

Bolzano, 12 December 2024

Market Research

2025 - Open Data Hub Data Browser - UX/UI support

NOI S.p.A is developing a newer version of the Open Data Hub Data Browser:

<https://databrowser.opendatahub.bz.it/>

At the end of December 2024, the latest version of the new Open Data Hub Data Browser has been released on production. This version allows the users to navigate all datasets exposed by the Open Data Hub API and introduces a simplified UI/UX and new features (e.g. possibility to display data on a map view). At the following link the new Open Data Hub Data Browser can be accessed:

<https://databrowser.opendatahub.com/>

NOI S.p.A. plans to continue the development phase of the new Open Data Hub Data Browser by using an agile and lean approach. This means that during 2025 NOI S.p.A. continues to follow two parallel processes: design improvements and development. By releasing a series of MVPs, approximately one every 3 months. This will allow a fast introduction of new functionalities and an early identification of possible critical aspects to define and improve the UI/UX of the single functionalities. The Open Data Hub team will develop the tool on top of real feedback collected from the real users that will daily use the Data Browser.

One of the key aspects of the new Data Browser will be the intuitive and modern usability of the entire system. Considering this, NOI S.p.A. is looking for a partner that can support the project team in the UX and UI definition. The activities included in the present market survey are:

- collection of needs and feedback from the real users;
- analysis and definition of the UX;
- analysis and definition of the UI;
- active support during the implementation.

The activities included in this market research are part of the IMPACT project:

Project name: IMPACT – Impacting Innovation Through Specialization

Project code: EFRE1048

Project CUP: J57H23000640009

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1. Introduction

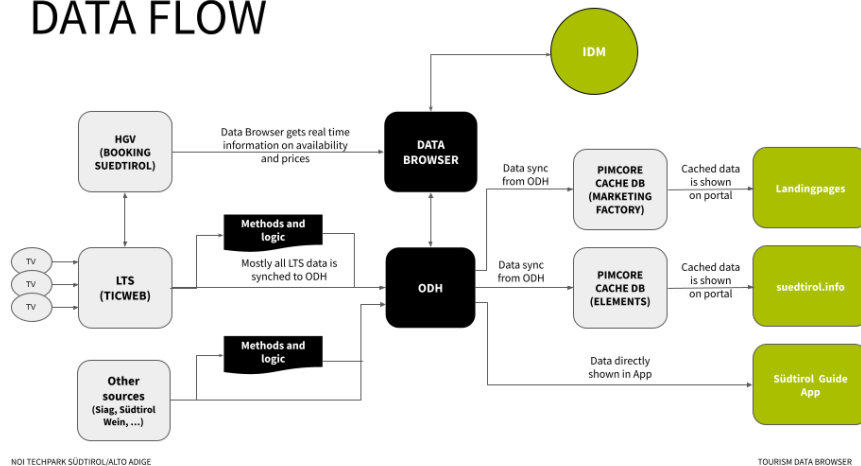
The Data Browser for the Open Data Hub is the main visualization tool that the user will use to easily access, see and in some cases also change the data of the content and timeseries domain. All data is retrieved from the Open Data Hub API and is conditioned on the frontend to be interactive and browsable. The actual version of Data Browser offers the following generic features:

- listing of all dataset offered by the Open Data Hub;
- first set of basic filter options;
- a search functionality in record title and ID (only in the content domain);
- render the data in a set of detailed views and functions to view and edit data from the different endpoints;
- hide or visualize the deprecated and/or empty fields accordingly to the user needs;
- Show the distribution of the georeferenced records on a map view.

The goal of the relaunch of the Data Browser was to provide the Open Data Hub customers a tool that is able to:

- represent in a standard way all dataset of the Open Data Hub as soon as they are exposed by the Open Data Hub API;
- access the data of all Open Data Hub domains (e.g. tourism, mobility, agriculture, etc.) with a single tool;
- the metadata (e.g. description, link to the documentation, swagger URL, API URL, sources, link to use cases, etc.) of each dataset can be browsed and modified;
- The user can configure his own view, by choosing the list of attributes and its order that he wants to view.

