

## OpenBudgets.eu: Fighting Corruption with Fiscal Transparency

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### D8.7 Exploitation Impact Report

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**Abstract:** This Exploitation Impact Report is based on the findings and analysis of the specific requirements of stakeholders and target groups identified in work packages 1, 2, 3 and 4. The requirements of stakeholders and target groups identified in work packages 5, 6 and 7 has been integrated with the aim to develop the sustainable operating model for the OpenBudgets.eu SAAS platform beyond the project's duration.

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# Executive Summary

This Exploitation Impact Report aims to register the qualitative and quantitative impact achieved during the successful implementation of the OBEU project. Moreover it includes the analysis of the exploitation plans per developed tool and per Consortium partners, during and beyond the project's duration. Furthermore the Consortium's plans beyond the project's duration are outlined, with the objective to ensure the sustainability of the OBEU project and the maximisation of its impact beyond the project's duration. Impact of the project is analysed under different perspectives: from the partners and the tools' perspectives, the stakeholders', the EU Work Plan objectives and the market.

## Abbreviations and Acronyms

<b>WP</b>	Work Package
<b>OS</b>	OpenSpending
<b>OBEU</b>	OpenBudgets.eu
<b>LP-ETL</b>	LinkedPipes ETL and LinkedPipes Visualisation
<b>LOD</b>	Linked Open Data
<b>RDF</b>	Resource Description Framework
<b>FDP</b>	Fiscal Data Package
<b>SVG</b>	Scalable Vector Graphics
<b>OKI</b>	Open Knowledge International
<b>OKFGR</b>	Open Knowledge Greece
<b>OKFDE</b>	Open Knowledge Germany
<b>UEP</b>	University of Economics, Prague
<b>TIEU</b>	Transparency International
<b>FhG</b>	Fraunhofer IAIS
<b>J++</b>	Journalism++
<b>SPARQL</b>	<b>SPARQL Protocol And RDF Query Language</b>
<b>ETL</b>	Extract, Transform, Load

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# 1 Introduction

Open Government initiatives have already demonstrated their potential in achieving transparency and therefore fighting corruption. Transparency can be reached, to a higher significant degree, thanks to the current technological progress that can provide insights in the domain of budget allocation at local, regional, national and international level. OpenBudgets.eu (OBEU) aimed to integrate the corresponding budget data on the different levels of administration, defining thus a semantic data model for budgets and spending. Transaction and budget allocation items are thus made available for discussion and debate by stakeholders, such as citizens, NGOs, public service companies, media organisations, and also public administration entities at different levels of administration. The stakeholders are provided with a toolbox for creating and sharing visualisations, for conducting comparative data analyses and for the discovering trends. Stakeholders are able to view and compare allocated budgets and transactions, and give feedback on each item. This feedback can then be shared through social media and also be directly exploited by Governments and public administrations so that better budget management will be achieved. The OBEU integrated framework contains and exploits the following components:

- A semantic data model,
- A financial data ingestion tool,
- A library of visualisation tools with a user-friendly interface,
- A library of data mining and comparative analysis tools,
- A feedback and citizen engagement interface,
- Comprehensive Open Data export interfaces,
- The OBEU open-source framework and portal.
- Three large-scale use-cases in the transparency, journalism and participatory budgeting domains.

The OBEU integrated framework, connecting together the OBEU software platform and all the related projects and activities for fiscal transparency, aimed to fulfil the following set of objectives:

1. Financial Data publishing and integration employing Linked Open Data
2. Exploratory and comparative Financial Data Analysis
3. Interactive Budget Management
4. Comprehensive OBEU Framework
5. Cross-domain Application
6. Sustainable establishing of OBEU as a Software-as-a-Service

In this regards, the OBEU objectives aligned with the scope and challenges put forward in the call for “ICT-Enabled Open Government” (INSO-1-2014/2015):

1. Provide tools which increase transparency of public sector platforms.
2. Pilot tools which will benefit from open data, and could help monitor and enhance accountability
3. Address challenges posed by the evolution of society, while reducing the administrative burden and increasing efficiency of public services
4. Encourage collaboration between stakeholders within an open government setting
5. Exploit social media to increase connectivity
6. Assess the effectiveness, the social and economic impact, of the provided tools.

With this report we describe the final exploitation plan for OBEU and evaluate the final results of the project in terms of impact, stakeholders' engagement, sustainability and business potential. The impact of the project is analysed under several perspectives: (i) impact of the general overall OBEU framework (Section 2), (ii) impact towards the H2020 Work Programme objectives (Section 3), (iii) impact for each developed tool (Section 4) and for each consortium partner (Section 5), (iv) impact on the stakeholders (Section 6), (v) impact on the large scale trials (Section 7), and finally (vi) impact on the market (Section 8). As documented in this report, we have taken a great number of management and technological tools in consideration with the aim to properly address all project related aspects and involved stakeholders.

## 2 Impact and Future Exploitation

### OpenBudgets.eu

In its 30 months running time, the project *OpenBudgets.eu* has developed a platform with 13 tools and 3 use-cases. Moreover OBEU has extensively tested the platform in three large scale trials, and paved thus the way for its future exploitation. It can be thus deduced that impact of the OBEU project has been significant. In this regard, some of the main efforts are highlighted here below, showcasing thus that the OBEU platform has already delivered significant results.

