

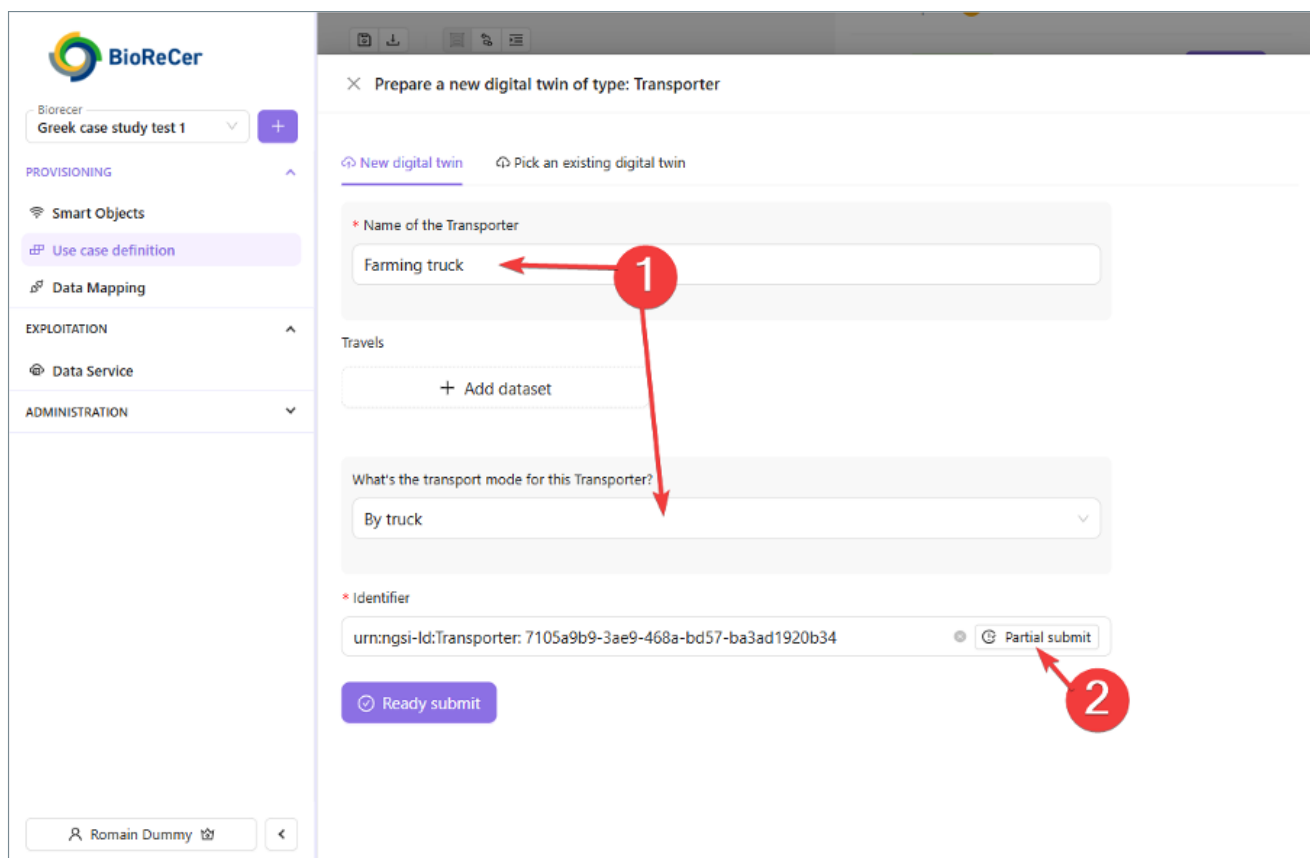
6. Optional Travel

The Travel of a Transporter. A new Travel is created for each movement. Each Travel has a single Product subject

7. Optional Transformation

This represents a process which takes products as inputs and gives other products as output.

Provide transport mode and vehicle details to enable carbon footprint estimation and tracking of products in transit. Then click on “Partial submit” so we know we have to come back later and add Travels:



BioReCer

Biorecer
Greek case study test 1

PROVISIONING

- Smart Objects
- Use case definition
- Data Mapping

EXPLOITATION

- Data Service

ADMINISTRATION

Romain Dummy

Prepare a new digital twin of type: Transporter

New digital twin | Pick an existing digital twin

* Name of the Transporter
Farming truck

Travels
+ Add dataset

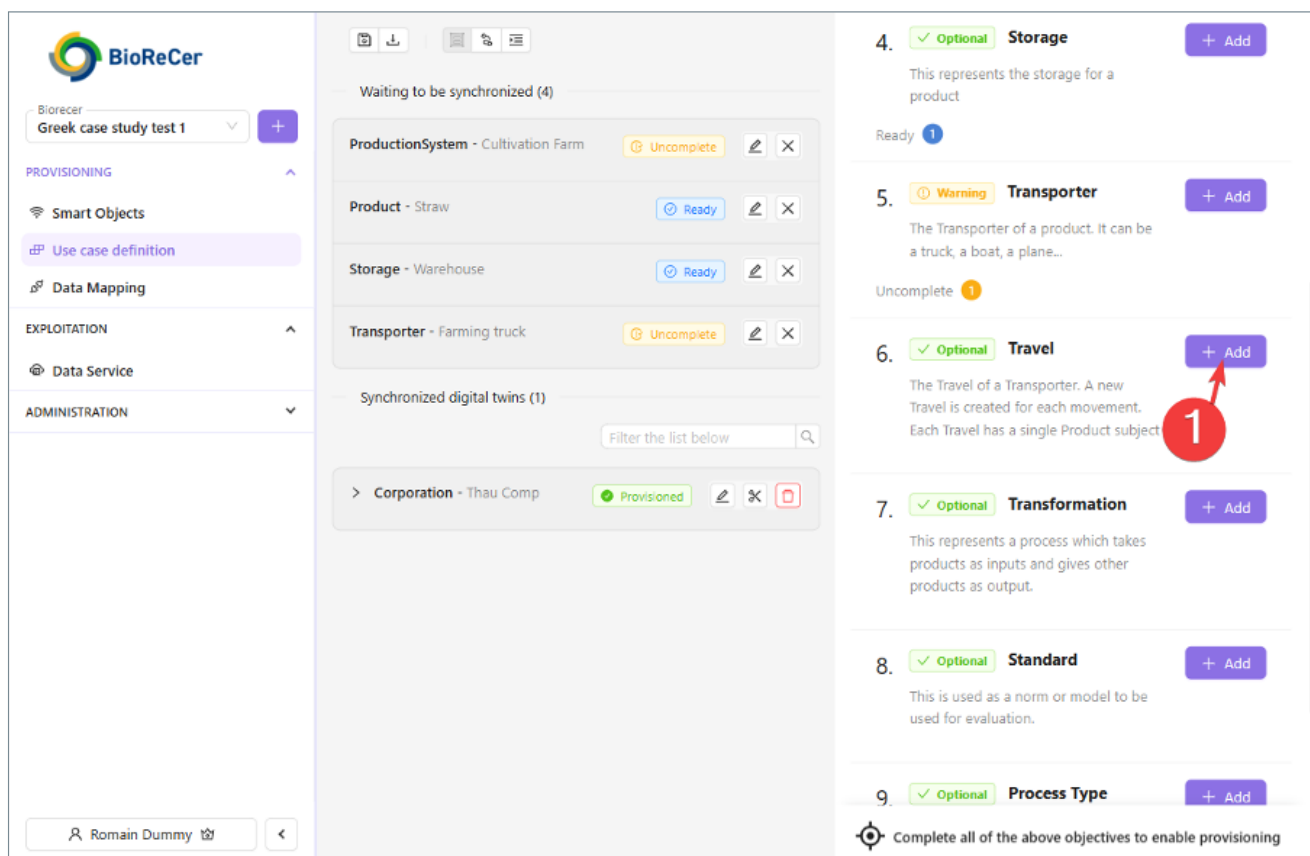
What's the transport mode for this Transporter?
By truck

* Identifier
urn:ngsi-Id:Transporter: 7105a9b9-3ae9-468a-bd57-ba3ad1920b34

Partial submit

Ready submit

Create Travel entities representing transport journeys of products by a transporter. A travel records the movement of product batches, enabling traceability and emissions calculation for transportation.