DATA FLOW



The Data Browser is the main tool for visualizing and interacting with data from various sources. It offers powerful tools to modify and enrich specific attributes, to refine the data representation on several output channels, such as suedtirol.info, the Suedtirol App, Landingpages and many other sites, portals and products. The version 2.0 of the data browser is accessible at the following link:

<https://databrowser.opendatahub.com/>.

1.1 Overall goals of the data browser relaunch

The overall goal of the data browser relaunch is to develop a new version of the Data Browser that connects to the various endpoints in all domains (e.g. tourism, mobility, agriculture, etc.) of the Open Data Hub, to retrieve, represent and change its data. Considering the results of the first iterations, we describe below an example list of new features that will be developed in 2025:

- provide to the final user the possibility to configure the attributes he can see in the detail and table view;
- provide to the final user the possibility to configure export the data he configured in his table view in CSV format;
- provide to the data browser user a refresh button, to guarantee that the data the user is looking are the most updated;
- provide the data browser user more prominent links to API and swagger, to simplify the daily work of the developers;
- evaluate the possibility to merge detail and edit view, to reduce the number of views the user has to navigate;
- provide to the data browser user the possibility to create duplicate duplicates of a record;
- provide to the data browser user the possibility to delete multiple records with one single click;

- Provide to the data browser user the possibility to store:
 - his favorite filters configuration;
 - his favorite searches;
 - his favorite datasets;
 - Etc.
- provide to the data browser user the possibility to set his custom column width to optimize the data visualization for his scope;
- record name and record ID must be always visible in the detail and edit view, to always know which record the user is viewing and/or editing;
- link the Open Data Hub analytics tool directly from the Open Data Hub Data Browser.

The feature mentioned in the list above are example of activities that are already foreseen, but during the implementation the list could be extended and/or changed. A more detailed list of open issues is described in the GitHub repository:

<https://github.com/noi-techpark/it.bz.opendatahub.databrowser/issues>

Since the project follows the Agile principles, the list of the issues will be reviewed, updated and prioritized after each iteration considering the feedback provided by the Open Data Hub Data Browser users.

1.2 Target audience of the Data Browser

Target audience can be separated into two main groups: **Data Viewers** and **Data Editors**. While a Data Viewer can be potentially every company and person interested in looking at the data provided by the Open Data Hub, Data Editors are a defined group of power users in known companies with permission to enrich and modify certain attributes of the data, for example: Staff and partners of the NOI Techpark, IDM content managers, employees of companies acting as DataProvider, etc.

It has to be considered that in both cases the target audience could be a **Domain Expert** that knows the data he is looking or managing very well but is often missing the technical knowledge to understand how the entire system works. For this reason the new Data Browser should be designed as simple and intuitive as possible.

Complex operations that require technical knowledge (e.g. view configuration, complex queries of data, change of the metadata information, etc.) will be available only to a restricted user group.

2. Goal of the market research

NOI S.p.A. wants to identify a partner to analyze and to further elaborate the UX and UI-Design of the existing version of the Open Data Hub Data Browser 2.0.

<https://databrowser.opendatahub.com/>

In this phase of the project, it is important to understand what the strengths and weaknesses (from a UX and UI-perspective) of the actual version of the Open Data Hub Data Browser 2.0 are and which steps need to be undertaken to further improve the current version of the new Data Browser.

Additionally, the iterative workflow of the project requires UX and UI-Designs from the identified partner, to extend the scope of functionalities and improve the User Experience of the new Data Browser. Considering, as mentioned before, that the Open Data Hub team will manage the development in an agile way, the single task must be included and repeated for each iteration.

In the following paragraph are generally described the activities to be included for each iteration.

2.1 Analysis and definition of the UX

This task includes the definition of a UX Design, to improve the navigation by making the consultation of the data, services, and functionalities of the Data Browser more intuitive.

This includes the definition of guidelines, acting as a set of “rules” while implementing functions and elements of the Data Browser. Everything should be designed to help users in finding an answer to their needs (e.g. the data they are looking for) as quickly as possible.

2.2 Analysis and definition of the UI

This task requests the definition of all graphics, fonts and colors that act as an interface between the visitor and the content. All elements will be defined with a consistent and reasonably foreseeable perspective from the user's point of view.

