

Bolzano, 18 January 2023

## Market Research

### 2023 - 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 January 2023 the first beta version of the new Open Data Hub Data Browser will be published. This first beta version is mainly focused on displaying the data of the tourism domain with the possibility to edit only two chosen datasets (Articles and Events NOI & Eurac). At the following link the beta version of the new Open Data Hub Data Browser can be accessed:

<https://v2-beta.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 2023 NOI S.p.A. continues to follow two parallel processes: design improvements and development. By releasing a series of MVPs, approximately one every 2 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. Having a beta version of the tool online will allow to develop the tool on top of real feedback collected from the set of power users that will use the beta version.

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.

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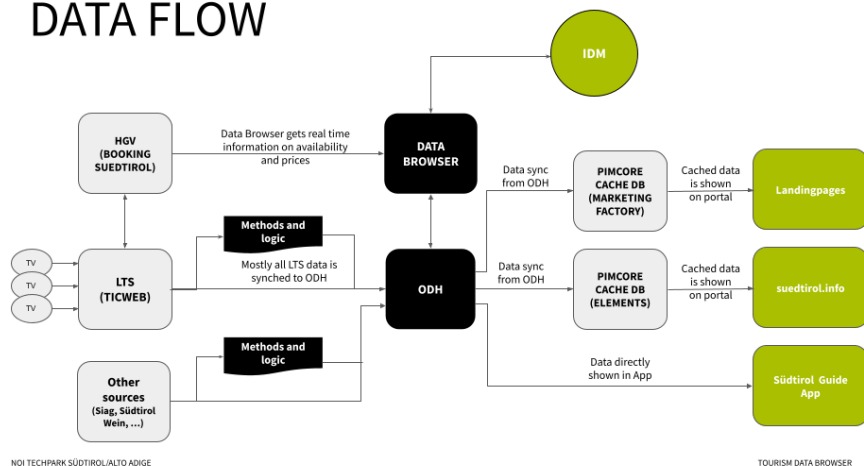
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## 1. Introduction

The version 1.0 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 tourism domain. All data is retrieved from the Open Data Hub API and is conditioned on the frontend to be interactive and browsable. The Data Browser offers a vast set of filters, searches, lists, detailed views and functions to view and edit data from the different endpoints. Representation of all data and functionality is mainly set up directly in the views. Therefore the goal is a relaunch of the Data Browser, where

- endpoints are accessed in a standardized way and representation of data is done uniformly;
- the data of all Open Data Hub domains (e.g. tourism, mobility, agriculture, etc.) are accessible;
- 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.

## 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 in order 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 1.0 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 based on Web Components, based on the functionalities of the open Data Hub Data Browser 1.0 and other additional requirements that emerged during the initial analysis and the implementation/testing of the first MVPs. This Data Browser shall connect to the various endpoints in all domains (e.g. tourism, mobility, agriculture, etc.) of the Open Data Hub, retrieve, represent and change its data. Considering the results of the first iterations, the new feature that will be developed in 2023 are:

- optimization of the navigation;
- implement filter functionality;
- implement a basic search functionality;
- add the possibility to manage the metadata (e.g. description, link to the documentation, swagger URL, API URL, sources, link to use cases, etc.) of each dataset;
- add the possibility to browse also the data of the mobility domain;
- integrate or align the design of the Open Data Hub Analytics tool to the Data Browser design. The analytics tool is available at the following link:

<https://analytics.opendatahub.com/>;

This list will be reviewed and updated 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, beta version of the Open Data Hub Data Browser 2.0.

In this phase of the project it is important to understand what the strengths and weaknesses (from a UX and UI-perspective) of the beta Open Data Hub Data Browser 2.0 are and which steps need to be undertaken to further improve the current vision of the new Data Browser. Additionally, the iterative workflow of the project requires UX and UI-Designs from the identified partners in order 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 iterative 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. In the Annex A you can find a more detailed description of some activities based on the experience that NOI S.p.A. did during the development of the beta version of the Open Data Hub Data Browser 2.0.

### 2.1 Feedback and improvement proposals collection

This task includes the collection of feedback and improvement proposals by the power users of the beta version of the Open Data Hub Data Browser 2.0. This task will include all actions needed (i.e., interviews, feedback forms, etc.) to collect and properly elaborate the collected information. It is up to the service provider defining their best strategy to maximize the quality of the overall result.

### 2.2 Analysis and definition of the UX

This task requests 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.

### 2.3 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.

## 2.4 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 2.2 and 2.3.

## 2.5 Support during the definition of future developments.

All previous tasks must also consider subsequent developments of the Open Data Hub Data Browser.

In 2023 we foresee at least the following developments:

- add the possibility to browse also the data of the mobility domain
- integration of the Open Data Hub - Analytics tool:

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

- optimization of the navigation;
- implement filter functionality;
- implement a basic search functionality;
- add the possibility to manage the metadata (e.g. description, link to the documentation, swagger URL, API URL, sources, link to use cases, etc.) of each dataset. As can be seen by clicking the link below, a first draft of the visualization of the metadata is already available in the actual beta version of the tool.