#### 2.1 Results

##### Standards

OpenBudgets.eu has developed multiple standards for fiscal data. Based upon the work completed by Open Spending, the OpenBudgets.eu platform has been developed further, applying thus the Open Fiscal Data Package to a greater detail and extent. The accompanying tool - the packager - for modelling flat tabular files makes it easy for the non-technical user to upload and model any type of financial data.

With regard to RDF, the OpenBudgets.eu consortium has developed its own standard, i.e. the OpenBudgets Data model. Based on extensive research, this model constitutes a flexible linked data model, allowing the linkage of budget and spending data to the Semantic web.

The OFDP to RDF pipeline makes it possible to turn the OFDP modelled data and data packages to an RDF dataset in one click. Now non-technical users can independently turn their csv-budget data files into RDF datasets, getting access to the semantic web and the advanced data mining and analytics tools.

##### Data Analytics and Semantic Web Tools

The true innovation in the OpenBudgets.eu semantic web tools is its effort to create user-friendly tools. In the data mining work packages and analysis tools, the project has developed a number of tools that go above and beyond the state of the art providing rule-,

pattern- and cluster- mining tools for financial data, which are easy to use for all sorts of users. In the field of Semantic Web data in general, the RDF browser and the alignment tool for semi-guided ontology alignment, bring the field of semantics to the lay-user and providing interactive user-friendly interfaces. Additionally, RDF data transformations and data interrogations are now easier thanks to the developed Linked Pipes ETL tool and public SPARQL endpoint.

### **New ways of explaining budget data: “The Good, the Bad, and the Accountant”**

For explaining budget data, [OpenBudgets.eu](http://OpenBudgets.eu) has developed the game: “The Good, the Bad, and the Accountant”. It has received wide praise both within and outside the journalism community and was featured in over 40 newspapers around Europe. J++ developed a fully new way to explain the inner functioning of the local administration, and the accompanying land, budget, cartel and corruption question. Through gamification, the user receives the information on the basics of accounting and budgeting in an entertaining and easy way.

### **MEP Expenses campaign**

The next major media and policy success of [OpenBudgets.eu](http://OpenBudgets.eu) was the MEP Expenses campaign. In its research on the EU Financial System, [OpenBudgets.eu](http://OpenBudgets.eu) found that some expenses of the Member of the European Parliament (MEP) were not accounted for. Declarations did not need to be made for up to 4000 Euro per MEP, however research shows that these funds were not used for their intended purposes of holding local bureau's and staff, but instead they were used for cross-financing the national political party, or disappeared altogether. Extensive lobbying and further investigations from investigative journalists has now firmly put this item on the political agenda.

### **Subsidystories.eu**

Also for its data-collection and test-cases work, the consortium decided to work on topics at the European Union level. The European Union allocates 44 % of its total 7-year budget through the European Structural Funds. Who received these funds - accounting for 347 Billion Euro from 2007 - 2013 and 477 Billion from 2014 - 2020 - could only be traced through regional and local websites. Subsidystories.eu changes this by integrating regional datasets into one database with recipients of the European Structural and Investment Funds from 2007 onwards. Accompanying the website, journalist and civil society trainings were set up on conferences and in a 5 week long tutorial culminating in a weekend long workshop: the story hunt.

### **Participatory Budgeting**

Openbudgets.eu's Participatory Budgeting Platform (PB Platform) address some of the problems identified by citizens and public administrations. The platform is designed to enable real participatory experiences and decision-making processes, providing solutions that are easy to implement by all stakeholders involved, thus strengthening the democratic process. It has already been implemented in municipalities in the Aragon region in Spain and is set up to be further developed.



## Toolbox implementation: large scale trials and first follow up

The [OpenBudgets.eu](https://www.openbudgets.eu) toolbox and solutions were extensively tested in three major cities in Europe: Bonn, Thessaloniki and Paris. The various successful testing procedures have led to extensive evaluation reports and implementations around Europe. The Paris partner NGO - [OpenBudgets.fr](https://www.openbudgets.fr) - have expressed their intention to become the French implementing partner for [OpenBudgets.eu](https://www.openbudgets.eu). At the same time, the City of Thessaloniki and its wider region are planning to further implement the [OpenBudgets.eu](https://www.openbudgets.eu) tools. In addition to that the Municipality of Bonn will take up the toolbox in its enterprise system. Finally, individual partners have already rolled out the tools in the first client cities: OKF DE is implementing open budgets tools for the OpenNRW grant in the city of Moers, and has offered the further development of the German version of the toolbox to the city of Berlin, while OKF GR will be implementing further instances in Greece, Civio is currently servicing the Spanish market already with one solution focused on administrations with the title *“Where do my taxes go? Our budget visualization tool, with more than 30 regional and local clients”*.

## 2.2 Future Implementation Models

OpenBudgets.eu has developed a toolbox that can be applied by the four main target audiences: public administration, journalists, citizens and data wranglers and by all related stakeholders. Here below, we set out the implementation strategy per user group and highlight the organisational set up for its further exploitation by the consortium in the future.