2.3 Support during the implementation.

This task includes:

- the support during the development of the single MVPs to verify consistency with respect to the outputs of the task 2.1 and 2.2;
- the participation to one hour weekly meeting with the Open Data Hub and the development team, to review the implemented functionalities and plan the next developments.

2.4 Support during the definition of future developments.

All previous tasks must also consider subsequent developments of the Open Data Hub Data Browser. The list of already foreseen developments and improvements is listed in the paragraph “1.1 Overall goals of the data browser relaunch”.

3. Constraints

In this section are listed and described the constraints that the service provider must follow, to work with NOI on this project.

3.1 Project Information

The activities included in this market research are included in the IMPACT project, for this reason the supplier must include in all documents (e.g., offer, invoice, etc.) the following information:

Project name: IMPACT – Impacting Innovation Through Specialization

Project code: EFRE1048

Project CUP: J57H23000640009

3.2 Economic exploitation

Where the creation of material subject to proprietary rights, including copyrights, sui generis data rights, and related rights, including solely of photographs, industrial design, all rights of economic exploitation arising from achieved results are reserved to NOI S.p.A., excepting those expressly excluded when the order is placed.

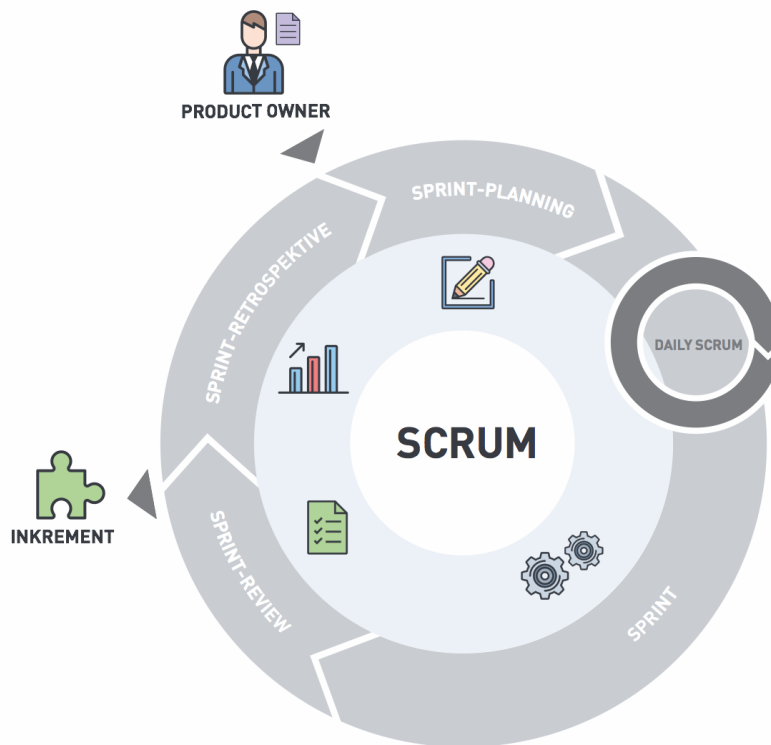
Further, if the material includes a software development project, all source code from libraries or other modules used in the realization of an assignment and belonging to a third party must be released under an Open-Source license (opensource.org/ licenses) in a manner compatible with the scope of the "outbound" software license, without requirement for adaptation, addition, cancellation or requests for permission from third parties on the part of NOI S.p.A. In the absence of any expressly indicated license, the terms of the GNU GPL v3 license shall apply. The use of material belonging to third parties must be expressly declared at the time of the offer or be easily and immediately understandable from the description of the project. If code is developed during the realization of this assignment, NOI S.p.A. will initiate a Git repository on which the supplier must develop and publish the source code.

If the material consists of data, creative works (drawings, literary works, cinematographic works, figurative art, photographs), industrial design or other material which are subject in whole or in part to the proprietary rights of a third party, the use of such material is permitted provided it is licensed under conditions compatible with the license under which said material will be published, if

indicated. If no license is indicated, the material will be subject to conditions compatible with the Creative Commons Zero (CC0) license.