<https://v2-beta.databrowser.opendatahub.com/dataset-overview/articles>

Other optional developments that can be considered for the 2023 are:

- integration of a Dashboard that provides to the single data providers information about the data quality of their datasets;
- integration of a Dashboard that provides statistics about:
  - the datasets present in the Open Data Hub;
  - the requests received through the Open Data Hub APIs;
  - the status of the Open Data Hub APIs;
  - Etc.
- integration of a Dashboard that the customer care could use to verify if the data provided by the single data providers are the same that the Open Data Hub APIs exposes;
- Integration of a Dashboard that the customer care and the core team can use to verify if there are technical problems occurring (e.g., a sync with a data provider is not working, a service isn't available, etc.).

### **3. Constraints**

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

#### **3.1 Economic exploitation**

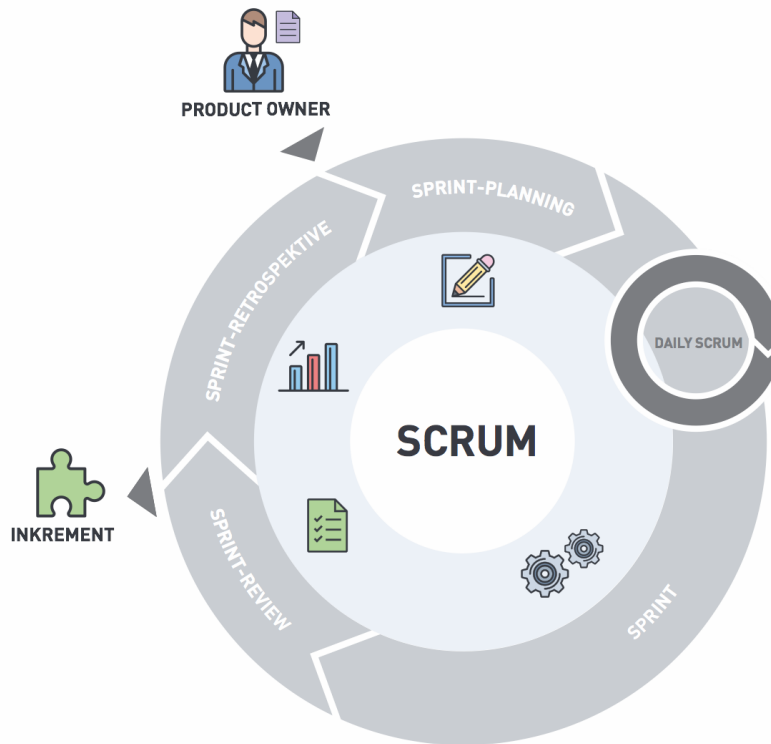
Where the creation of material subject to proprietary rights, including copyrights, sui generis data rights, and related rights, including solely of photographs, industrial design, all rights of economic exploitation arising from achieved results are reserved to NOI S.p.A., excepting those expressly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

#### **3.2 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.



### 3.3 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 has to 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).

### 3.4 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 two months.

The final goal is to reach the switch off the actual version of the Open Data Browser at latest by the: **31st December 2023**.

Moreover the Open Data Hub team, for the support in the analysis, design and optimization of the UI/UX foresees a maximal budget of: **30.000,00 €**.

### 3.5 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.

### **3.6 Working place and hour**

#### *3.6.1 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.

#### *3.6.2 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 in order 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:

**16. February 2022 at 24:00**

#### **5. Contact**

In case of questions please contact:

Stefano Seppi

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Tel.: 0471-066 674

## Annex 1:

In this Annex 1 you can find some useful information about activities that could be included in the next iterations. This proposal is based on the experience that NOI S.p.A. did while implementing the first beta version of the Open Data Hub Data Browser 2.0.

### A.1 UX-Test

NOI S.p.A. would like to conduct UX-Tests (face-to-face or remote) to validate the recently developed beta version and the elaborated vision of the Data Browser (provided in form of Wireframes).

Test material:

- beta: <https://v2-beta.databrowser.opendatahub.com/>
- Data Browser in form of Wireframes: <https://invis.io/4P12A0AND6HK>

Target groups to be considered during the test:

- Data viewers
- Data editors

All further characteristics (e.g. age, technological affinity, job position, usage of current Data Browser) and the recruiting of the test participants will be defined with NOI S.p.A. after commissioning.

Tested devices:

- Desktop
- Mobile (to be defined)

Number of participants in the test:

A specific number of participants to be interviewed has not been defined yet. We assume that total interview duration should not exceed 15-20 hours.

List of foreseen tasks (we are open for further proposals from your side):

- Define characteristics of test participants.
- Define main research questions.
- Elaborate interviewer's manual covering all research questions.
- Further elaborate the Wireframes of the Data Browser's vision and create a partially functional prototype that can be reviewed with test participants.
- Moderation of UX-Tests.
- Analysis and interpretation of the test-results.

- Report covering all central findings and potential solutions for improving the UX of the Data Browser.
- Prioritization of the next steps from a UX and UI-Design point of view for the next MVPs.

### **A.2 Elaboration of UX and UI-Design of 6 MVPs.**

The elaboration of each MVP foresees different tasks:

- UX and UI-Design of the Data Editor's View
- Integration of Analytics-Data into the Data Browser
- Interaction elements to assure a high quality of data within the Data Browser.