### Toolbox for Administration

The OpenBudgets.eu platform offers several applications that are tailored to the needs of administrations and public officials. From easy-to-use budget visualisations to performance comparisons between cities and participatory budgeting mechanisms, a wide spectrum is available. This is an overview of the available tools and their function.

#### [Upload & Explore](#)

Upload & Explore are essential and important parts of the OpenBudgets platform, as here budget and spending data is imported, visualised, and analysed. You may choose to upload your own dataset using the ‘Upload’ button, or you can dive straight into the existing datasets by clicking ‘Explore’.

#### [Explore](#)

The explore view shows you the datasets that have been already uploaded to the platform. Selecting ‘view’ will open the OpenBudgets Viewer, with instant access to a series of single-click visualisations that you can customise and embed. ‘Analyse’ will open the suite of data mining algorithms you can run on the dataset, allowing for more advanced insights into your data.

#### [Upload](#)

Clicking on ‘Upload’ offers two ways to transfer data into the platform. To upload a dataset you have on your hard drive, choose OpenSpending Packager and follow the instructions on the next page to upload and describe your dataset. LinkedPipes is an ETL (Extract, Transform, Load) tool primarily targeted at advanced users and domain experts that allows users to create individual pipelines for

specific use cases in which data needs to be sourced, e.g. from a URL.

### [Microsite](#)

The Microsite is a slimmed down version of the [Viewer](#) that has been adapted with customization and social interaction options. It is meant to be deployed by administrations on their websites. Refer to the Github page of the Microsite for [deployment instructions](#) and [support requests](#).

### [KPI \(Key Performance Indicators\)](#)

KPI allows cities and public administrations to publish and compare data using indicators such as investments, subsidies, and taxation per resident. The detailed display of the information allows for a significantly improved understanding of a city's financial health, its income and expenses, as well as many other aspects that otherwise are difficult to discern without extensive research. A city will thereby become more accessible and transparent to its inhabitants through unprecedented openness.

### [Participatory Budgeting Tool](#)

The Participatory Budgeting Tool an open-source tool for public administrations to use when consulting their citizens about how to allocate the budget and approval. It provides public officers with the instruments to gather and effectively manage user feedback, enabling a greater degree of citizen involvement, engagement and participation in the budget decision-making and implementation processes. Public administrators can, among other tasks, create different proposals and categories, or add several tags to better identify proposals., you can let your electorate become decision makers in the budgeting process.

For the future implementation of the toolbox by municipalities, the consortium foresees three different funding streams:

1. Provisioning of OBEU as Software-as-a-Service (SAAS) to public administrations and public service companies. While the basic usage of the OBEU platform will be free, service-level agreements and value-added services will be offered against a yearly fee. Possible value added services:
  - a. Set Up and Deployment
  - b. Maintenance
  - c. Service
  - d. Training
2. Provisioning of commercial support, maintenance, deployment/integration and custom extension development for administrations and public service companies, which want to install an instance of the platform on top of their own infrastructure.
3. A holistic training and implementation programme, where the teams of the OpenBudgets partners will implement the infrastructure and the first iteration of the budget data for the current fiscal year. In this joined implementation with the municipality, tailored training courses are developed. Selected staff in the municipality is trained to independently maintain and implement visualisations of future budgets.

## Toolbox for Journalism

The OpenBudgets.eu platform offers several applications that are tailored to the needs of journalists. From ready-to-use massive databases containing budget and spending data to inspiring instances of investigative journalism in the field of fiscal corruption, valuable resources are available. This is an overview of the available tools and their function.

### [Subsidystories](#)

Subsidystories is a database containing beneficiaries of three of the five European Structural Investment Funds (ESIF). It has been carefully collected, cleaned, and standardised by the OpenBudgets team to allow journalists deep data dives on their search for salience and malpractice. The database has been accompanied by the [Storyhunt](#), a series of workshops with a final expedition weekend into the depths of the data. A valuable resource for investigations into corruption and financial policy.

### [Cooking Budgets](#)

This collection of common corruption schemata displays European processes in bribery, embezzlement, favoritism and general abuse of public resources for private gains. It is meant to be used as a resource for journalists seeking to investigate misuse of public funds. The format of the tutorials is satirical: it pretends that they are made for civil servants hoping to use public funds for personal profit. We chose satire as a tutorial genre to entice readers into actually reading the tutorials. Analyzing budget data is a rather coarse field, which can make use of a lighter tone.

### [The Football Tax](#)

The Football Tax is a journalistic investigation that traces public spending to professional football. It provides a proto-type for setting up investigative journalism investigations around public funds.

### [Order of Magnitude Guesser](#)

Budget and Spending data requires both a technical understanding and an immaculate sense of magnitude. Find out how you compare to others in your field using the Order of Magnitude Guesser.

### [The Good, the Bad, and the Accountant](#)

This game is intended to elucidate the occurrence of corruption through price rigging and other tactics related to the day-to-day business of a public official. It is an accessible and entertaining way to gain insights into a complex circumstance and is intended to inspire journalistic and civil investigations into the subject matter.

