**TRACE4EU**

**PRODECTED DESIGNATION of ORIGIN (PDO)**

**HALLOUMI USE CASE**

**Instructions on running the DEMO**

**GOLDMAN SOLUTIONS & SERVICES**

This document provides Instructions on how to:

1. use the existing demo setup
2. setup a new environment using the developed modules

**Using the existing demo setup**

The existing demo setup is hosted on our azure server and is running the following **DEMO** modules. It is assumed that the PDO module is operated by the Ministry of Agriculture (**MoA**).

1. PDO Web Wallet

[https://trace4eu.acgoldman.com](https://trace4eu.acgoldman.com/)

1. PDO backend module (MoA)

<https://trace4eu.acgoldman.com:6001>

1. PDO admin portal (MoA)

<https://trace4eu.acgoldman.com:6002>

**demo video recordings**

[pdo-part1.mp4](https://acgoldman.sharepoint.com/:v:/s/eDiplomaDMRID/EXEwvN5wvipEjhWImsj4v9gBYPUyc5ZSoKaN5w3kHRx8xg)

[pdo-part2.mp4](https://acgoldman.sharepoint.com/:v:/s/eDiplomaDMRID/EcGN4hW62cxGsYuUxm7T-GYBkZlqj-j5KeXpTfOlJ0UhNQ?e=xCBz55)

[pdo-part3.mp4](https://acgoldman.sharepoint.com/:v:/s/eDiplomaDMRID/Ebz3AvkzGBtDmGdoBy-bKWwBtA4UilOI63NJz9lQvV5dWg?e=I28OKp)

[pdo-part4.mp4](https://acgoldman.sharepoint.com/:v:/s/eDiplomaDMRID/EQrKwt7RiNtOiNeuxUcpzgoBvZt0iiBrtiQuhJ7O9OUKkA?e=9Gr2Jy)

**Define the PDO product**

Before any traceability events can be added in relation to the production of a PDO product, the PDO admin needs to add the PDO product definitions to the PDO’s DB as follows:

1. Login to PDO admin portal at <https://trace4eu.acgoldman.com:6002>

Choose the option “Add Product” and add the name of the new product and the required events for the product’s batch production.

For the HALLOUMI case we already added:

{

    "productName": "HALLOUMI",

    "requiredEvents": [

        "milk\_loaded\_to\_track",

        "mint\_loaded\_to\_track",

        "milk\_delivered",

        "mint\_delivered",

        "halloumi\_produced"

    ],

    "lastInChainEvent": "halloumi\_produced"

}

1. Use the “Event Details” option to add the event Details required to be added by the actor for each required Event above

For the HALLOUMI case we already added:

{

"productName": "HALLOUMI",

"eventsDetails": [

{

"type": "halloumi\_produced",

"details": [

"production\_date",

"expiry\_date",

"milk\_proportions",

"total\_items\_produced"

]

},

{

"type": "milk\_loaded\_to\_track",

"details": [

"milk\_production\_date",

"milk\_type",

"milk\_volume"

]

},

{

"type": "mint\_loaded\_to\_track",

"details": [

"mint\_production\_date",

"mint\_volume"

]

},

{

"type": "mint\_delivered",

"details": [

"mint\_delivery\_date",

"mint\_weight"

]

},

{

"type": "milk\_delivered",

"details": [

"milk\_delivery\_date",

"refrigerator\_temperature",

"milk\_volume"

]

}

]

}

**Supply chain actors get a LicenseToOperate VC**

Before a supply chain actor is allowed to add an event to the traceability document, he needs to request and get issued a licenseToOperate VC from the PDO backend module by providing the pin code that he received from the PDO admin. The VC issuance flow is as follows:

Supply chain actor

1. visit the PDO web wallet link [https://trace4eu.acgoldman.com](https://trace4eu.acgoldman.com/) and create a new PDO wallet, if not already have one.
2. Go to My Wallet tab and copy the wallet’s DID
3. Send the DID to the PDO admin

PDO admin

1. Use the “Issue License VC” option to issue a LicenseToOperate VC for the DID above. In the request the admin specifies the **product Name** and the **Allowed Event** that this license will be valid for.
2. Send the generated pin code to the requesting actor

Supply chain actor

1. Go to Req License VC tab, enter the pin received from the admin and send the request to get the license.
2. Go to My License tab and check the details of the license issued to me.

*Notes:*

1. A supply chain actor may request more than one license. For example a transport company may request a license to transport milk and a license to transport mint.
2. A license indicates whether it is for a **lastInChain** event or not. Only a lastInChain license holder can request the initialisation of a batch traceability document. In the HALLOUMI case the lastInChain event is the ‘halloumi\_produced’ event and is issued to the companies producing the final halloumi product.
3. At least one supply chain actor for each requiredEvent is required to have been licensed in order to be able to initiate a batch traceability document. Hence, the above process must be repeated for at **least five actors**, one for each predefined requiredEvent, specified in the HALLOUMI product’s definition.

**A lastInChain actor initiates a new batch production**

1. Go to My License tab and check if ***Last in chain*** property is **yes**
2. Go to New batch tab and
3. Enter the id for the new batch production
4. Select the supply chain actors from where you need the raw materials. Only already licensed actors will be shown. Enter a note for each actor. At least one actor licensed for each of the requiredEvents needs to be selected.
5. Send the request for a new batch creation.

**A non-lastInChain actor adds a completion event**

1. Go to Pending Tasks and check for any actions assigned to me by the last in chain actors
2. Select one from the list and choose **mark as completed**.
3. Enter the required event details and submit a request to the PDO backend to add the event to the TnT document.
4. Go to Completed Tasks tab to see all actions completed by me. This will return all completed tasks regardless of whether the completed task is associated with a completed batch or not.

**A lastInChain actor completes a batch production**

1. Go to Pending Tasks and check for any actions assigned to me. The PDO backend automatically assigns the lastInChain event to the lastInChain actor during the initialisation of the batch.
2. Select one from the list and choose **mark as complete**.
3. Enter the required event details and submit a request to the PDO backend to add the event to the TnT document. This will only be successful if all the non-lastInChain actors have completed their actions.

**A lastInChain actor generates a QR code for a completed batch**

1. Go to New QR code tab. A list of completed bataches that were initiated by me will be shown.
2. Select one from the list and choose ***Show as customer*** or ***Generate QR code.*** The first option will display a web page that the customer will see when scanning the QR code on his mobile device. The second option will generate the QR code which needs to be stick to the packages produced in the selected batch.

**A customer scans the QR code**

The QR code attached to the final product packages from the last in chain actor is a link to the PDO backend with the TnT id associated with the package’s batch. When a customer scans the QR code the PDO backend will returned a formatted web page with details of all the events that were added to the TnT document by all involved actors. It will also indicate whether each actor’s license is valid or not.