

OPEN WEB COMPONENTS

Web Client for EO data dissemination

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Open web Component is an **open** source project

...using the lastest **web** technologies

...based on web **components**



**Web Client for EO data dissemination, modular, easy
to extend and highly customizable**

CORE FEATURES

Messaging among components

Authentication

Layout system

Object oriented web

EO FEATURES



SEARCH

The screenshot displays a search interface with a sidebar on the left and a main content area on the right.

Left Sidebar:

- A logo icon with a stylized 'e' inside a circle.
- A link to "go to classic view".
- Icons for user profile, search, filters, and settings.

Main Content Area:

Search Bar: search

Filter Options:

- Sort By: Sensing time range, Ingestion time range
- Order By: Order By

Map View: A world map showing several regions highlighted by blue and red outlines. A cursor is positioned over the North Atlantic region.

Product List: display 1 to 50 of 1639580 products

Date	Instrument	Size
2017-02-10T07:42:50.878Z	SAR-C	1.61 GB
2017-02-10T07:44:05.878Z	SAR-C	1.6 GB
2017-02-10T07:43:40.879Z	SAR-C	1.6 GB
2017-02-10T07:44:30.879Z	SAR-C	1.6 GB
2017-02-10T07:42:25.879Z	SAR-C	1.6 GB
2017-02-10T07:43:15.878Z	SAR-C	1.61 GB

Open search, free text and geographic filters. Sorting by ingestion or sensing time. Order by descending or ascending. Graphical time range selectors for sensing and ingestion time. A save search is possible. The results are shown in a list and in a map.

LIST COMPARISON

The image shows a user interface for searching satellite data products. On the left, there is a sidebar with icons for 'go to classic view', a user profile, a magnifying glass (search), a bar chart (statistics), and a gear (settings). The main area contains two search results panels.

Search Panel 1 (Left): The search term is empty. It displays 25 products out of 163,958 total. The first product is a thumbnail of a coastal area with the following details:

- Date: 2017-02-24T08:22:52.976698Z
- Instrument: OLCI
- Size: 599.51 MB

Actions for this item include a star icon, a magnifying glass, a camera icon, a download icon, and a list icon.

Search Panel 2 (Right): The search term is "S2A*". It displays 25 products out of 57,780 total. The first product is a thumbnail of a forested area with the following details:

- Date: 2017-02-10T01:56:11.026Z
- Instrument: MSI
- Size: 726.21 MB

Actions for this item include a star icon, a magnifying glass, a camera icon, a download icon, and a list icon. A cursor is hovering over the download icon for this item.

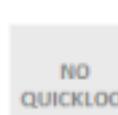
Preview Image: To the right of the search panels is a large preview image showing a satellite view of a forested landscape with various colors representing different land cover types.

Pushing two search result lists, comparing search results is possible.

PRODUCTS DETAIL

Search

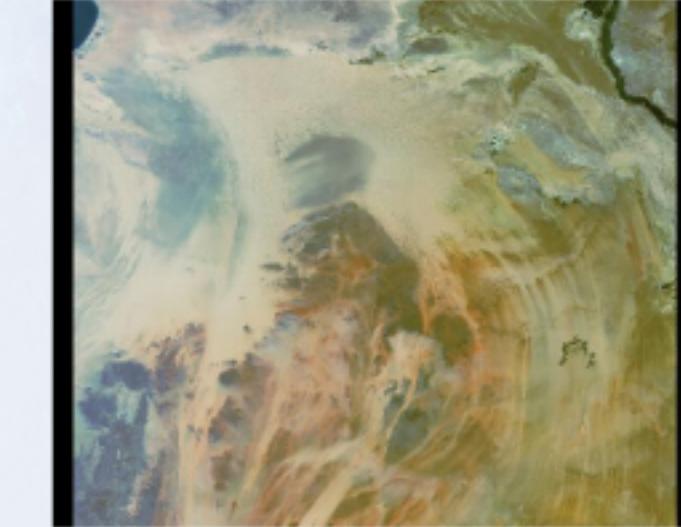
display 1 to 25 of 1639580 products

-  Date: 2017-02-24T08:22:52.976698Z
Instrument: OLCI
Size: 599.51 MB
-  Date: 2017-02-24T06:29:57.858268Z
Instrument: OLCI
Size: 701.46 MB
-  Date: 2017-02-10T07:45:45.878Z
Instrument: SAR-C
Size: 1.68 GB
-  Date: 2017-02-10T07:45:20.879Z
Instrument: SAR-C
Size: 1.6 GB
-  Date: 2017-02-10T07:42:50.878Z
Instrument: SAR-C
Size: 11.97 MB

Product Details

S3A_OL_1_EFR___20170224T082252_20170224T082552_20170224T101220_0179_014_349_2520_SV...
[https://scihub.copernicus.eu/demohub/odata/v1/Products\(e75cc09a-6c82-40a9-97c3-916ec2717491\)/](https://scihub.copernicus.eu/demohub/odata/v1/Products(e75cc09a-6c82-40a9-97c3-916ec2717491)/)