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For future implementation of the toolbox for journalists, the consortium foresees two main pathways:

#### *1. Training courses*

[OpenBudgets.eu](http://OpenBudgets.eu) has developed several curricula for data journalism training focused on finances. The training materials are further used in training courses for journalists given by the consortium partners in the future. These trainings can be offered to journalism organisations and journalism schools directly, or funded through third parties where interested participants are invited through open calls.

#### *2. Partnerships*

In the second model, the consortium partners will seek partnerships with journalists and journalism organisations to support data acquisition, cleaning and analysis work for running investigations and journalism projects. As consultants and implementing partners, the consortium will use the analytics and visualisation toolbox to provide the data for storytelling.

## ***Toolbox for Data Wranglers***

The OpenBudgets.eu platform offers several applications that are tailored to the needs of data wranglers and domain experts. Complex data mining algorithms are accompanied by state-of-the-art linked data tools that cover large aspects of the complexities involved in the work within the Resource Description Framework (RDF).

### [Data Mining Tool Collection](#)

Are you looking to dive deep into your data? The Data Mining Tool Collection offers you a plethora of ways to do so. Using it you can apply time series algorithms, detect outliers, perform descriptive

statistics, and do clustering and similarity learning.

### [ETL LinkedPipes](#)

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Create custom pipelines to source, process, and convert data from almost any source into a variety of formats.

### [Browse RDF Data](#)

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The RDF Browser is an open source content negotiator and HTML description generator for RDF resources. It is a PHP web application, able to be deployed in most environments out of the box with minimum effort, lowering the barrier for publishing Linked Data on the Web.

### [Alignment](#)

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An application for online, collaborative, system aided manual entity linking. The tool can be used to manually create linksets between two knowledge graphs or to validate linksets

### [Subdystories](#)

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## [Load & Explore](#)

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specific use cases in which data needs to be sourced, e.g. from a URL.

Further opportunities for exploiting the data wrangler toolbox find themselves in the area of analysis and research. The strength of the OpenBudgets.eu toolbox lies therein that it connects flat-file formats with rich data formats, opening the Semantic web and its applications to administrations, civil society organisation, and journalists alike. At the same time, it links a new category of financial data to the semantic web. Thus, the data wranglers' toolbox can be further applied in two settings:

#### 1. *Semantic Web and Linked Data Research*

The data-mining, alignment and ETL-pipeline tools developed for the data-wrangler toolbox can be accessed and further developed and used in both the online environment and run on local instances. They connect financial data research with the semantic web, but can also be extended for use in the wider field of the Semantic web.

#### 2. *Deep Analytics to financial data*

When instances of OpenBudgets.eu are implemented for administrations (see toolbox administration in Box 1) or are used by Civil Society Organisations and Journalists, they can use online, or implement accompanying deep analytics tools from the data mining toolbox. Furthermore, the ETL pipelines allow large or multiple datasets to be uploaded directly in the repository, through customized code-lists.

## 2.3 IPR, Differentiated Pricing and Costs, Business Model Canvas

The [OpenBudgets.eu](http://OpenBudgets.eu) consortium is firmly committed to Open Source Software and its principles. All the tools of the toolbox are openly licensed and can be re-used for any purpose. This means that the accompanying profit comes from the software use and consultancy, which helps to improve the software over time and spread it through the community. The consortium will continue to exploit and disseminate the toolboxes and its results, but also welcomes the use by further partners and consultants. The objective is to improve financial transparency in Europe, only with as many partners, consultancies, private companies, non-profit, academia, and of course the administrations can we reach this goal.

The diversity of the toolboxes and the geographic spread and commitment of the consortium partners (see section 5) will ensure a wide roll out, but also addresses the full market potential of different partners and target groups. Taking this together the market potential for the toolboxes will make sure that the market potential is not "threatened by competition", thus the openness of the toolboxes and the open source will benefit the project in the long run instead of hindering. The open source solutions ensures that the software remains secure, flexible and is open to the public and competition, improving the field of financial transparency as a whole.

The business model canvas below, show the different possible revenue streams for the different toolboxes, mostly geared at the implementation with municipalities: Set Up and Deployment, Maintenance, Service, Training.

In order for each organisation to implement such services operation costs in the area of management, account management and sales, engineering, training, communication and outreach will emerge (find a detailed breakdown in the BMC below). Per partner, geographic location, and the size of the client and its requests will significantly differ. Thus the consortium does not set out a set-pricing scheme, but this will be negotiated in future partnerships on a case by case bases.