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Greek case study test 1

PROVISIONING

- Smart Objects
- Use case definition
- Data Mapping

EXPLOITATION

- Data Service

ADMINISTRATION

Romain Dummy

Waiting to be synchronized (4)

- ProductionSystem - Cultivation Farm (Uncomplete)
- Product - Straw (Ready)
- Storage - Warehouse (Ready)
- Transporter - Farming truck (Uncomplete)

Synchronized digital twins (1)

Filter the list below

- Corporation - Thau Comp (Provisioned)

4. Optional Storage + Add
This represents the storage for a product
Ready 1

5. Warning Transporter + Add
The Transporter of a product. It can be a truck, a boat, a plane...
Uncomplete 1

6. Optional Travel + Add
The Travel of a Transporter. A new Travel is created for each movement. Each Travel has a single Product subject

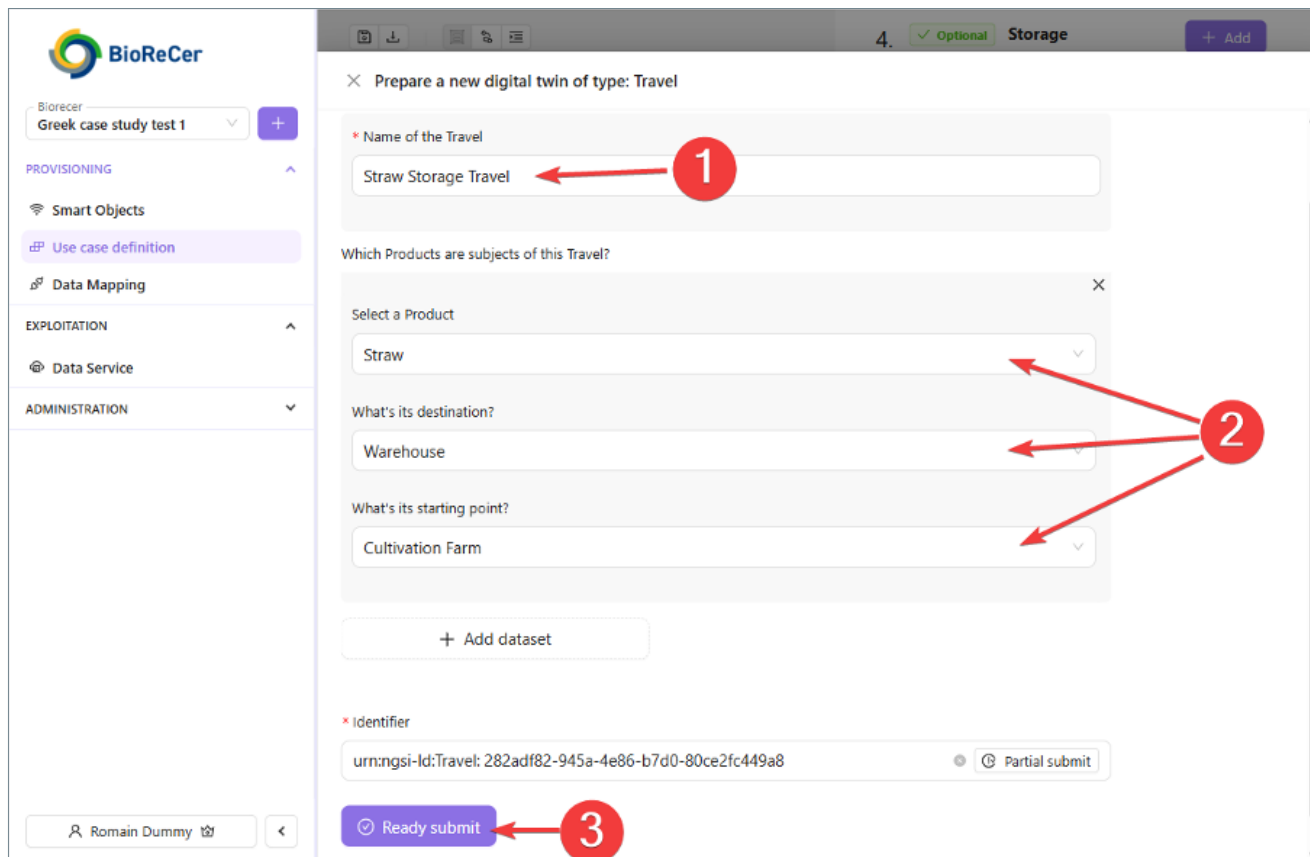
7. Optional Transformation + Add
This represents a process which takes products as inputs and gives other products as output.

8. Optional Standard + Add
This is used as a norm or model to be used for evaluation.

9. Optional Process Type + Add

Complete all of the above objectives to enable provisioning

A “Travel” is defined with a starting point and a destination which are either a Production system or a Storage entity.
A Travel can have multiple product subjects:



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Biorecer
Greek case study test 1

PROVISIONING

- Smart Objects
- Use case definition
- Data Mapping

EXPLOITATION

- Data Service

ADMINISTRATION

Romain Dummy

4. **Optional** Storage + Add

× Prepare a new digital twin of type: Travel

* Name of the Travel
Straw Storage Travel

Which Products are subjects of this Travel?

Select a Product
Straw

What's its destination?
Warehouse

What's its starting point?
Cultivation Farm

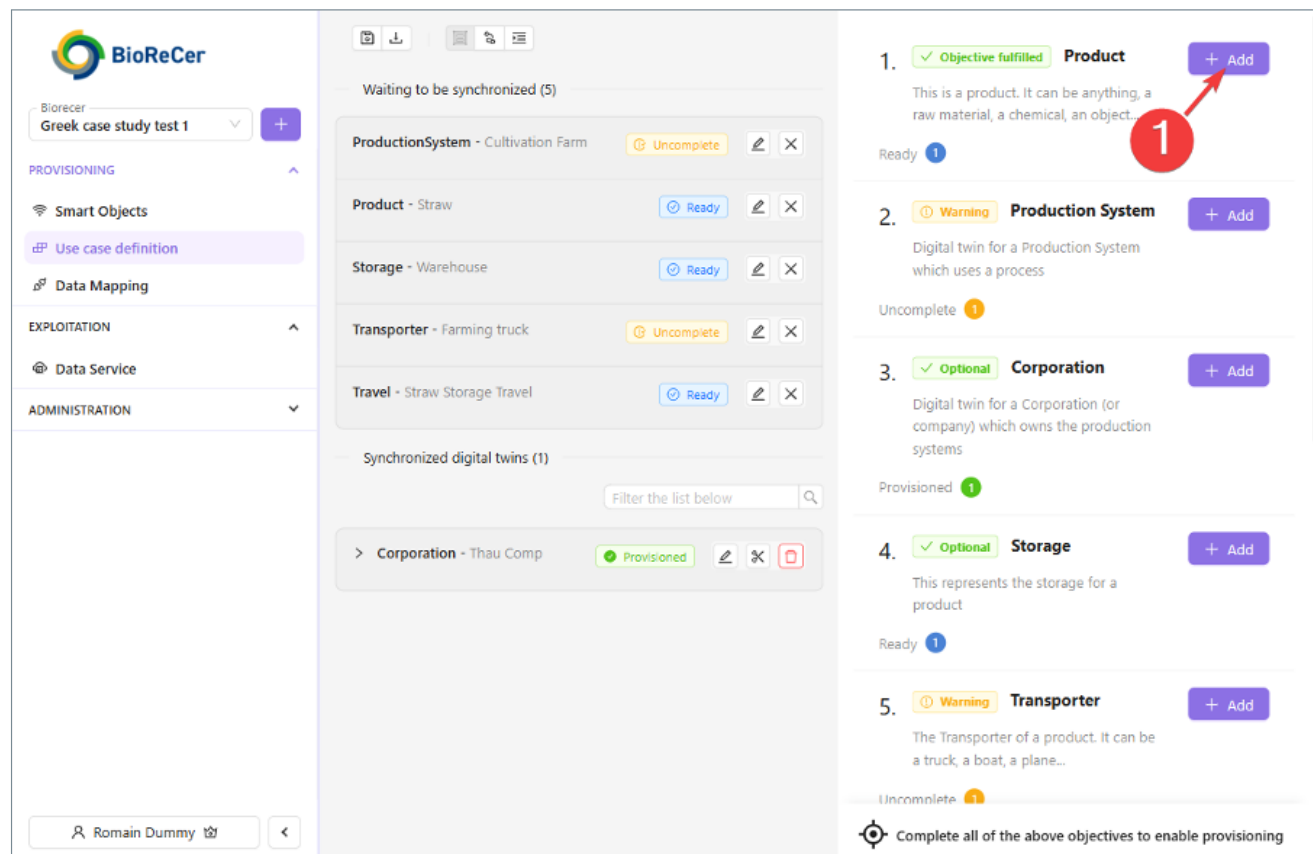
+ Add dataset

* Identifier
urn:ngsi-Id:Travel: 282adf82-945a-4e86-b7d0-80ce2fc449a8

Partial submit

Ready submit

Now we are adding another Product which is used as input for the Transformation:



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PROVISIONING

- Smart Objects
- Use case definition
- Data Mapping

EXPLOITATION

- Data Service

ADMINISTRATION

Romain Dummy

Waiting to be synchronized (5)

- ProductionSystem - Cultivation Farm Uncomplete
- Product - Straw Ready
- Storage - Warehouse Ready
- Transporter - Farming truck Uncomplete
- Travel - Straw Storage Travel Ready

Synchronized digital twins (1)

Filter the list below

- > Corporation - Thau Comp Provisioned

1. **Objective fulfilled** Product + Add
This is a product. It can be anything, a raw material, a chemical, an object...
Ready 1