QUICKLOOK



PRODUCT

Baseline Collection : 002

Bright Cover Percentage (%) : 3.571208

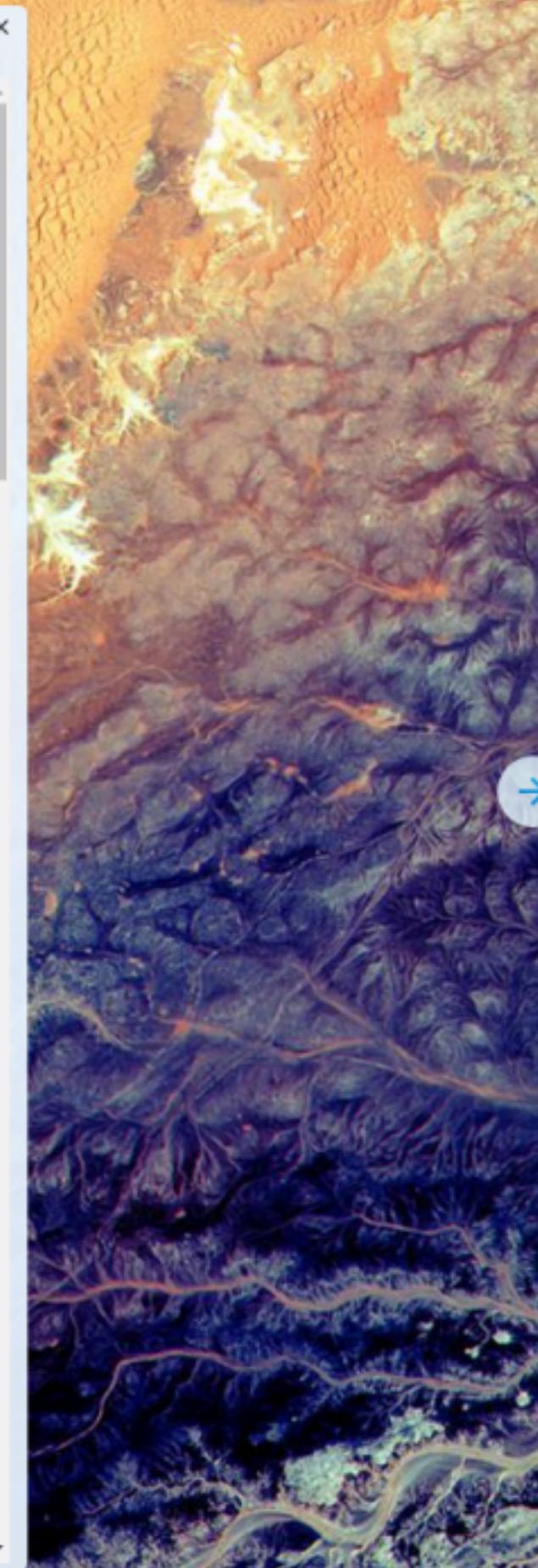
Coastal Cover Percentage (%) : 0.000000

Creation Date : 2017-02-24T10:12:20.000Z

Cycle number : 14

ECMWF Type : FORECAST

Footprint : <gml:Polygon srsName="http://www.opengis.net/gml/srs/epsg.xml#4326" xmlns:gml="http://www.opengis.net/gml"><gml:outerBoundaryIs><gml:LinearRing><gml:coordinates>20.9453,17.3742 20.834,18.0513 20.725,18.7047 20.6162,19.3421 20.503,19.9899 20.3867,20.6404 20.268,21.2899 20.1475,21.939 20.0235,22.588 19.8976,23.2333 19.7725,23.8794 19.6414,24.5245 19.5111,25.1671 19.3752,25.8087 19.238,26.4494 19.0958,27.0896 18.9558,27.7283 18.8113,28.3687 18.6654,29.0047 18.5166,29.6413 21.1547,30.3349 23.7973,31.0565 26.4359,31.8072 29.0708,32.5918 29.231,31.9043 29.3864,31.2178 29.539,30.5263 29.6864,29.8327 29.8346,29.1367 29.9757,28.4419 30.1148,27.7424 30.2467,27.0414 30.3778,26.3373 30.501,25.6347 30.6246,24.9254 30.7435,24.2194 30.8582,23.5081</gml:coordinates></gml:LinearRing></gml:outerBoundaryIs></gml:Polygon>



Product details: Quicklook, metadata indexes and attributes.

AUXILIARY DATA FILE

Search

display 1 to 25 of 1639580 products

Date: 2017-02-24T08:22:52.976698Z
Instrument: OLCI
Size: 599.51 MB

Date: 2017-02-24T06:29:57.858268Z
Instrument: OLCI
Size: 701.46 MB

NO QUICKLOOK Date: 2017-02-10T07:45:45.878Z
Instrument: SAR-C
Size: 1.68 GB

NO QUICKLOOK Date: 2017-02-10T07:45:20.879Z
Instrument: SAR-C
Size: 1.6 GB

NO QUICKLOOK Date: 2017-02-10T07:42:50.878Z
Instrument: SAR-C
Size: 11.97 MB

Auxiliary Data Files List

S3A_OL_1_EFR____20170224T082252_20170224T082552_20170224T101220_017... contains 25 Auxiliary Data Files

Product Data Format Specification - OLCI Level 1 and Level 2 Instru...

S3A_OL_1_EFR____20170224T082055_20170224T082255_2017022...

S3A_OL_1_EFR____20170224T082255_20170224T082455_2017022...

Metadata Specification, Excel document S3IPF.PDS.008

S3A_TM_0_NAT____20170224T080553_20170224T094637_2017022...