3.3 Work methodology

The development of the activities covered by this market survey will follow the agile method (scrum). Two weeks sprint sessions are scheduled, unless otherwise agreed during the kick-off meeting with the core team of NOI S.p.A..



The software development will take place in three phases/environments:

- **development environment:** this environment is on supplier's infrastructure and is used during the development of the software components;
- **testing environment:** on infrastructure made available from NOI Techpark. This environment is used to test the new working versions of the software components. For the publication of the new versions a Continuous Integration (Jenkins) pipeline will be developed by the NOI team. For this reason the new versions of the code will have to be "committed" to a dedicated Git Repository according to the instructions provided by the team of the NOI Techpark;

- **production environment:** on infrastructure made available from NOI Techpark. After the testing phase, as soon as the software produced is considered sufficiently stable, the software will be integrated in the production environment. Also this process is managed automatically with Continuous Integration pipelines.

3.4 Invoicing

The invoicing of the activities concluded by the supplier will be sent to NOI S.p.A via electronic invoice only after the outputs produced have been successfully tested by NOI S.p.A. Before to proceed with the testing of the outputs, the supplier must provide to NOI S.p.A.:

- the entire documentation;
- if code development is planned, the code must be uploaded to the Git repository provided by NOI S.p.A;
- in the case of multimedia contents (e.g., photos, videos, illustrations, documents), the service provider must upload it on specific platforms (e.g. Vimeo, Flickr, etc.) and provide the source files or open versions through appropriate file hosting services indicated by NOI S.p.A.

All invoices must include that the transaction is subject to the Split Payment discipline as mentioned in the art.17-ter del DPR 633/197 and must be issued exclusively in electronic format (Unique Office code: T04ZHR3).

3.5 Deadline and budget

As mentioned above the project foresees the development of a set of MVPs continuously adding new functionalities and optimizing the existing one. The MVPs will be released approximately every 3 months.

It is planned that the activities included in this market research will last around 12 months after the assignment.

Moreover the Open Data Hub team, for the support in the analysis, design and optimization of the UI/UX foresees a maximal budget of: **20.000,00 €**.

3.6 Outputs

For every iteration (MVP) the service provider should produce the following documentation:

1. Document including:
 - a. Feedback collected by the tester and the key user;
 - b. Optimization of the actual interface, functionalities and use cases;
 - c. Use cases to be implemented in the successive iteration.

2. Updated navigation, wireframes and other instruments useful for the developers to know what to implement in the successive iteration;
3. Updated UI/UX design including:
 - a. documentation to be sent at the NOI Techpark;
 - b. UI/UX manual for technical implementation;
 - c. detailed briefing for the software developers;
4. Quality management and coordination of queries.

3.7 Working place and hour

3.7.1 Working Hours

The execution of the works that involve collaboration with the staff of NOI Techpark or other entities involved in the project, must be carried out within a timeframe ranging from 9.00 to 12.00 and from 15.00 to 17.00. Depending on the needs, different times may be agreed via email between the service provider and the entities involved.

3.7.2 Working Place

The meetings that will be agreed during the project will take place, according to the needs of the project team, online or in the NOI Techpark offices:

- Via Alessandro Volta, 13, Bolzano.

Any expenses that the supplier will have to incur to reach these locations won't imply an additional cost for NOI Techpark.

In any case, any travel costs that the supplier will have to incur to ensure the natural performance of the project activities (e.g., extraordinary coordination meetings, interventions that require presence on site, development activities to be carried out in agreement with the one or more entities / suppliers involved in the project, etc.) can't be billed to NOI Techpark.

4 Other useful information

In this section are listed and described all other useful information that the service provider must consider to provide an offering for this project.

4.1 Documentation

To participate in this market research, we kindly ask to provide the following documentation:

- a short company description that includes also a list of references in similar projects;

- a short description of the team that will be assigned to the project including a short description of the competences of each team member;
- the cost estimation for each single task described in the chapter 2 of the present document.;
- the hourly rate of each team member included in the project team.

4.1 Market Research deadline

The deadline for participating in this market research is the:

13. January 2025 at 24:00

5. Contact

In case of questions please contact:

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