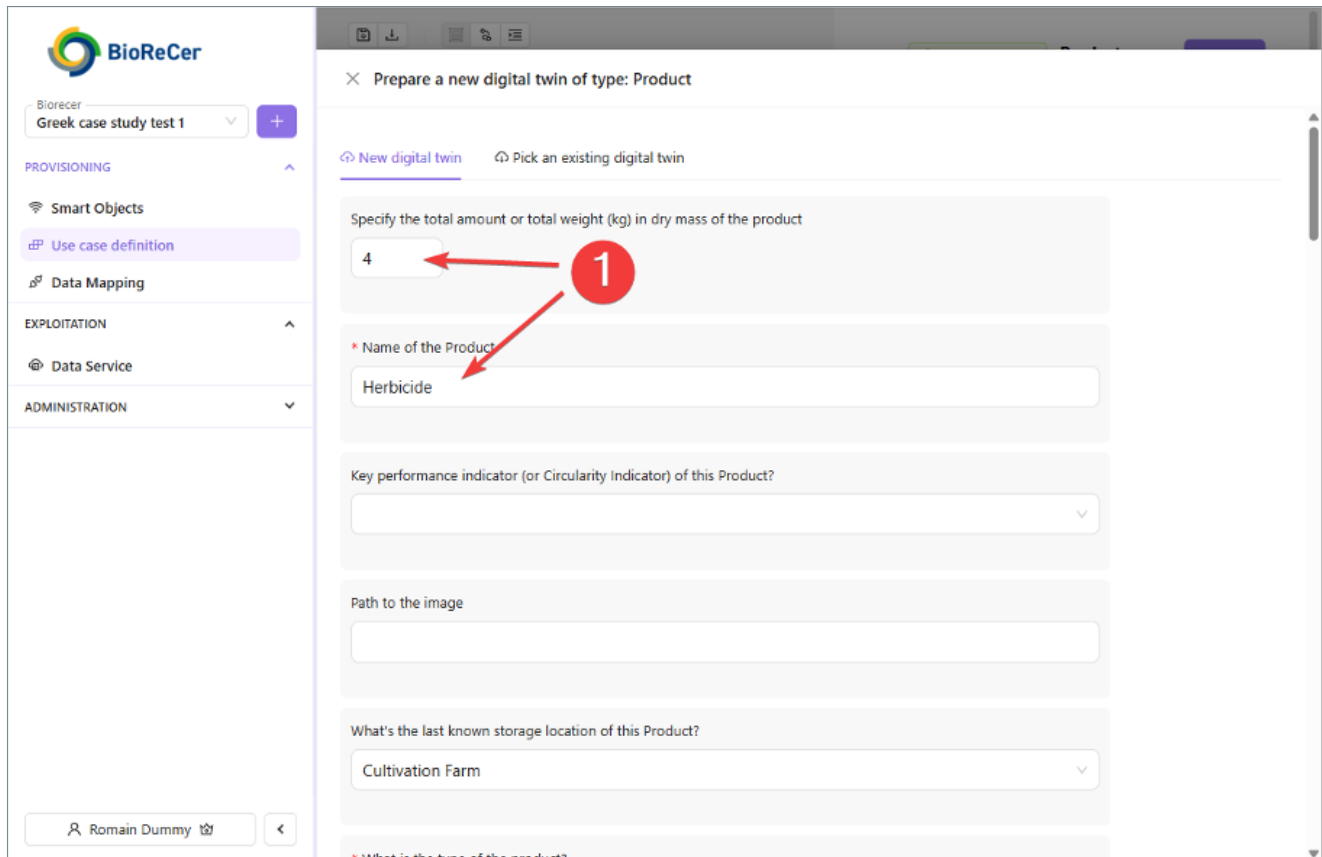
2. **Warning** Production System + Add
Digital twin for a Production System which uses a process
Uncomplete 1

3. **Optional** Corporation + Add
Digital twin for a Corporation (or company) which owns the production systems
Provisioned 1

4. **Optional** Storage + Add
This represents the storage for a product
Ready 1

5. **Warning** Transporter + Add
The Transporter of a product. It can be a truck, a boat, a plane...
Uncomplete 1

Complete all of the above objectives to enable provisioning



BioReCer

Biorecer
Greek case study test 1

PROVISIONING

- Smart Objects
- Use case definition**
- Data Mapping

EXPLOITATION

- Data Service

ADMINISTRATION

Romain Dummy

Prepare a new digital twin of type: Product

[New digital twin](#) [Pick an existing digital twin](#)

Specify the total amount or total weight (kg) in dry mass of the product

4

Name of the Product

Herbicide

Key performance indicator (or Circularity Indicator) of this Product?

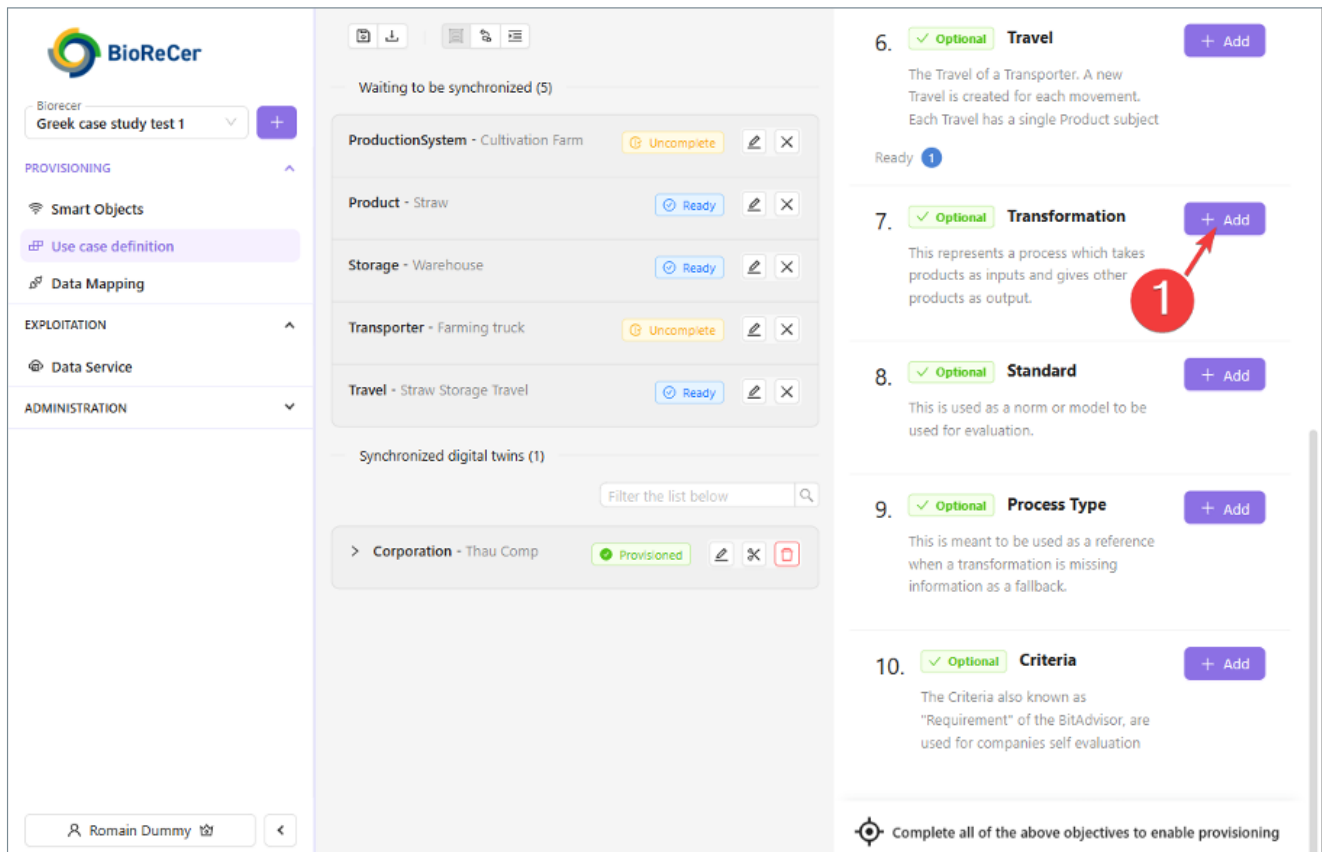
Path to the image

What's the last known storage location of this Product?

Cultivation Farm

What is the type of the product?

Add a Transformation where products are converted into new forms or outputs:



BioReCer

Biorecer
Greek case study test 1

PROVISIONING

- Smart Objects
- Use case definition**
- Data Mapping

EXPLOITATION

- Data Service

ADMINISTRATION

Romain Dummy

Waiting to be synchronized (5)

Entity	Status	Actions
ProductionSystem - Cultivation Farm	Uncomplete	✎ ✕
Product - Straw	Ready	✎ ✕
Storage - Warehouse	Ready	✎ ✕
Transporter - Farming truck	Uncomplete	✎ ✕
Travel - Straw Storage Travel	Ready	✎ ✕

Synchronized digital twins (1)

Filter the list below

Entity	Status	Actions
Corporation - Thau Comp	Provisioned	✎ ✕ 🗑

6. Optional Travel [+ Add](#)

The Travel of a Transporter. A new Travel is created for each movement. Each Travel has a single Product subject.

Ready 1

7. Optional Transformation [+ Add](#)

This represents a process which takes products as inputs and gives other products as output.

8. Optional Standard [+ Add](#)

This is used as a norm or model to be used for evaluation.