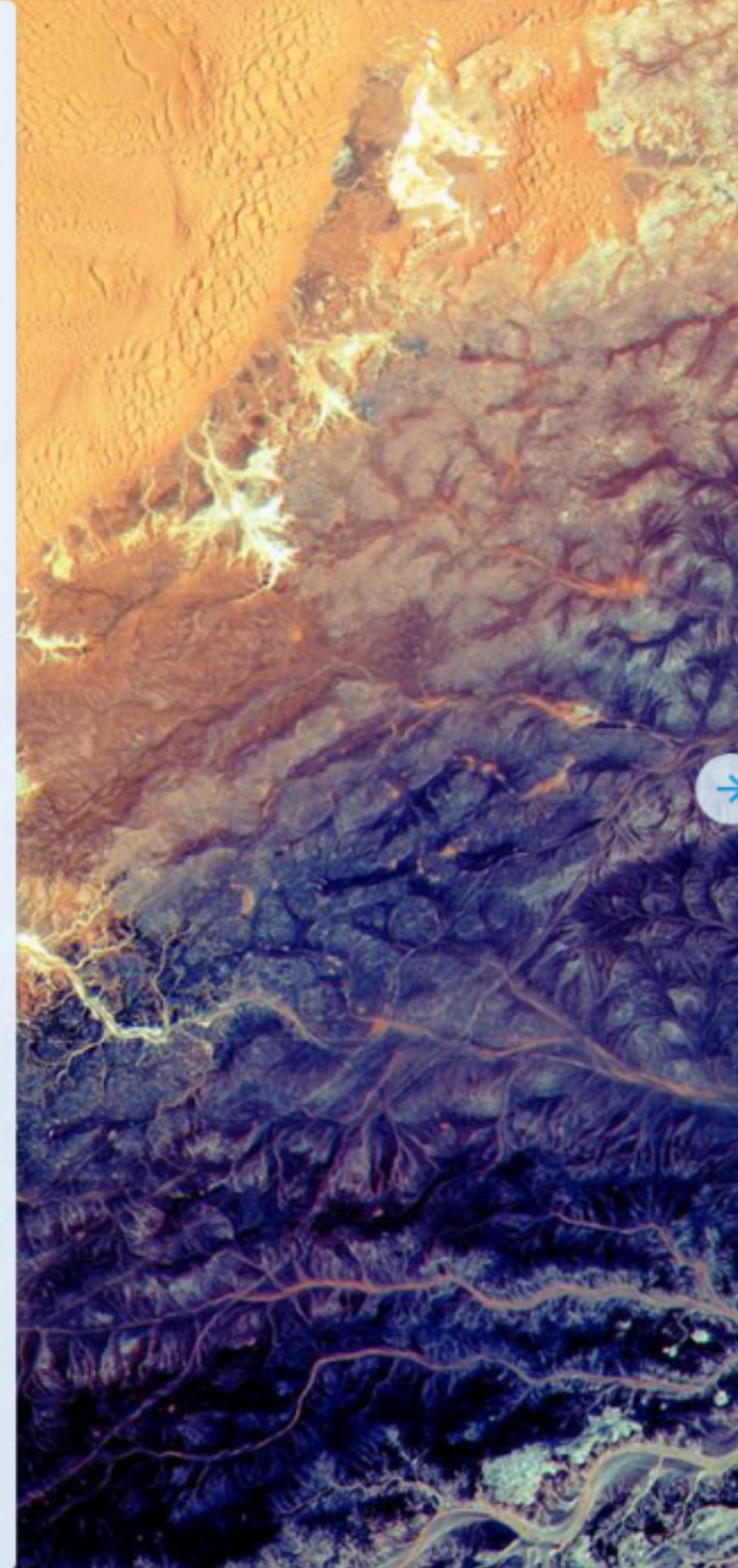
S3A_OL_1_EFR____20170224T082455_20170224T082655_2017022...

S3A_OL_0_EFR____20170224T082455_20170224T082655_2017022...

S3A_OL_0_EFR____20170224T082655_20170224T082855_2017022...

S3A_OL_0_EFR____20170224T082255_20170224T082455_2017022...

S3A_TM_0_NAT____20170224T080553_20170224T094648_2017022...



List of auxiliary data file exploited to process the product.

MODULARITY

ATOMIC GUI COMPONENTS EXPLOITING WEB COMPONENTS



Every component follows the Object Oriented Programming exploiting Polymer library. The web components are atomic elements portable from different web applications

HORIZONTAL LAYOUT

The image displays a horizontal layout of four panels, each with a red border and rounded corners. A large red cross highlights the central area where the panels meet.

- Panel 1: Publication Density**

Shows products per day in the last month. The chart is a heatmap where darker colors represent higher publication density. A legend at the top right shows a gradient from light orange to dark orange with the value 7010.

Panel 2: Calendar of Publication Density

51993 published products for sensing period: 2017-02-02 to 2017-05-04
click on a date for more details

February 2017

March

April

May
- Panel 3: Calendar Details**

5929 products found on 2017-02-02

Date	Instrument	Size
2017-02-02T23:41:43.152Z	SAR-C	7.48 GB
2017-02-02T23:37:55.072Z	SAR-C	8.0 GB
2017-02-02T23:38:08.082Z	SAR-C	7.2 GB
2017-02-02T23:40:02.909Z	SAR-C	7.2 GB
2017-02-02T23:38:22.655Z	SAR-C	7.44 GB
2017-02-02T23:39:13.253Z	SAR-C	
- Panel 4: Product Details**

B_IW_SLC_1SDV_20170202T234143_20170202T234211_004128_00...
<https://scihub.copernicus.eu/demohub/odata/v1/Products/e3f410ea-14...>

QUICKLOOK

PR

Acquisition Type : NOMINAL

Cycle number : 30

Footprint : <gml:Polygon>
srsName="http://www.opengis.net/gml/srs/epsg.xml#4326"
xmlns:gml="http://www.opengis.net/gml"> <gml:outerBoundaryIs><gml:LinearRing><gml:coordinates>40.598743,97.053131
40.989315,94.104713 42.666443,94.459305 42.276524,97.488144
40.598743,97.053131</gml:coordinates> </gml:LinearRing></gml:outerBoundaryIs></gml:Polygon>

Format : SAFE

Ingestion Date : 2017-02-03T06:28:39.405Z

\$ footprint : POLYGON ((97.053131 40.598743,94.104713
40.989315,94.104713 42.666443,94.459305 42.276524,97.488144
40.598743,97.053131))

Horizontal layout, the navigation system pushes the components in a horizontal stack.

EXTENDIBLE

NEW COMPONENT CREATION

Chapter 4: Build your own Open Web Components

How to create a new web component for OWC (generation tool)

OWC provides a tool to auto-generate a polymer from a template, which is compliant with folder structure described previously.

These are the steps to follow for running OWC component generation tool:

- 1) move to the owc source folder (like: <clone_folder>/client/owc-client/src/main/frontend/):

```
cd <owc-path>
```

- 2) run the following command to create a new OWC component:

```
python tools/new_component.py create
```

- 3) during command execution, please insert the requested information:

Repository path (empty to load the path from configuration file):

Insert the path of the owc source folder (e.g. ./client/owc-client/src/main/frontend/) and then press enter.