<p><b>Problem</b></p> <p>Budget data is hard to comprehend for citizens and decision makers alike, to increase citizens understanding of budget data and provide insights that citizens need for an informed opinion and vote on the budget and stance towards the work of the government and hold the government accountable, the budget numbers need to be made easy to understand, explained and well presented. This requires a holistic approach combining learning materials, visualisations and explainers.</p> <p>Currently, the interactive websites offered for visualisation of budgets are one-off products, remade and renewed for every municipality commissioning a website to local, national or international suppliers.</p> <p>--The wheel is constantly reinvented --The opening of those budgets does not contribute to the wider Open Data work for financial transparency, the datasets are spread around different</p>	<p><b>Solutions</b></p> <p>OpenBudgets allows municipality staff itself to implement, upload and renew the budgets visualised on their platforms.</p> <p>At the same time they contribute to the volume, quality and standardisation of budget data around the world.</p> <p>For more advanced analysis, the micro-site and the data formats are linked to the advanced data analysis toolbox of OpenBudgets.eu. This toolbox can be accessed online, or integrated.</p>	<p><b>Unique Value proposition</b></p> <p>The micro-site, tools and learning materials provide a holistic ICT- and training-package for every municipality to visualise their budgets and engage their citizens for local politics.</p> <p>The micro-site, tools and materials developed by <a href="http://OpenBudgets.eu">OpenBudgets.eu</a> can be easily implemented by any municipality without having to contract developers and re-built a full tailor made product, the development and test phase have already been done, and the proven product is easy to tailor and implement for every municipality.</p> <p>It decreases implementation time from 6 months to a year, to 1 - 3 months.</p>	<p><b>Unfair Advantage</b></p> <p>The products are developed and tested together with the future users, and ready for the market.</p> <p>The long experience and networks of the consortium partners, spread around Europe, allows us to from the start spread the product around Europe, adjusted to different geographic and political contexts, and in different languages.</p> <p>The links and integration to the wider network of Open Fiscal data makes our product attractive, comparison and integration are foreseen in the network that municipalities join when implementing the services.</p>	<p><b>Customer segment</b></p> <p><b>Local and Regional administration.</b> User = Citizens</p> <p>The customer is the regional and local government, who want to open up their budget to the wider public. Opening the budget data to the public helps to engage citizens with the local politics and increases inclusion in the decision making processes and supports political participation and engagement with political, and thus increases support and trust for the governmental institutions in the long run.</p> <p><b>Early adopters:</b> we have ran three test cases, these test cases showed that the early adopters are usually second-tier cities, who are big enough to sustain such a project, and where there is room for experimentation. Bigger regional and provincial cities, who are looking for ways to be innovative and work more together with citizens.</p> <p><b>Local Civil Society Organisation.</b> User = Citizens</p> <p>The other customer</p>
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<p>portals, a standard and overview is lacking --There is no learning and improvement on how the budgets are visualised.</p>	<p><b>Key Metrics</b></p> <p>Implementation:</p> <p>Customer Satisfaction (Municipalities); Number of trained staff in administration;</p> <hr/> <p>Sustainability - number of updates to the budget by the municipality internally; number of service request solved internally; number of service request received by partners</p> <p>Impact: Number of users per platform;</p> <p>Key to generating sufficient usage of the platform is the attractiveness of the visualisation, a strong communication strategy</p>	<p><b>Channels</b></p> <p>Channels</p> <ul style="list-style-type: none"> <li>● Specialised publications for administrations</li> <li>● Social Media Channels</li> <li>● Network-meetings and specialised conferences</li> <li>● One-to-one liaisons</li> </ul> <p>Deliver Value</p> <ul style="list-style-type: none"> <li>● Co-create training</li> <li>● Tailor made websites</li> <li>● Iterative and agile implementation</li> </ul> <p>Promote Value</p> <ul style="list-style-type: none"> <li>● Demonstrators</li> <li>● Campaign focused on one topic/region</li> <li>● Collaborate with major institutions like IBP, GIFT, and Transparency International</li> </ul>	<p>is a local civil society organisation that wants to hold the local government accountable, they can run the budget website to inform the citizens about the local government budget and spending, and connect it to their campaign strategies.</p> <p>It requires the organisation to have ways to get access to the data and the public outreach to find the users for the visualisation.</p> <p><b>Early adopters:</b> civic tech organisations and smart cities.</p>
<p><b>Cost structure</b></p> <p>HR: Developer Capacity Workshop and Trainers Account Manager</p> <p>Engineering: Maintenance of servers, back-end and toolbox; Data-wrangling and scraping; Cleaning and verification.</p> <p>Training: Materials; Location; Training; Pre-workshops; Follow up workshops; Pair-Coding and one to one training.</p> <p>Marketing: Outreach; Social Media; Liaisons; Conference Visits; Network conversations; Overhead</p> <p>As implementation per municipality will be in itself a renewed process, costs will not sink over time. Every instance and implementation has a comparable cost-structure.</p>	<p><b>Revenue Streams</b></p> <p>Three service categories are envisioned:</p> <ol style="list-style-type: none"> <li>1. Provisioning of OBEU as Software-as-a-Service (SAAS) to public administrations and public service companies. While the basic usage of the OBEU platform will be free, service-level agreements and value-added services will be offered against a yearly fee.</li> <li>2. Provisioning of commercial support, maintenance, deployment/integration and custom extension development for administrations and public service companies, which want to install an instance of the platform on top of their own infrastructure.</li> <li>3. A holistic training and implementation programme, where the teams of the OpenBudgets partners will implement the infrastructure and the first iteration of the budget data for the current fiscal year. In this joined implementation with the municipality, tailored training courses are developed. Selected staff in the municipality is trained to independently maintain and implement visualisations of future budgets.</li> </ol> <p>Possible Revenue streams in an SaaS:</p> <ul style="list-style-type: none"> <li>- Set Up and Deployment</li> <li>- Maintenance</li> <li>- Service</li> <li>- Training</li> </ul>		

## 2.4 Organisation for implementation

The project partners implemented the different OpenBudgets.eu toolboxes and solutions within their expertise and geographical locations, and connected to other relevant local partners for training and co-implementation. To this end, the OBEU consortium partners will establish a community group which is not legally binding but will maintain, advocate and disseminate the project's results and innovative value proposition.