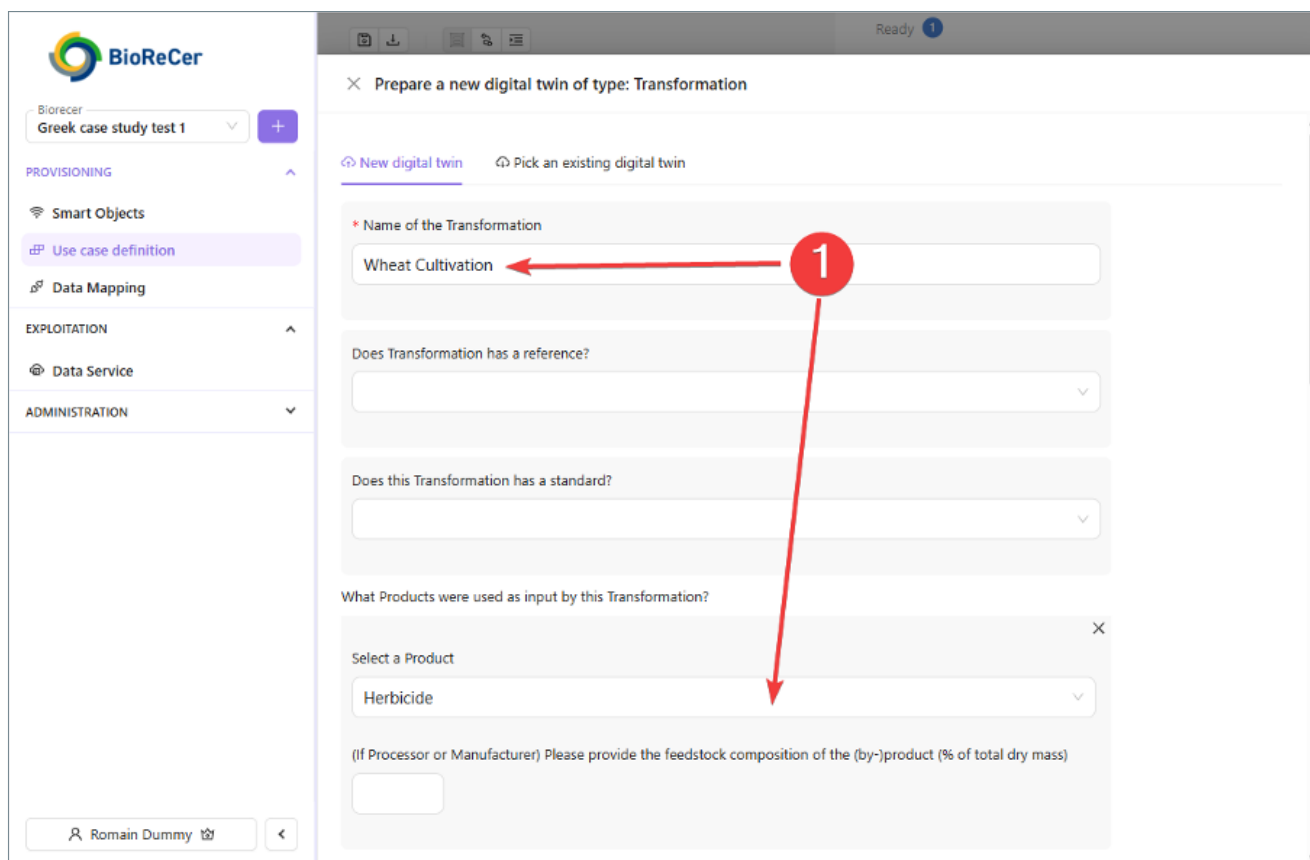
9. Optional Process Type [+ Add](#)

This is meant to be used as a reference when a transformation is missing information as a fallback.

10. Optional Criteria [+ Add](#)

The Criteria also known as "Requirement" of the BitAdvisor, are used for companies self evaluation.

Complete all of the above objectives to enable provisioning



BioReCer

Biorecer
Greek case study test 1

PROVISIONING

- Smart Objects
- Use case definition
- Data Mapping

EXPLOITATION

- Data Service

ADMINISTRATION

Romain Dummy

Prepare a new digital twin of type: Transformation

New digital twin | Pick an existing digital twin

* Name of the Transformation
Wheat Cultivation

Does Transformation has a reference?
[Dropdown]

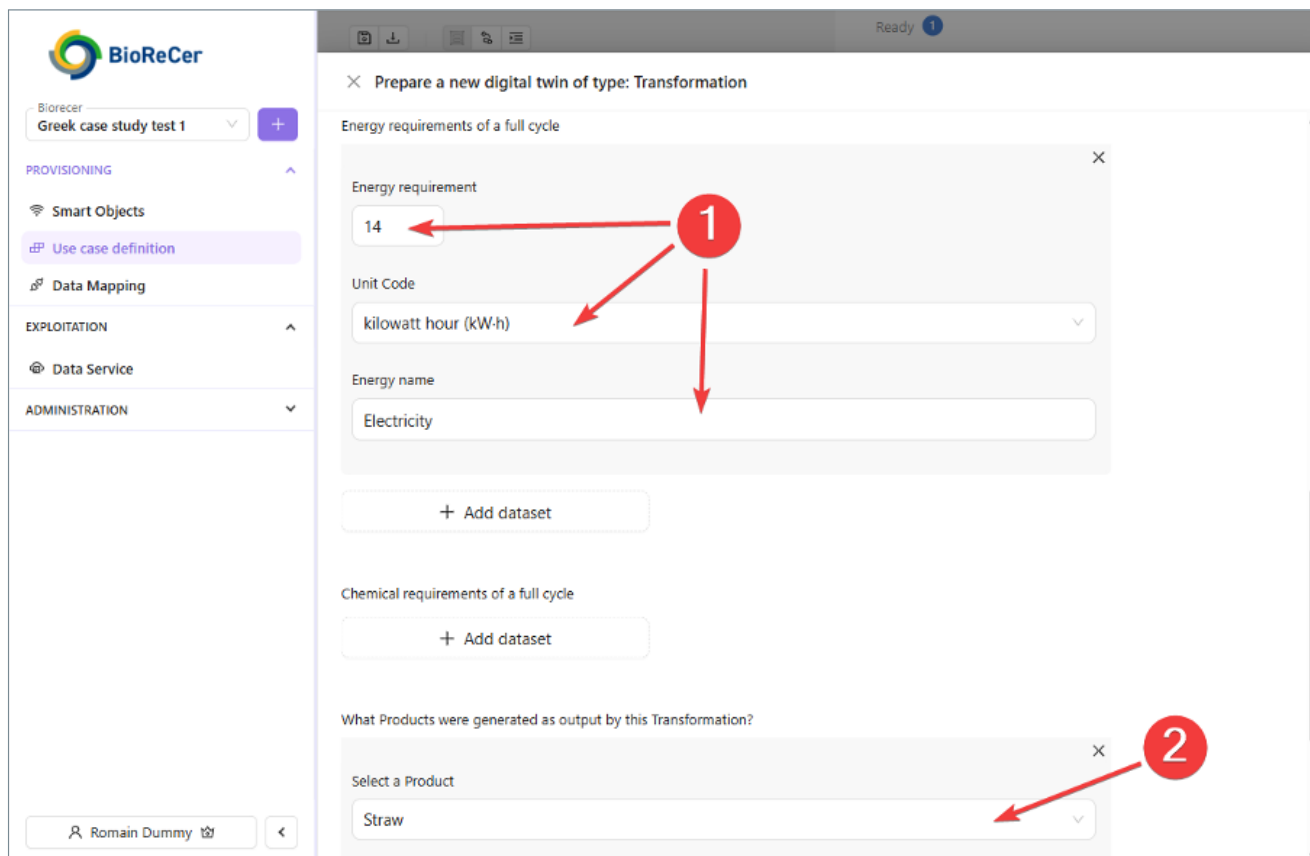
Does this Transformation has a standard?
[Dropdown]

What Products were used as input by this Transformation?

Select a Product
Herbicide

(If Processor or Manufacturer) Please provide the feedstock composition of the (by-)product (% of total dry mass)
[Text input]

We select the input product, specify the energy requirements, then select the output product:



BioReCer

Biorecer
Greek case study test 1

PROVISIONING

- Smart Objects
- Use case definition
- Data Mapping

EXPLOITATION

- Data Service

ADMINISTRATION

Romain Dummy

Prepare a new digital twin of type: Transformation

Energy requirements of a full cycle

Energy requirement
14

Unit Code
kilowatt hour (kW-h)