Repository url (empty to load the path from configuration file):

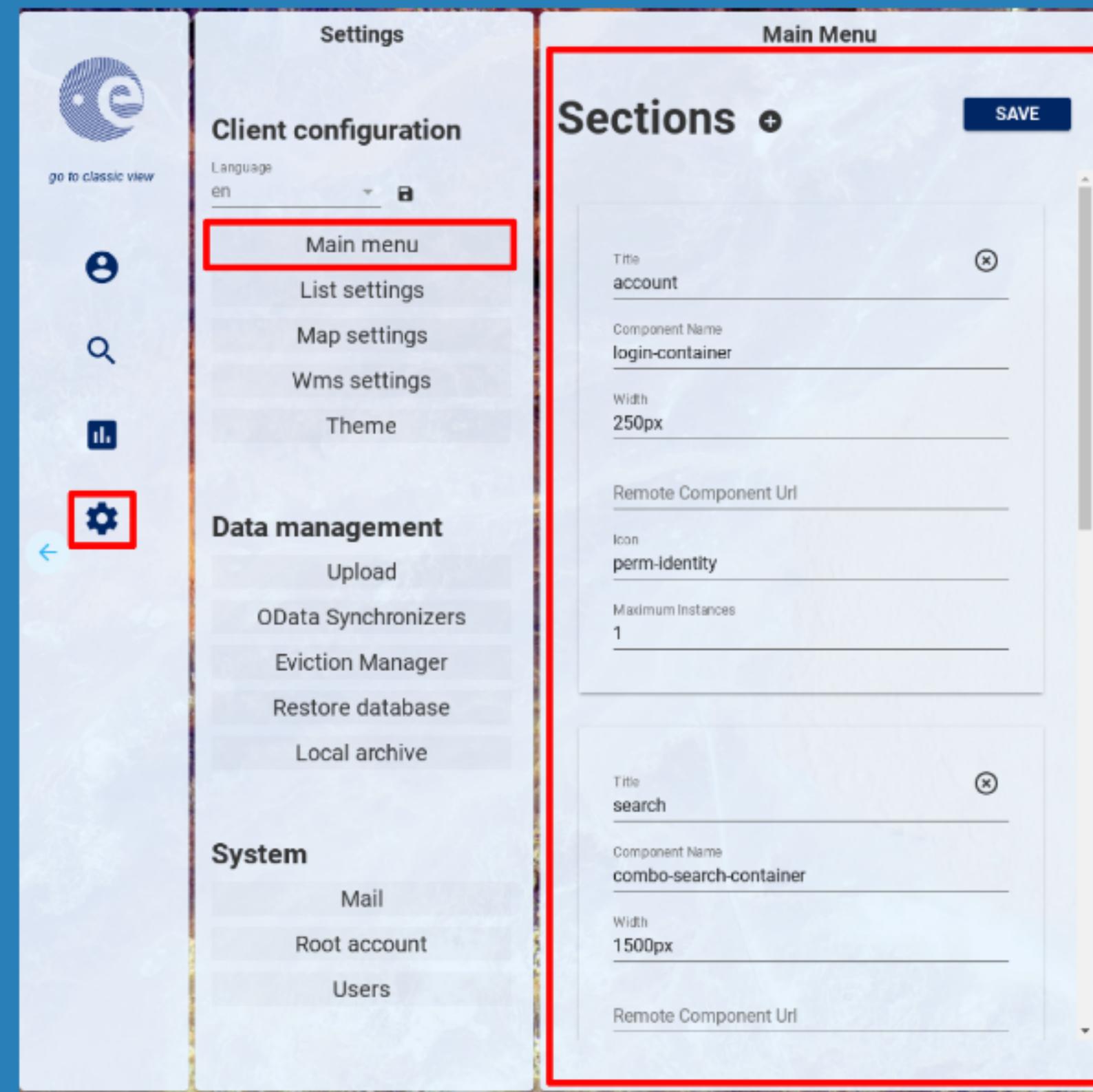
Insert the git repository url for this component (e.g. https://github.com//DataHubSystem.git), or leave field empty if there isn't a repository, then press enter.

The guide how to create a new component and how to integrate in the OWC application is present in the Open Source Portal.