In this regard the project's website will be maintained after the project's duration, as well as the server at Fraunhofer for one year at least after the end of the project. In this regard, the Dockers and the Open Source community, e.g. GitHub and DockerHub, will be maintained and available.

Furthermore the OBEU Partners will continue their collaboration via a mailing list, slack and by using social community channels and be actively disseminating the project's results when interacting with the other Open Data communities and related projects at European and global level. In this respect, the members of the OBEU consortium can act as OBEU ambassadors and disseminate the project's results and unique value proposition in thematically related conferences, meetups, hackathons and workshops.

During the Large Scale trials the OBEU consortium has collected feedback and stakeholder interest, trying at the same time to identify revenue streams and funding sources that will ensure that the OBEU consortium will receive the funding required in order to offer and to further expand its customisable offerings to the interested stakeholders.

After the successful, smooth and fruitful collaboration during the project, all partners are searching for funding sources that will enable the continuation of the collaboration of all OBEU partners. The skills and competencies of the OBEU Consortium have significantly developed and matured and the collaboration during the project has indicated that there is a great fit between the partners of the OBEU Consortium. As a result, all Partners are willing to continue their collaboration related to the OBEU solutions beyond the project's duration.

With the identification of funding sources, the OBEU consortium plans to implement the successfully conducted large scale trials, by preparing customisable offers to interested stakeholders such as other municipalities, service providers to municipalities etc. The OBEU partners are developing a contact list consisting of European cities and municipalities that are active or have just started being active in the domain of open data. The OBEU Consortium views such cases as opportunities to offer consulting services and to market the OBEU platform and its related tools.

## 3 Impact according to the H2020 Work Programme

As is visible in the list of highlights and results presented in Section 2, the OpenBudgets.eu has generated success on numerous fronts: policy, journalism, semantic web, budget analysis, and visualisation and training. The dissemination report shows extensively how the project has reached all its indicators through its various actions, thus we focus on the objectives here.

**Impact 1:** *Stimulating the creation, delivery and use of new services on a variety of devices, utilising new web technologies, coupled with open public data.*

OpenBudgets.eu provides already a number of services to be used in conjunction to the publishing of open public data. These services include: visualisation services, data discovery, data exploration and feedback services. These enable stakeholders to explore and investigate data and to leave feedback on budget and transaction data. These services are further enhanced by linking the budget and transaction data on OpenBudgets.eu to the LOD cloud, therefore further increasing the knowledge that can be discovered through the available data.

OpenBudgets.eu (together with OpenSpending) currently hosts more than 2,293 data packages from 78 countries with over 52,927,656 fiscal records. OBEU has developed a platform with 13 tools, 3 use-cases and extensively tested the platform in three large scale trials. This makes it very attractive to different stakeholders who want to work on such data and extend its functionalities.

The OBEU platform API is publicly available, open source and documented, as well as the data offered to the public, which is also open and easily accessible. This makes it easy for other stakeholders and developers to extend the platform with extra services built on top of open budget data.

**Impact 2:** *More personalised public services that better suit the needs of users.*

OpenBudgets.eu has developed a platform with 13 tools, 3 use-cases, and extensively tested the platform in three large scale trials. Its impact is mainly targeted through the implementation of the following three test-beds: transparency in financial data, exploiting OBEU as a journalism tool, and using OBEU for participatory budgets.

*Transparency:* A virtuous circle has been created, in which both public officials and the wider public realise the value of data and analysis tools and increase their demands for more and better financial transparency data as well as wider use of the Openbudgets.eu portal in the future. Continuous work of advocacy has been (and will be) put in place by TIEU on this topic, especially on a European level.

*Journalism:* Specific tools for data analysis and investigation have been developed for journalists. By giving a fast and intuitive access to the data, the OBEU platform is adapted to the workflow of European newsrooms. The integration of the graphs and other elements into the text and video content produced by journalists both online and via traditional media improves the efficiency of information management processes within media companies.

*Participatory Budgets:* OBEU developed a Participatory Budgeting Platform (PB Platform) which is designed to enable real participatory experiences and decision-making processes, providing solutions that are easy to implement by all stakeholders involved, thus strengthening the democratic process. It has already been implemented in several municipalities in the Aragon region in Spain and several other contacts have been made for its implementation elsewhere, starting from the three large scale trials municipalities.

***Impact 3: Reducing the administrative burden of citizens and businesses.***

One of the main objectives of OpenBudgets.eu is to provide a one stop-shop for European citizens for information about allocated budgets and spending transactions.