Energy name
Electricity

+ Add dataset

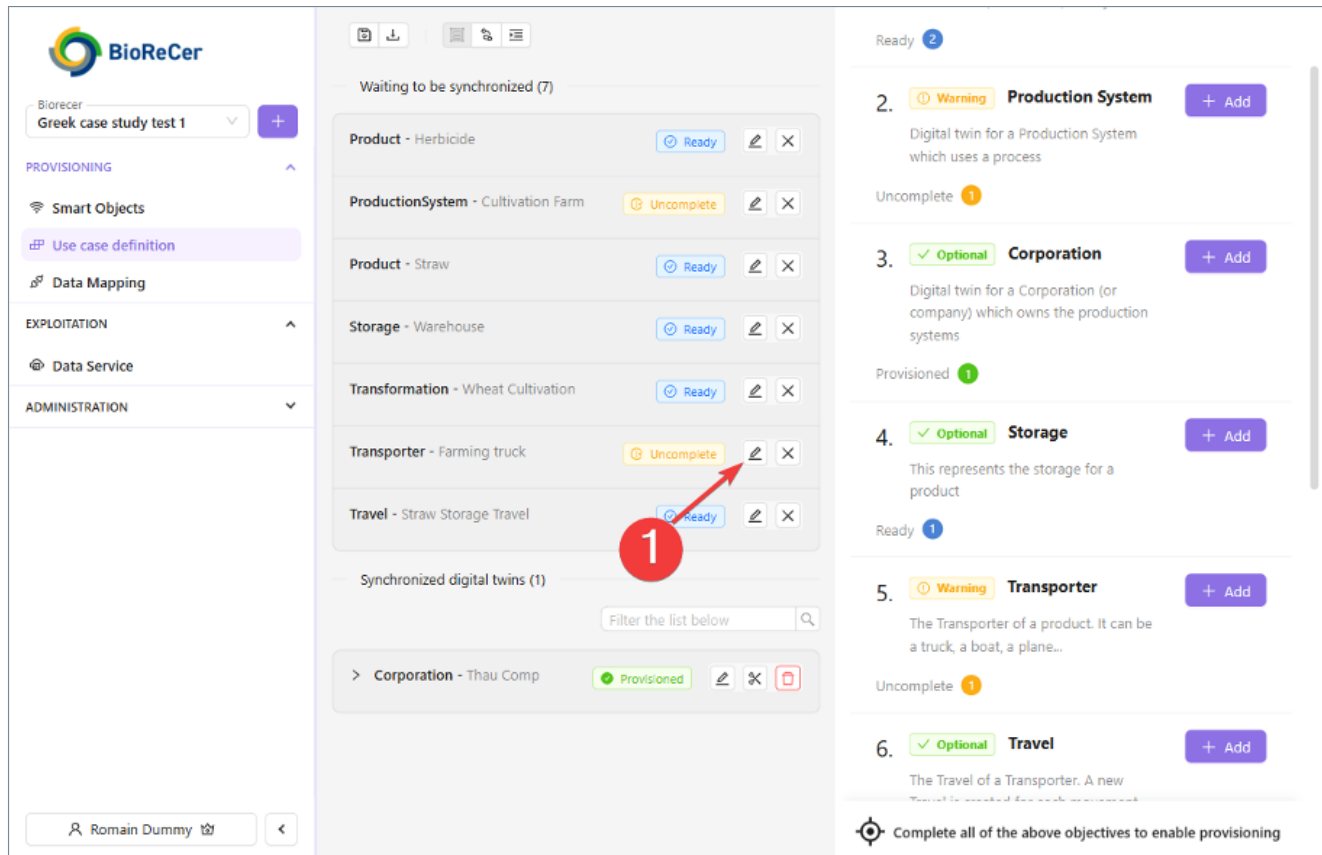
Chemical requirements of a full cycle

+ Add dataset

What Products were generated as output by this Transformation?

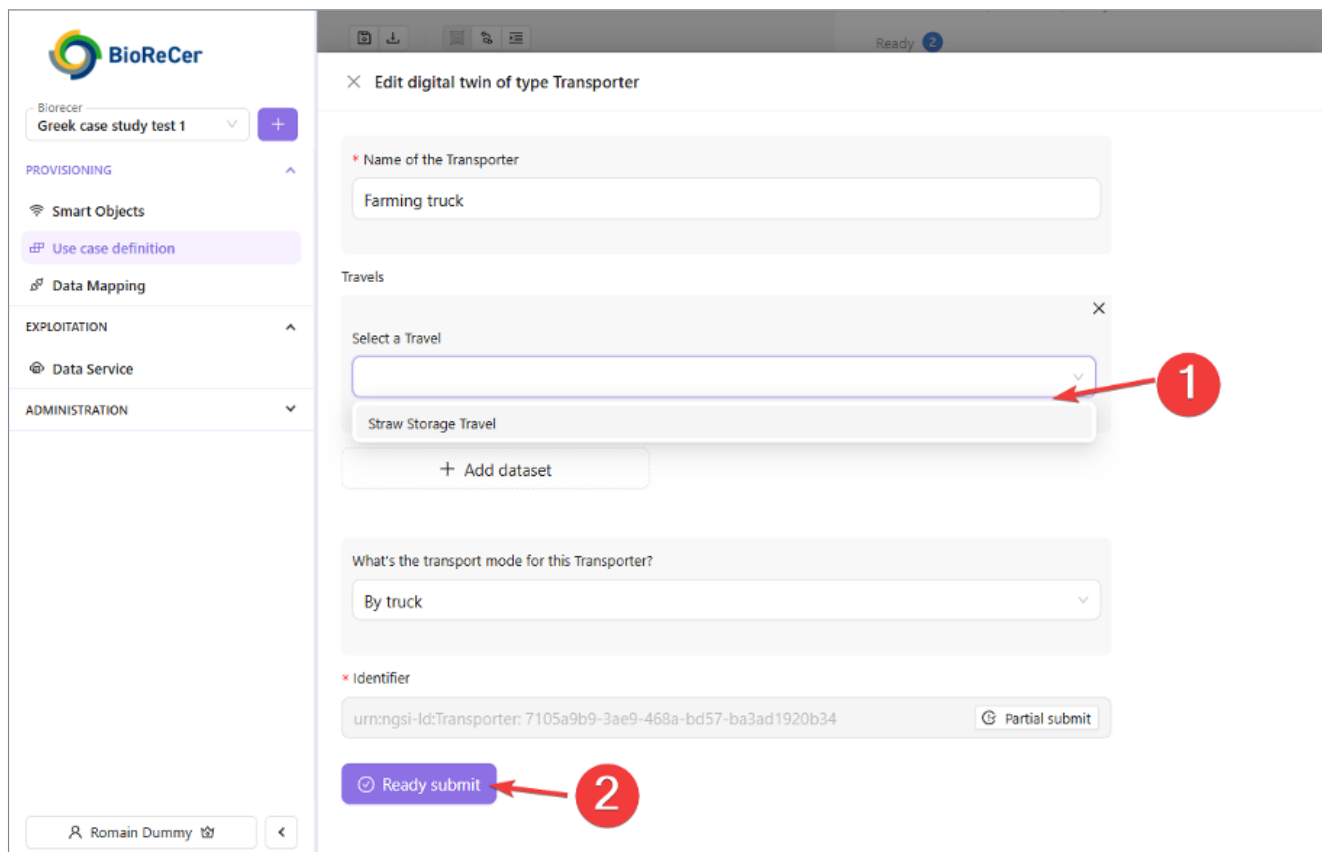
Select a Product
Straw

Time to go back and edit the Transporter:



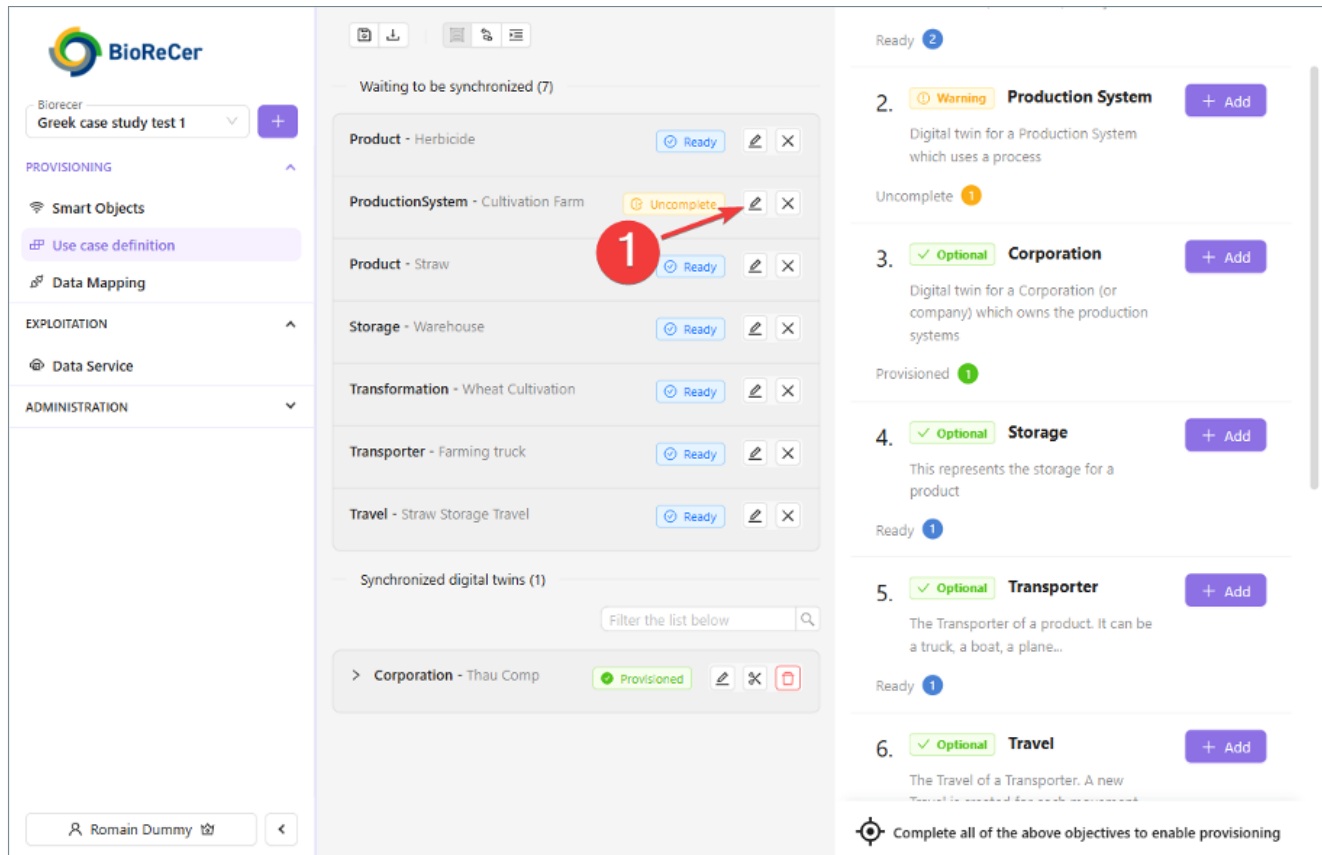
The screenshot shows the BioReCer dashboard. On the left is a sidebar with navigation options: PROVISIONING (Smart Objects, Use case definition, Data Mapping), EXPLOITATION (Data Service), and ADMINISTRATION. The main area is titled 'Waiting to be synchronized (7)' and lists several digital twins: Product - Herbicide (Ready), ProductionSystem - Cultivation Farm (Uncomplete), Product - Straw (Ready), Storage - Warehouse (Ready), Transformation - Wheat Cultivation (Ready), Transporter - Farming truck (Uncomplete), and Travel - Straw Storage Travel (Ready). A red circle with the number 1 points to the 'Transporter - Farming truck' entry. Below this is a section for 'Synchronized digital twins (1)' showing 'Corporation - Thau Comp' (Provisioned). On the right, a sidebar lists objectives: 2. Warning Production System (Add), 3. Optional Corporation (Add), 4. Optional Storage (Add), 5. Warning Transporter (Add), and 6. Optional Travel (Add). At the bottom, it says 'Complete all of the above objectives to enable provisioning'.