CUSTOMIZATION

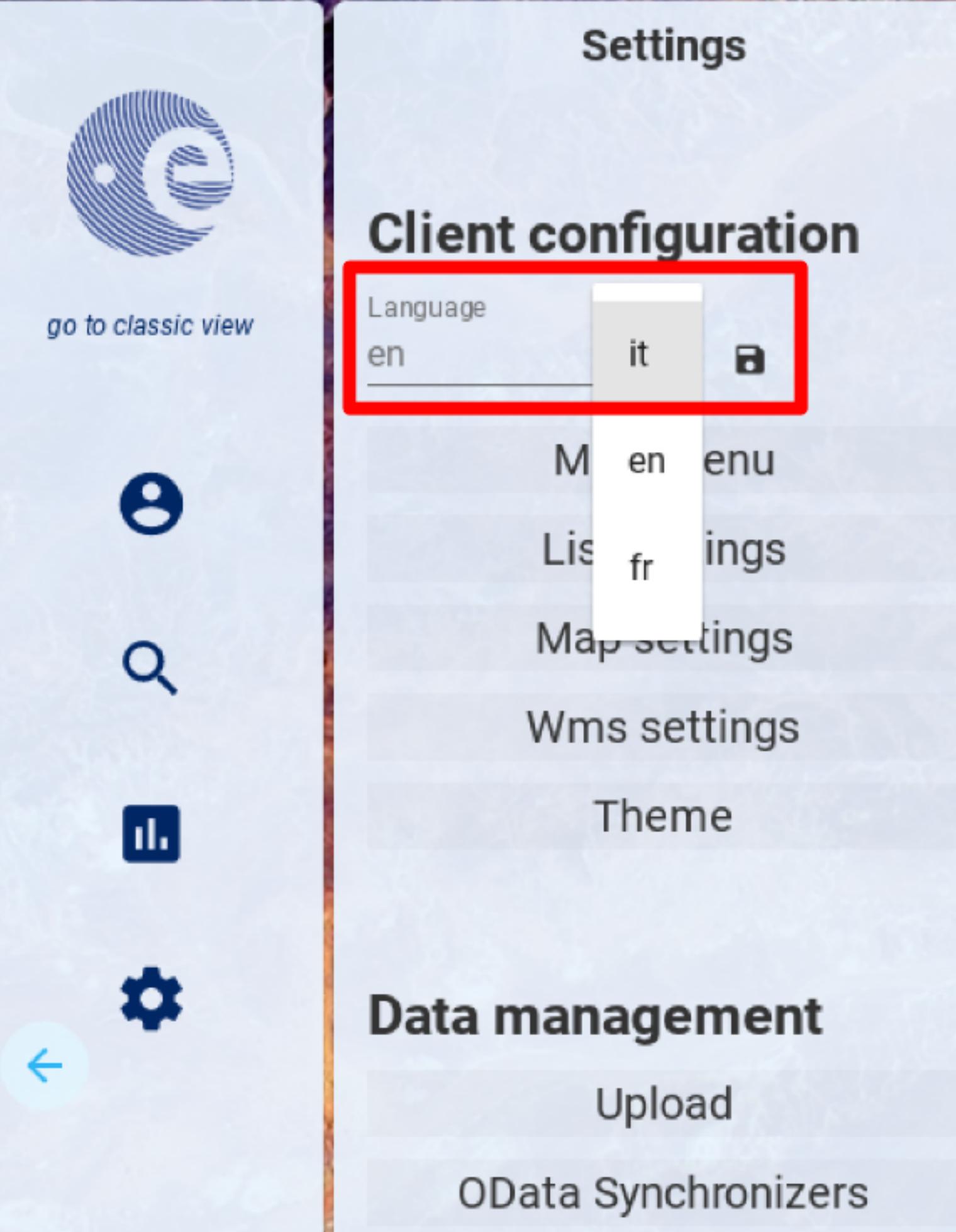
MAIN MENU



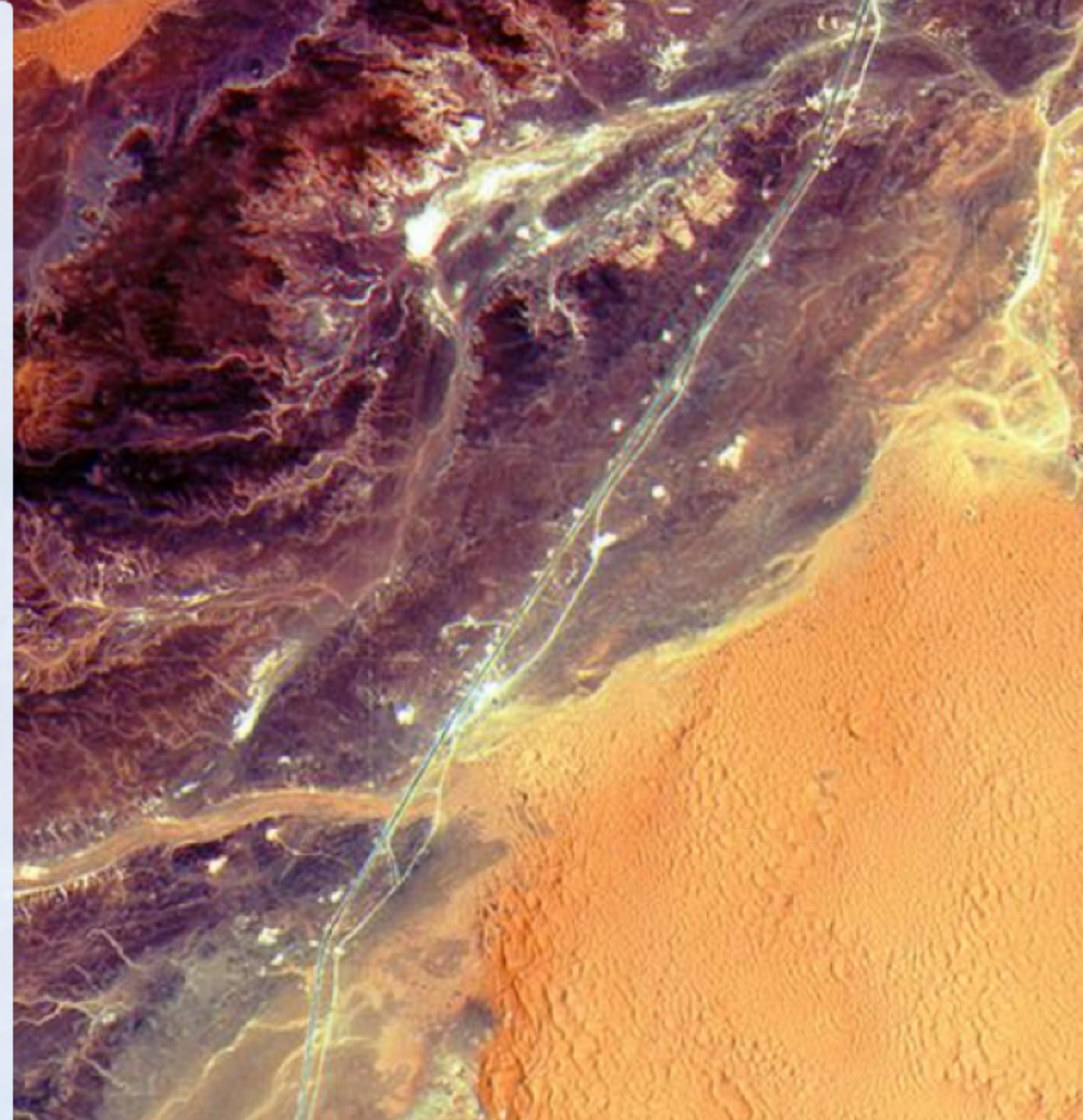


The main menu sections are customizable, via
Graphical user interface

LANGUAGE



The screenshot shows a user interface for managing map settings. On the left, there's a sidebar with icons for user profile, search, and data management, along with a back arrow. The main area has a title "Settings" and a section titled "Client configuration". In this section, there's a "Language" dropdown menu with "en" selected (highlighted by a red box) and "it" as an option. Other menu items include "Map settings", "Wms settings", and "Theme". Below this, there's a "Data management" section with "Upload" and "OData Synchronizers" options.



A high-resolution aerial satellite image showing a coastal landscape. A large, winding river or stream flows from the center-left towards the bottom right, its path marked by a distinct greenish-blue color. The surrounding terrain is a mix of dark brown and reddish-brown earth, with some lighter, yellowish-green areas indicating vegetation or different soil types. The image captures a complex network of waterways and landforms.

The language settings are stored locally in the browser.