- The platform is widely used: OpenBudgets.eu (together with OpenSpending) currently hosts more than 2,293 data packages from 78 countries with over 52,927,656 fiscal records.
- It allows data providers to upload data in various formats: CSV, XML and RDF. This data is automatically mapped to an OBEU semantic data model and a common Fiscal Data Package schema.
- An updated and guided data upload procedure supports users in quickly and easily providing their data and publishing it as open data.
- Visualisation, participation and analysis tools are all in one place, and can be directly used on the available datasets. By aggregating all relevant data and tools in one access point, OBEU directly influences users' willingness to scrutinize the available data and give feedback.
- A view over OpenBudgets' datasets can be easily embedded on a different website (e.g. a municipality's website or a data journalist platform) using the Microsite.

***Impact 4: Increased transparency of and trust in public administrations.***

OpenBudgets.eu has already achieved significant impact on the transparency of public administrations. Thanks to the OBEU platform, public administrations can publish their budget and transaction data with minimal effort, and all stakeholders would be able to scrutinize and provide relevant feedback on budget priorities and specific transactions. As mentioned earlier, currently more than 2,293 data packages from different administrations in 78 different countries have opened up their data and published on the OBEU/OS platform.

There have been a number of EU-level regulatory obligations adopted that have resulted in the publication of spending and expenditure data of EU funds by EU institutions and national authorities. As the *data quality index* report provided in D6.7 shows, many of these new provisions have improved the transparency and data quality of ESIF data in the current funding period. However, the regulations governing the next funding period can address some of the weakness that prevent this data being published in the appropriate format, allowing citizens to fully appreciate and use this data.

The European Parliament publishes a great deal of information on parliamentary activities. It also provides a host of documents, internally and from other institutions, on the budget and spending of the Parliament. OpenBudgets.eu has worked intensively on mapping e.g. ESIF data to the OBEU semantic data model. The mapping of this data to a Semantic Data Model is important so that the stakeholders can also compare heterogeneous data in different dimensions (including temporal, spatial and administrative).

However, some obstacles are still in place. For instance, the allowance scheme of Members of the European Parliament lacks transparency and adequate financial controls mechanisms.

Transparency of expenditure data is non-existent regarding all of the four primary allowances available to MEPs. OpenBudgets.eu has delivered intensive work of advocacy against such issues, especially through the partner Transparency International, as documented in D6.7. Partners such as TIEU will continue to do this work of advocacy even after the OBEU project.

Finally, OpenBudgets.eu impacts all stakeholders, motivating data providers (public administrations) to publish their data, and also enabling citizens, NGOs, media organisations, and companies to collaborate in generating a more transparent administration system.

## 4 Tools' Impact and Plans

In this section, information is provided with regard to the OBEU tools developed, including information about how the current and future efforts align with the objective to maximise the uptake (and thereby sustainability) of the partners' efforts. The two guideline questions are the following:

- How do you expect the tool-focused exploitation efforts to be continued after the project's end?
- Who can lead such efforts, and how could they be supported both financially and otherwise?

Alignment of the OBEU tools developed and the Partners' individual exploitation plans' contributions with your long term objectives as an organisation/institute:

- How does your involvement in the OBEU project fit in with your organisation's plans?
- How will future plans continue the efforts being undertaken in the OBEU project?

<b>Tool Title</b>	Participatory Budgeting Portal [ <a href="#">link</a> ]
<b>Tool Description</b>	An open-source tool for public administrations to use when consulting their citizens about how to allocate the budget and approval.
<b>Developed by</b>	CIVIO
<b>Exploitation actions and strategy per Partner during the project and after the project's duration</b>	
<b>FhG IAIS</b>	FhG IAIS tested this tool during the large scale trials and received very positive feedback as per its possible use by the related stakeholders. In collaboration with its contact network and with the partners of the large scale trials, FhG IAIS aims to identify private or public revenue streams that would make it possible for the interested stakeholders to purchase and maintain this portal. Moreover Fraunhofer IAIS is active in the preparation of proposals for EU and industrial

	<p>projects and in this respect it will make sure to reuse the project’s results for any relevant calls.</p>
<b>OKI</b>	<p>OKI is collaborating with the Global Initiative for Fiscal Transparency (GIFT) on the development and promotion of the Fiscal Data Packager among government partners, as well as enhancing OpenSpending platform and tools. Some of GIFT’s partners - mostly on a local level - are also involved in participatory budgeting processes. OKI as well as to a civil society organisation in Ecuador that works around budget transparency.</p> <p>We have been recommending the tool to GIFT in general and putting CIVIO in touch with one particular municipality in Croatia, that was highly interested in using a tool easy to implement in their current participatory budgeting process.</p> <p>Also, we promoted and recommended with members of civil society organisations that do advocacy work around participatory budgeting. We find it very useful and will continue promoting it in the area of open government data and approaches of participatory budgeting.</p>
<b>CIVIO</b>	<p>Civio has developed an open-source Participatory Budgeting tool for public administrations to use when consulting their citizens about how to allocate the budget and approval. It provides public officers with the instruments to gather and effectively manage user feedback, enabling a greater degree of citizen involvement, engagement and participation in the budget decision-making and implementation processes. Public administrators can, among other tasks, create different proposals and categories, or add several tags to better identify proposals.</p> <p>We are currently servicing the Spanish market already with one solution focused on administrations. Where do my taxes go? Our budget visualization tool, with more than 30 regional and local clients. We are marketing our PB platform along with our Budget Visualization solution, enhancing business development at national level.</p> <p>At the EU level we have a total addressable market of 270 regional governments and approx. 150,000 local entities, which we will approach in a phased, segmented approach. In a second phase we would also target other entities (i.e. universities, research centres, private-public enterprises, etc.), or that are willing to increase their participatory practices. We will rely on strategic partnerships with other European civic technology actors in the EU’s largest underserved national markets to increase our commercial outreach.</p>