Add the Travel we've created before:

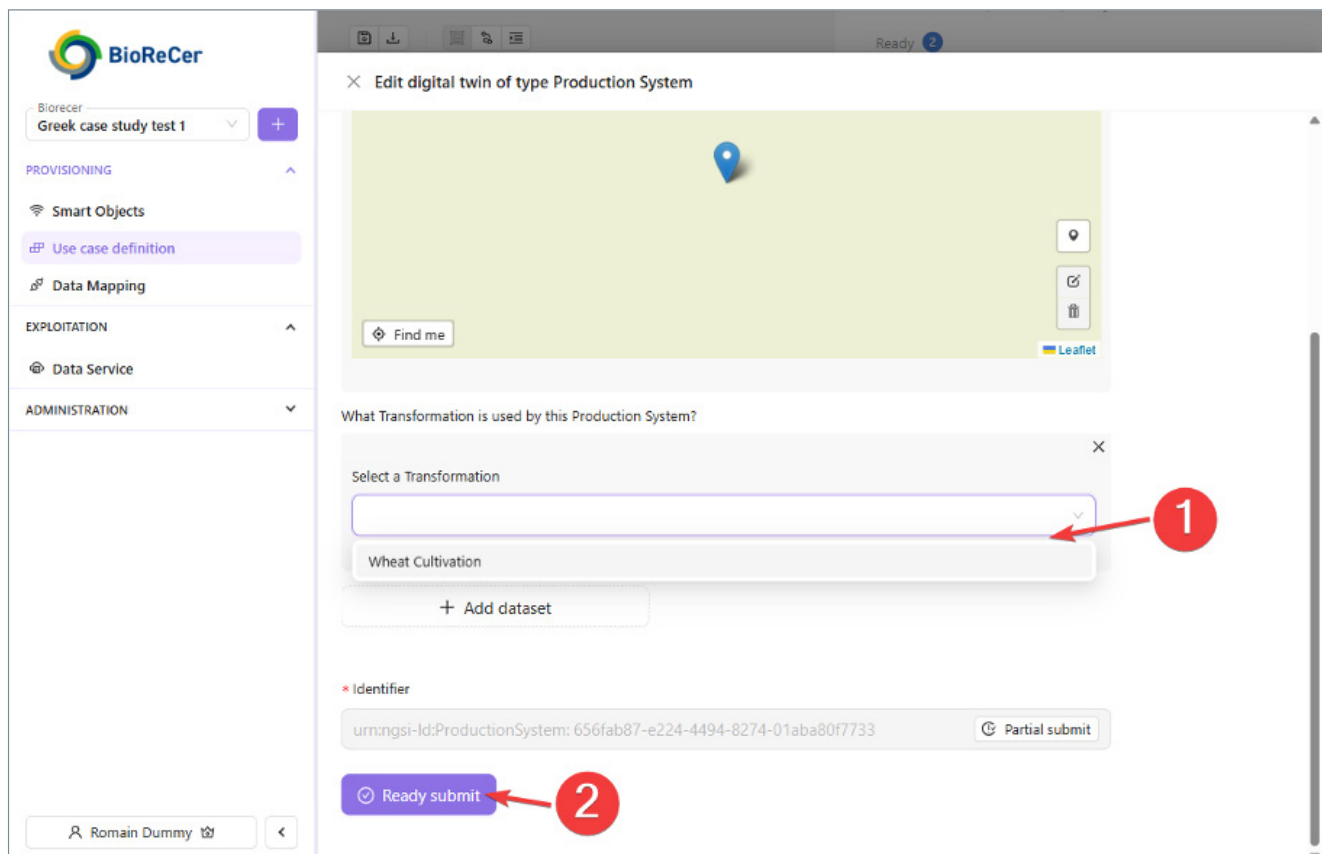


The screenshot shows the 'Edit digital twin of type Transporter' form. It has a title bar 'X Edit digital twin of type Transporter'. The form contains: a 'Name of the Transporter' field with 'Farming truck'; a 'Travels' section with a 'Select a Travel' dropdown menu showing 'Straw Storage Travel' (indicated by a red circle with the number 1); a 'What's the transport mode for this Transporter?' dropdown menu with 'By truck'; and an 'Identifier' field with the value 'urn:ngsi-Id:Transporter: 7105a9b9-3ae9-468a-bd57-ba3ad1920b34'. At the bottom, there is a 'Ready submit' button (indicated by a red circle with the number 2) and a 'Partial submit' button.

And now go back and edit the Production system to add the Transformation:

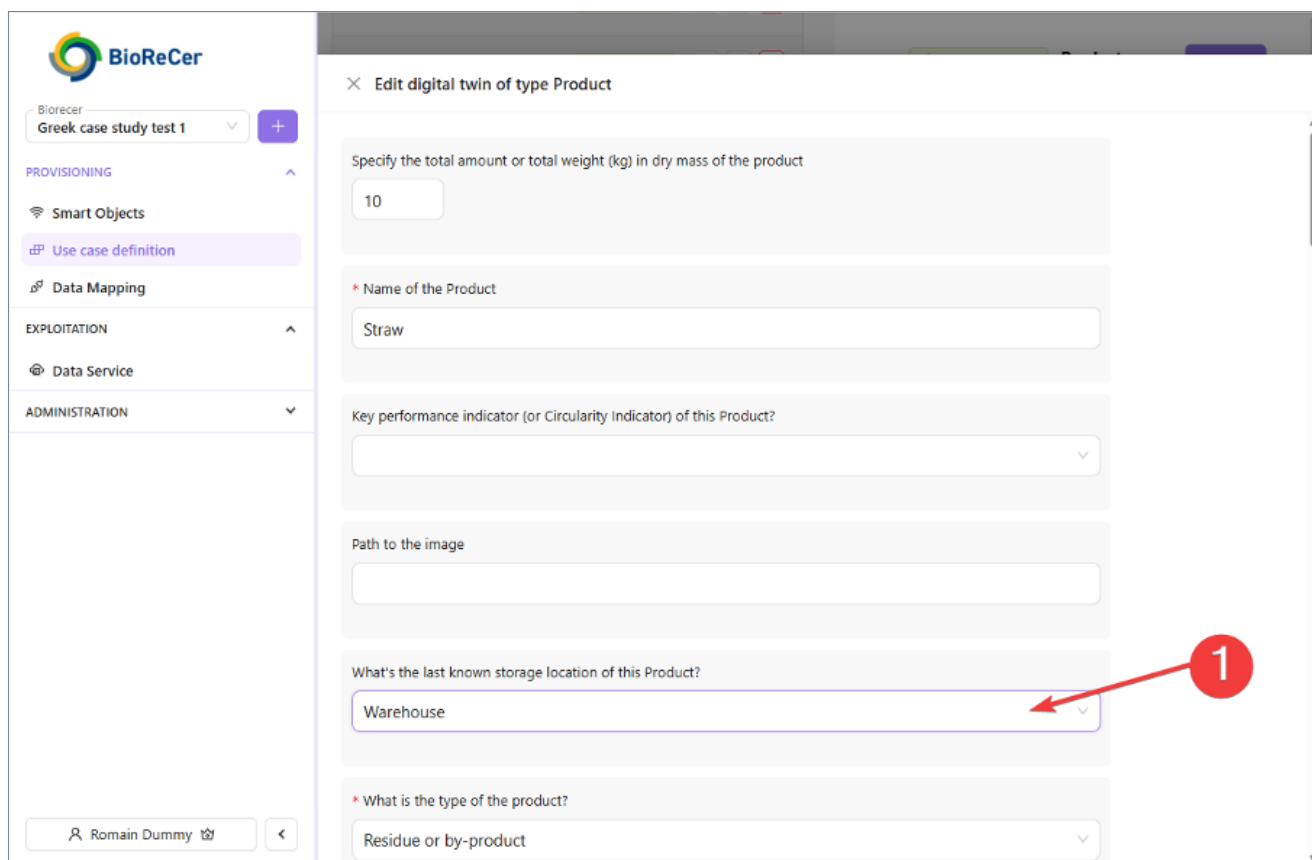


The screenshot shows the BioReCer dashboard with a sidebar on the left containing sections: PROVISIONING (Smart Objects, Use case definition, Data Mapping), EXPLOITATION (Data Service), and ADMINISTRATION. The main area displays a list of digital twins. Under 'Waiting to be synchronized (7)', there are items like 'Product - Herbicide' (Ready), 'ProductionSystem - Cultivation Farm' (Uncomplete, highlighted with a red circle and arrow labeled '1'), 'Product - Straw' (Ready), 'Storage - Warehouse' (Ready), 'Transformation - Wheat Cultivation' (Ready), 'Transporter - Farming truck' (Ready), and 'Travel - Straw Storage Travel' (Ready). Below this, under 'Synchronized digital twins (1)', is 'Corporation - Thau Comp' (Provisioned). On the right, a list of objectives is shown: 2. Warning Production System (Add), 3. Optional Corporation (Add), 4. Optional Storage (Add), 5. Optional Transporter (Add), and 6. Optional Travel (Add). A note at the bottom says 'Complete all of the above objectives to enable provisioning'.