THEME

The screenshot shows the 'Theme' configuration page. On the left, there's a sidebar with icons for user profile, search, data management, and system settings (the last one is highlighted with a red box). The main area has a 'Settings' header and a 'Client configuration' section. A red box highlights the 'Theme' option under 'Client configuration'. To the right is the 'Theme Editor' panel, which is also framed by a red border. It contains sections for 'Logo' (with a URL input field containing `./images/logo_esa-in.png`) and 'Background' (with a color input field set to `#e9f4ff`). Below that is a 'Background Image' section with a URL input field containing `./images/Sentinel-2-algeria.jpg`. At the bottom of the editor are 'RESTORE DEFAULT' and 'SAVE' buttons.

Settings

Client configuration

Language
en

Main menu

List settings

Map settings

Wms settings

Theme

Data management

Upload

OData Synchronizers

Eviction Manager

Restore database

Local archive

System

Theme Editor

Title

Logo

Logo Url
`./images/logo_esa-in.png`

Background

Background Color
`#e9f4ff`

Background Image

Background Image Url
`./images/Sentinel-2-algeria.jpg`

RESTORE DEFAULT

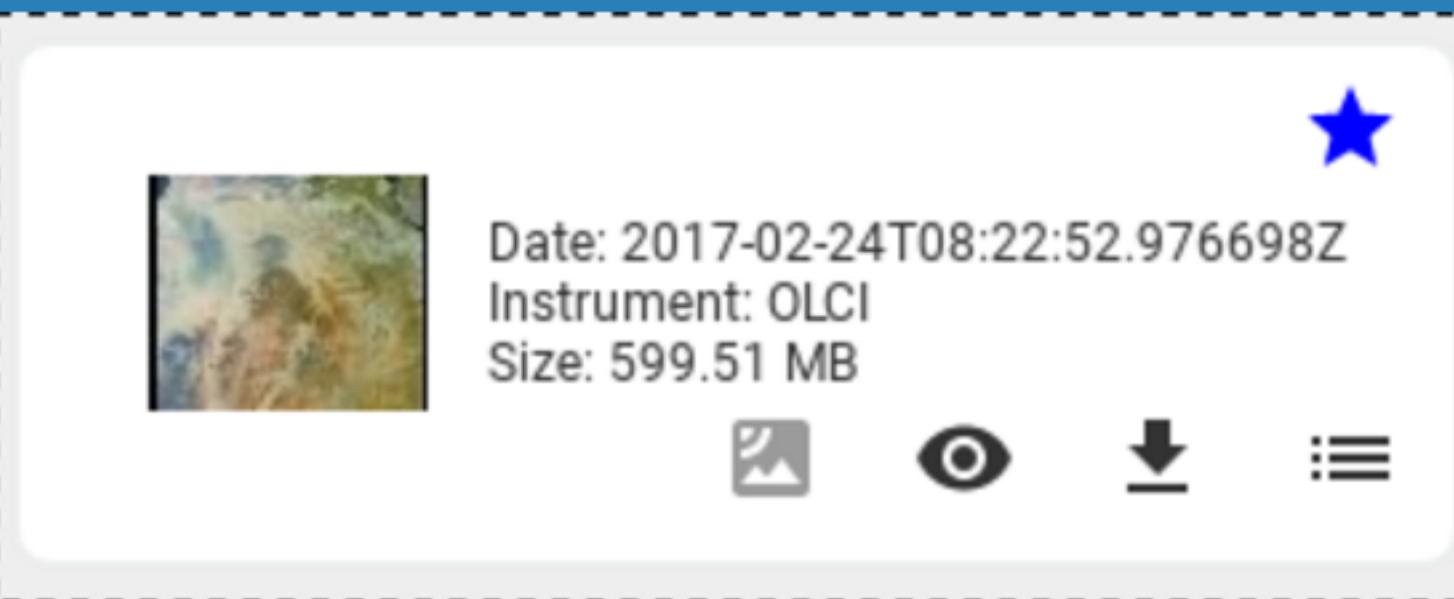
SAVE

Theme properties: application title, logo, panels
background color, application background image.

LIST ATTRIBUTES

The image shows a software interface with a sidebar and a main content area. The sidebar on the left contains icons for user profile, search, and settings, with the settings icon highlighted by a red box. The main content area has two tabs: 'List Model Schema editor' (which is active) and 'List Model View editor'. The 'List Model Schema editor' tab displays a JSON-like schema with line numbers from 1 to 61. The schema defines various objects and their properties, including 'productsExtractor', 'model', 'valueExtractor', and 'valueType'. To the right of the schema editor is a large satellite map of a landscape with orange, brown, and green terrain.

```
1 {
2   "productsExtractor": {
3     "absolutePath": "/"
4   },
5   "model": {
6     "@type": "Array",
7     "valuesExtractor": [
8       {
9         "@id": "id",
10        "@type": "Object",
11        "valueExtractor": {
12          "relativePath": "id"
13        }
14      },
15      {
16        "@id": "uuid",
17        "@type": "Object",
18        "valueExtractor": {
19          "relativePath": "uuid"
20        }
21      },
22      {
23        "@id": "status",
24        "@type": "Boolean",
25        "valueExtractor": false
26      },
27      {
28        "@id": "identifier",
29        "@type": "String",
30        "valueExtractor": {
31          "relativePath": "identifier"
32        }
33      },
34      {
35        "@id": "footprintGml",
36        "@type": "Object",
37        "valueExtractor": {
38          "relativePath": "footprint"
39        }
40      },
41      {
42        "@id": "quicklook",
43        "@type": "Object",
44        "valueExtractor": {
45          "relativePath": "quicklook"
46        }
47      },
48      {
49        "@id": "type",
50        "@type": "Object",
51        "valueExtractor": {
52          "@type": "Array",
53          "relativePath": "indexes",
54          "findWhere": {
55            "name": "product"
56          },
57          "valueExtractor": {
58            "@type": "Array",
59            "relativePath": "children",
60            "findWhere": {
61              "name": "Product type"
62            }
63          }
64        }
65      }
66    ]
67  }
68}
```



Configuration of List Item model. Via the semantic schema, described in the user manual.

MAP SETTINGS

The image shows a map interface with a sidebar on the left containing icons for user profile, search, filters, and settings. A search overlay is active, displaying a map of Europe with country boundaries and names. The map includes a legend at the bottom left indicating 'Road' features. To the right of the map is a vertical satellite imagery view of the Middle East region.

Search

go to classic view

Sort By

Sensing time range

Ingestion time range

Road

United Kingdom

Ireland

Belgium

Poland

Ukraine

France

Romania

Italy

Spain

Greece

Turkey

Tunisia

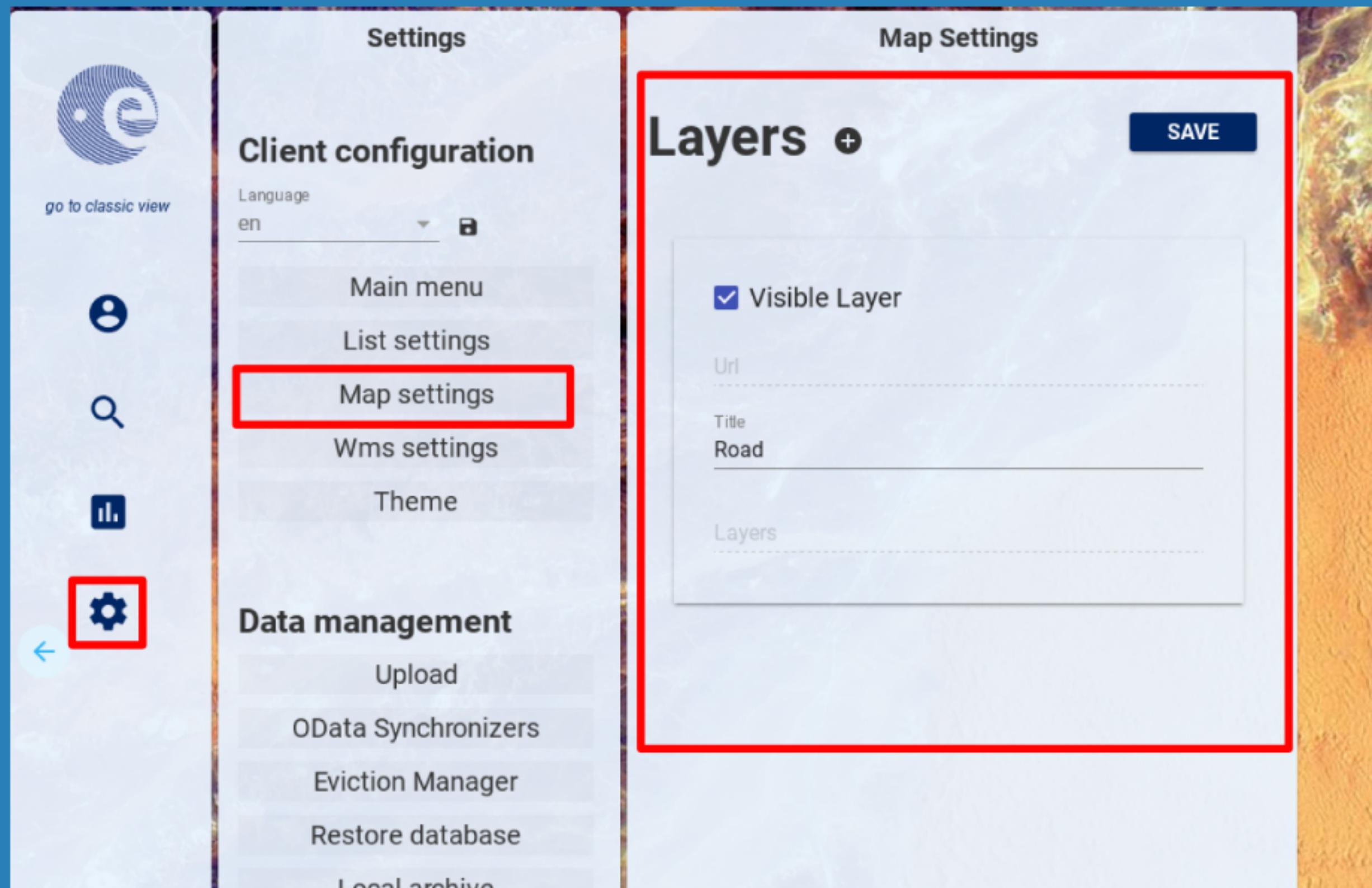
Syria

Morocco

Algeria

Libya

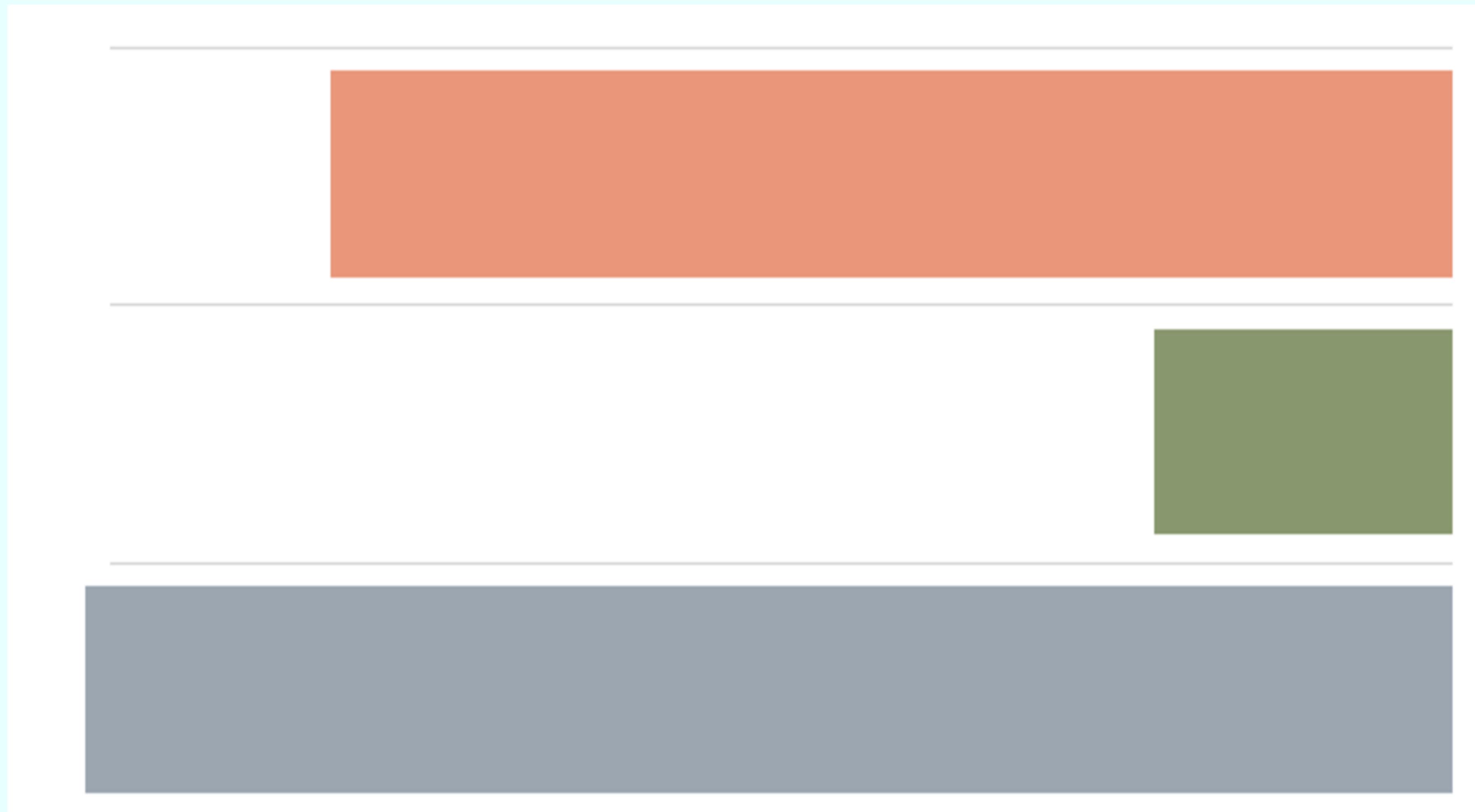
Egypt



Configuration of map layers via the definition of the WMS url.

FUTURE FEATURES

TIMELINE



Distribution of products by senting time.

FLEX LAYOUT

Component Template

Choose a layout