The screenshot shows the 'Edit digital twin of type Production System' form. At the top, there's a map area with a 'Find me' button and a 'Leaflet' logo. Below the map, the question 'What Transformation is used by this Production System?' is asked. A dropdown menu 'Select a Transformation' is open, showing 'Wheat Cultivation' as the selected option, highlighted with a red circle and arrow labeled '1'. Below the dropdown is a '+ Add dataset' button. Further down, the 'Identifier' field is populated with 'urn:ngsi-Id:ProductionSystem: 656fab87-e224-4494-8274-01aba80f7733' and has a 'Partial submit' button. At the bottom, there is a 'Ready submit' button, highlighted with a red circle and arrow labeled '2'.

Don't forget to add the "Last known storage location" information on your products so they can be localized later on the BIT map module:



× Edit digital twin of type Product

Specify the total amount or total weight (kg) in dry mass of the product

10

* Name of the Product

Straw

Key performance indicator (or Circularity Indicator) of this Product?

Path to the image

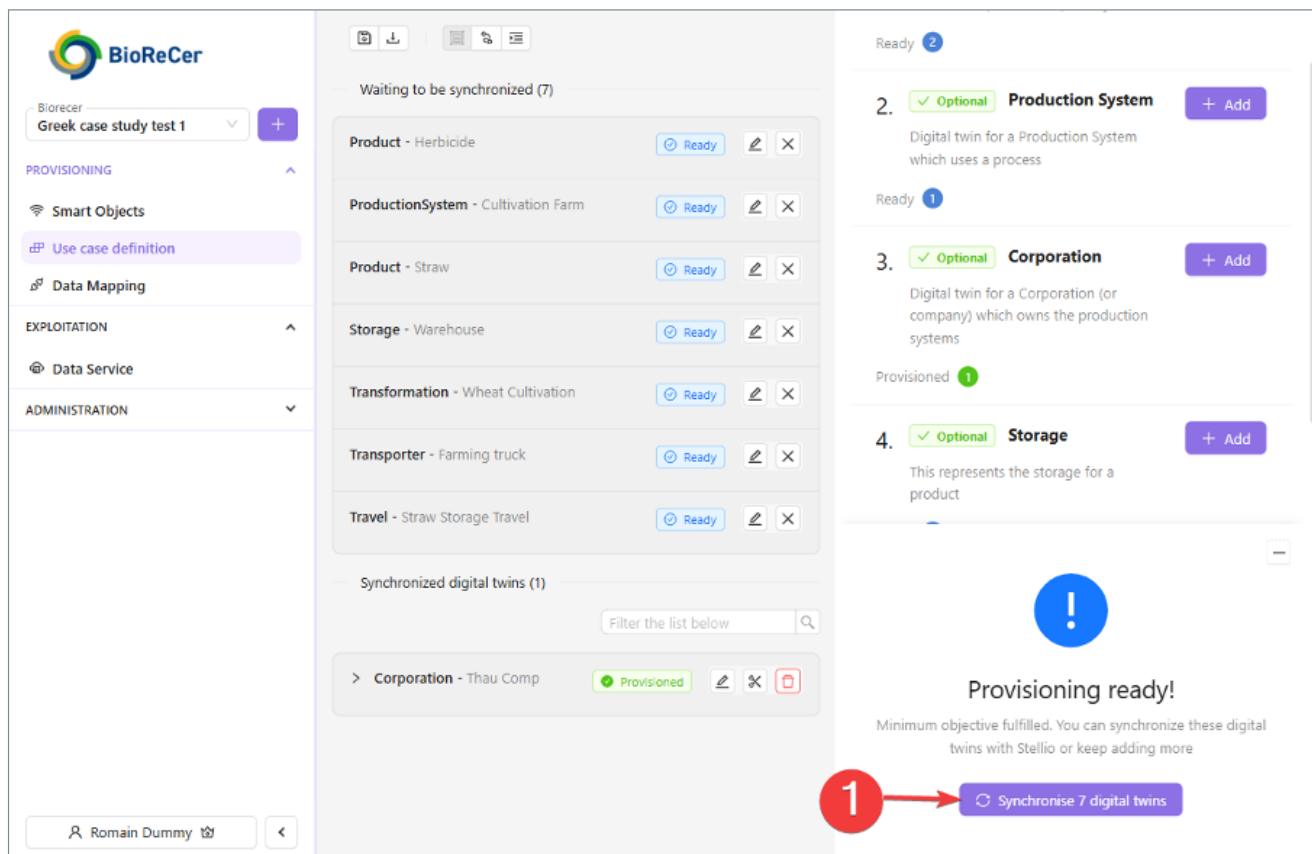
What's the last known storage location of this Product?

Warehouse

* What is the type of the product?

Residue or by-product

Now don't forget to synchronize all your data with the database:



BioReCer

Greek case study test 1

PROVISIONING

Smart Objects

Use case definition

Data Mapping

EXPLOITATION

Data Service

ADMINISTRATION

Romain Dummy

Waiting to be synchronized (7)

Product - Herbicide

Ready

ProductionSystem - Cultivation Farm

Ready

Product - Straw

Ready

Storage - Warehouse

Ready

Transformation - Wheat Cultivation

Ready

Transporter - Farming truck

Ready

Travel - Straw Storage Travel

Ready

Synchronized digital twins (1)

Filter the list below

> Corporation - Thau Comp

Provisioned

Ready 2

2. **Optional** Production System

Digital twin for a Production System which uses a process

Ready 1

3. **Optional** Corporation

Digital twin for a Corporation (or company) which owns the production systems

Provisioned 1

4. **Optional** Storage

This represents the storage for a product

!

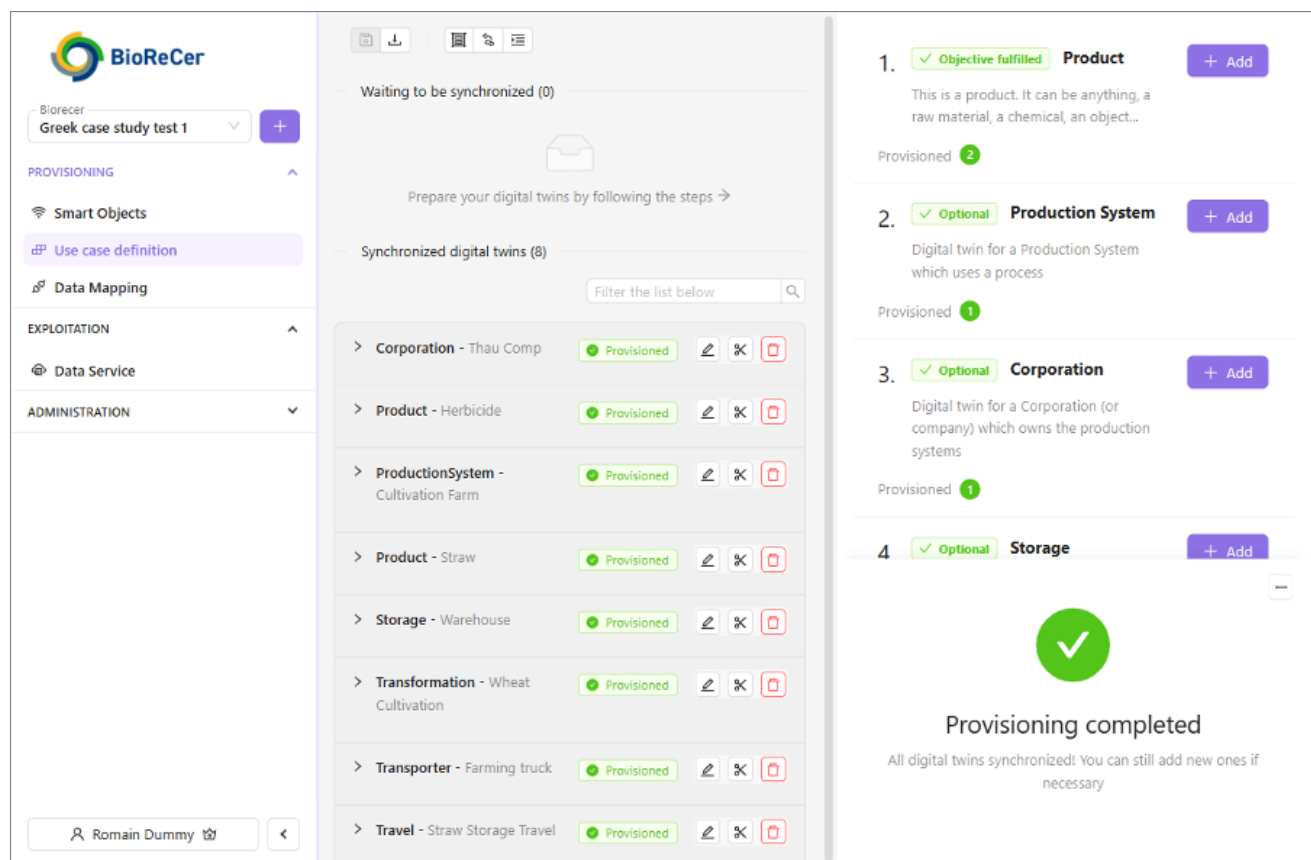
Provisioning ready!

Minimum objective fulfilled. You can synchronize these digital twins with Stello or keep adding more

1

Synchronise 7 digital twins

That's it!



The screenshot displays the BioReCer web application interface. On the left is a sidebar menu with sections: PROVISIONING (containing Smart Objects, Use case definition, and Data Mapping), EXPLOITATION (containing Data Service), and ADMINISTRATION. The main content area is divided into three panels. The top panel shows 'Waiting to be synchronized (0)' with a folder icon and instructions to 'Prepare your digital twins by following the steps →'. The middle panel, titled 'Synchronized digital twins (8)', lists eight items, each with a 'Provisioned' status and icons for edit, delete, and add: Corporation - Thau Comp, Product - Herbicide, ProductionSystem - Cultivation Farm, Product - Straw, Storage - Warehouse, Transformation - Wheat Cultivation, Transporter - Farming truck, and Travel - Straw Storage Travel. The right panel shows a step-by-step provisioning checklist: 1. Objective fulfilled Product (2), 2. Optional Production System (1), 3. Optional Corporation (1), and 4. Optional Storage. At the bottom of this panel, a large green checkmark icon is displayed above the text 'Provisioning completed' and a note: 'All digital twins synchronized! You can still add new ones if necessary'.

Now you can go back to the BIT app (<https://biorecer-ict-staging.stellio.io/auth/search>) and check if your products data are correctly showing on the map. In the product passport you can see the CO2 emissions generated, the calculated circularity indicators (if all required information is present), etc.

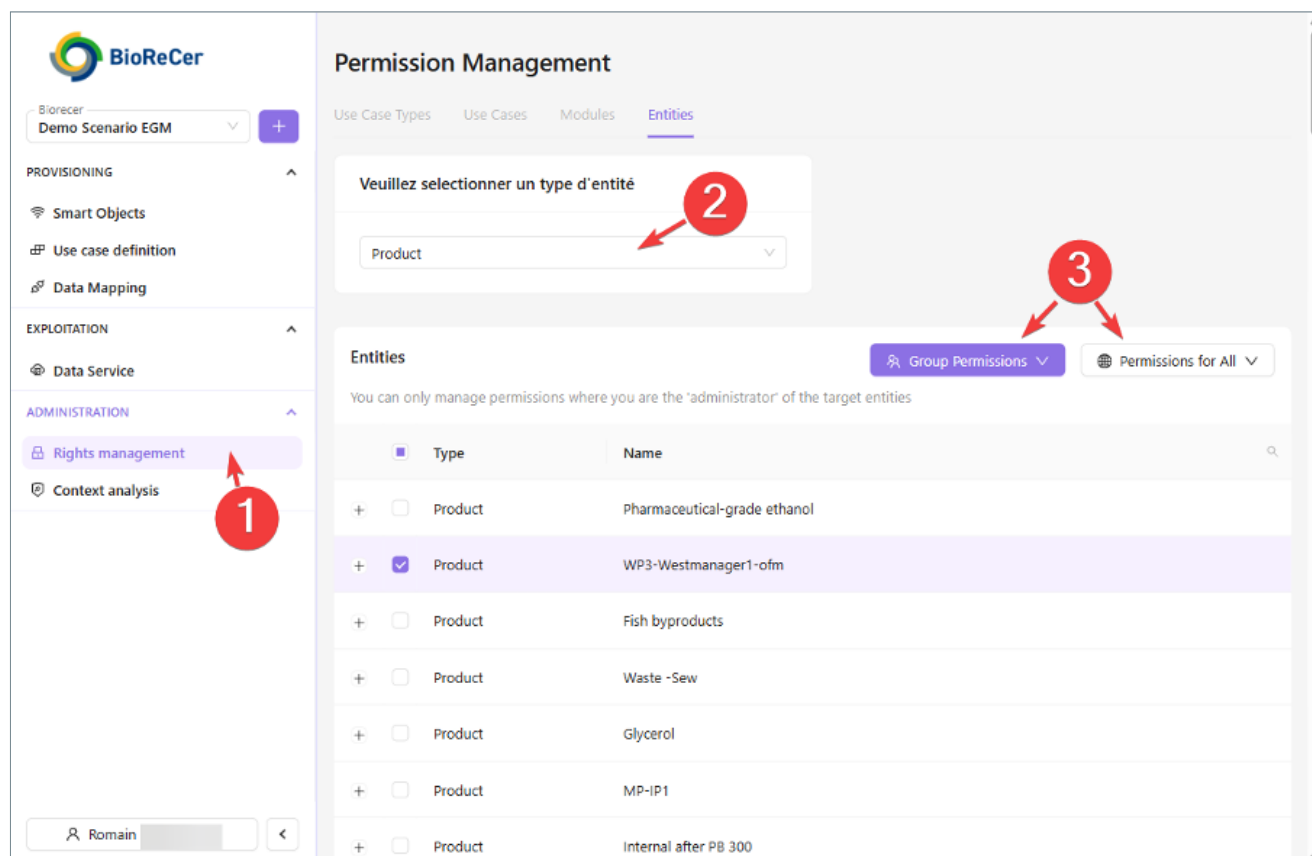
Even after finishing, you can still update and manage your data through the admin interface <https://twinpicks-biorecer.stellio.io/en>

Security and Confidentiality of Data

Stellio, as the NGSI-LD context broker powering the BioReCer platform, enforces strict and flexible permissions to ensure data privacy and secure sharing of user data. Here's how permissions work:

- By default, users can only view and manage the entities they have created. Other users cannot access your data unless you explicitly grant permission, protecting sensitive business or personal information by default.
- The platform provides fine-grained permissions at the entity level. You can select specific entities and assign one of three authorization levels:
 - READ: The user or group can view entity information only.
 - WRITE: The user or group can edit/update entity data.
 - ADMIN: Full rights; the user or group has the same abilities as the entity owner, including deleting or further sharing.
- Entities can be shared with specific groups with chosen permissions. There is also an option for a global access policy—making an entity “public.” If selected, any authenticated user on the platform can access the entity, but this must be done intentionally via the permissions interface.

Use the Rights Management module in the BIT administration interface to manage permissions – choose who can see, modify, or administer each entity. See below:



Permission Management

Use Case Types Use Cases Modules **Entities**

Veuillez sélectionner un type d'entité

Product

Entities

You can only manage permissions where you are the 'administrator' of the target entities

Group Permissions Permissions for All

Type	Name
☐ Product	Pharmaceutical-grade ethanol
☒ Product	WP3-Westmanager1-ofm
☐ Product	Fish byproducts
☐ Product	Waste -Sew
☐ Product	Glycerol
☐ Product	MP-IP1
☐ Product	Internal after PB 300

BIT Advisor for Decision Support

The BIT Advisor is helping you to make smarter and more informed decisions. This section will explain how you as a stakeholder can use the BIT Advisor to gain insights and useful recommendations.

1. **Product and Industry Scoring:** This questionnaire will assess your sustainability.
2. **Compliance Scores:** Interpreting these scores can identify areas for improvement.
3. **Carbon Footprint Analysis:** Evaluating and reducing emissions.
4. **Strategic Recommendations:** Implementing the recommendations to enhance sustainability and circularity of your products.

Troubleshooting and Support

Needing help? We hope this section can solve some of your issues.

Tips if Circularity Indicators are not Calculated

If you cannot see the Circularity Indicators for your product, please check the following points carefully:

- **Verify your data:** Make sure that all required information has been entered correctly.
- **Complete all entities:** Each product must be linked to a Transformation, Production System, and Corporation.
- **Check the Corporation role:** Ensure that the Corporation connected to your Production System has the correct role (e.g., Primary Producer, Processor, Manufacturer, or Waste Producer).
- **Answer all mandatory questions:** Even if a question is not marked with a red asterisk, if it is relevant to your product type, you must provide an answer.
- **Update the Product last:** After making changes to any entity, always return to the Product and click "Update". Even if no changes are made directly in the Product, this update is essential because it triggers the CI calculation across the entire chain.

By following these steps, most calculation errors can be resolved.

FAQ.

How can I remove or correct entered data?

From the Admin interface, any data can be removed or updated from the same module where the data was first uploaded: click on "Use case definition" in the side left menu to visualize your use case's data. Then each entity can then be updated or removed using the small 'pen' or 'bin' buttons.

Can I delete my profile?

Of course. From the Admin interface, go to your profile by clicking on the user menu (bottom left corner), then click on "My account". You will be redirected to the authentication console interface. From here click on "Personal info" then you will find the "Delete account" button down below the page.

Contact information for technical support

Experiencing technical issues? We are happy to help. Here are some links to online resources and documentation.

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