calendar-container

calendar-details

info-container

list-container

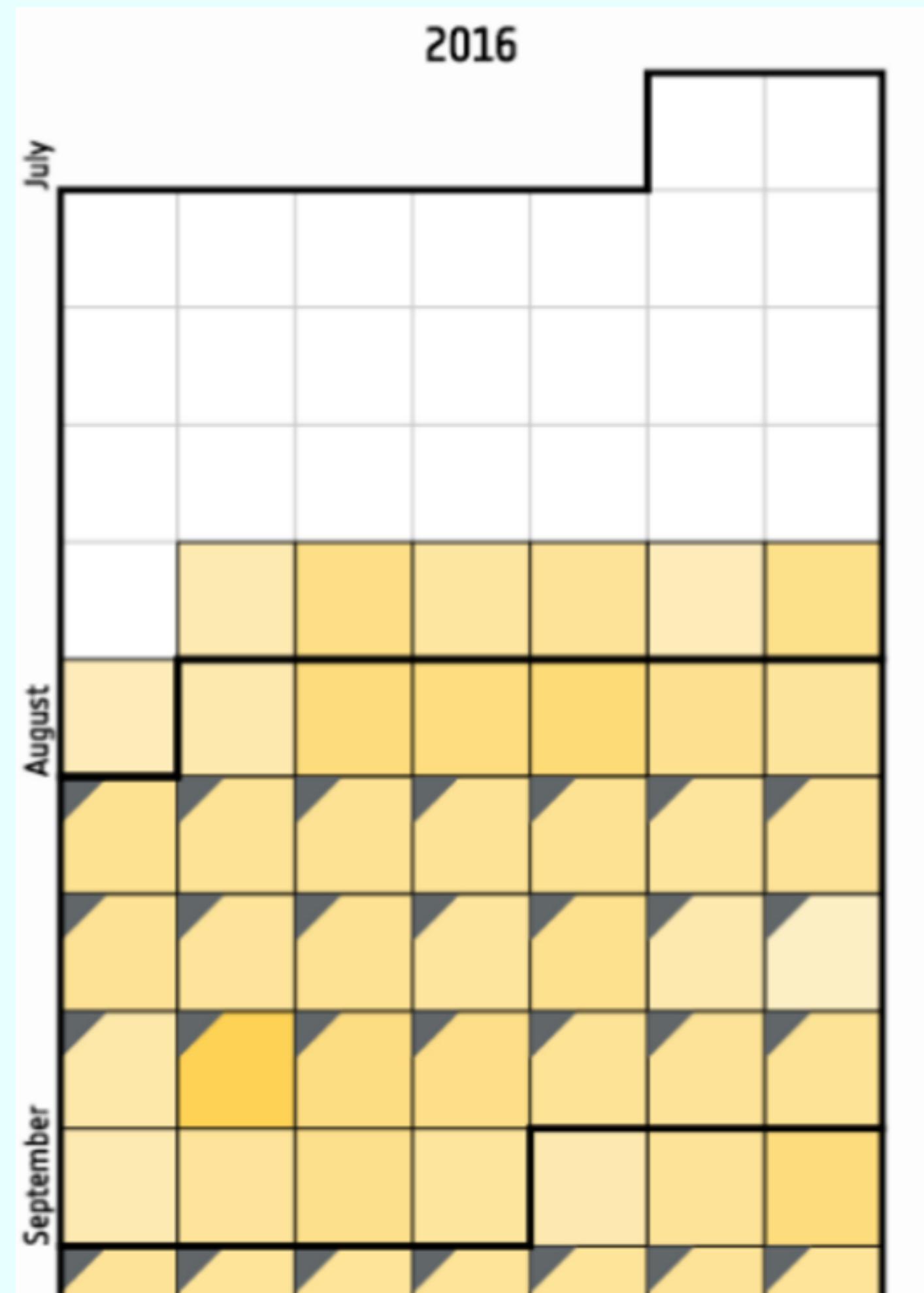
owc-list

owc-map

CREATE

Flex layout of components, customizable via graphical user interface.

EVENTS



- Events in products density calendar.
- Events list
- Event detail

POLAR MAPS



Polar maps in the map component

METADATA PROCESSING

OWC Metadata Processing system manages user's
plugins to process metadata from searches, and to
create automatic tasks client side.

DEMO