	<p>Our experience shows one main possible revenue stream: Software-as-a-Service. Service-level agreements and value-added services offered against implementation + yearly maintenance + value added fees. Our current clients are already under this market-tested price scheme. This option is cheaper and more effective than developing, deploying and maintaining their own platforms.</p> <p>We have shared our experiences in different forums and international events such as, CAPPSI Fair, ICT Proposers Day, Global Civil Society Forum, among others, and we will continue to do so in the coming months.</p> <p>We are currently implementing a second participatory budgeting pilot in Torrelodones (Madrid), after a first pilot in May, while another OBEU project partner, Open Knowledge Greece, is implementing our participatory budgeting tool in Thessaloniki. We are in preliminary contact with Hivos and Bosch Stiftung to implement the tool in new locations with their support.</p>
<b>TI EU</b>	<p>TI EU has, and will continue, to highlight this tool and the concept of participatory budgeting to EU policy makers within the context of continued discussions on citizens' engagement and the EU budget process, goals, and priorities. The tool has, and will continue to be, promoted within our network, with a focus on Transparency International national chapters and citizens.</p>
<b>OKF DE</b>	<p>OKF DE considers this tool a valuable and well-constructed demonstrator of what the technical preconditions of an inclusive budgeting process may look like and will consider and promote this tool in this function during the continuous involvement of OKF DE in the domain of open government.</p> <p>Participatory budgeting is a growing field in Germany. The strength of this tool is the connection to the extended OpenBudgets.eu toolbox that allows us to bridge the gap between budget visualisation and participatory budgeting processes. The workshop at the Berlin Open Data Day with stakeholders from the local administration showed that there is a need to place the participatory budgeting processes in the wider financial political context. OpenBudgets.eu is unique in that the different tools can address all these different needs.</p> <p>In its future financial transparency projects, this tool will be taken up in the portfolio and marketed in Germany.</p>
<b>UEP</b>	<p>UEP expects to use of the participatory budgeting portal in the teaching of public finance and related courses.</p>
<b>J++</b>	<p>Pending further market analysis by Journalism++, actions towards prospects regarding this tool might be considered.</p>
<b>UBonn</b>	<p>The University of Bonn is currently expanding its research team by actively training and involving new PhD and Master level students in its research and</p>

	<p>development activities. In this regard, the University of Bonn is actively searching for relevant calls and proposals that can fund the further research and development related to the innovative technological products and tools already produced within the duration of OpenBudgets.eu.</p>
<b>OKF GR</b>	<p>OKFGR has tested the tool and contributed significantly to the internationalization of the platform, adding extra value for better exploitation of the tool by Greek institutions, municipalities and regions.</p> <p>OKFGR has participated in the establishment of the Greek OGP action plan 2016-2017 and with its commitment (#31 in the document available at <a href="http://www.opengovpartnership.org/sites/default/files/GREEK_NAP3-OGP-ENG.pdf">http://www.opengovpartnership.org/sites/default/files/GREEK_NAP3-OGP-ENG.pdf</a>) the use of the tool has been promoted. In detail, the Commitment #31 indicates that “In OpenBudgets.eu an open participatory platform for budgets is developed that will be easy to use, flexible and capable of interpreting previously incompatible forms of budget and spending data, provide advanced capabilities such as calculations of economic indicators(KPIs), statistical analysis and data mining techniques with the appropriate visualizations.”</p> <p>So far OKFGR has organized a School of data for public administrators during which the tool has been demonstrated to 12 representatives of 12 Municipalities of the Region of Western Macedonia. It has also been demonstrated and tested at the Municipality of Thessaloniki where there is great interest for its use in specific communities and ideas for expansion.</p> <p>Moreover, the tool has been used in the project pilots and the Greek company who was the subcontractor for piloting is interested in including the tool in its platforms related to smart cities.</p> <p>In general, the tool is within the political intentions of the current Greek Government and is therefore likely to be applied with the assistance of OKFGR which will continue promoting it in all relevant contexts.</p>

<b>Tool</b>	Data Mining Tool Collection <a href="#">[link]</a>
<b>Tool Description</b>	A series of data mining tools resulting in novel and powerful ways to gain insights into budget data.
<b>Developed by</b>	FhG IAIS, UBonn, UEP, OKF GR
<b>Exploitation actions and strategy per Partner during the project and after the project's duration</b>	
<b>FhG IAIS</b>	FhG IAIS tested this tool during the large scale trials and received positive feedback as per its possible use by the interested stakeholders. In this case it should be mentioned that this is a very innovative tool that



	<p>requires high level data mining computer skills in order to be managed and maintained. Thus the challenge that we faced in this context was to educate the interested users and to make sure that they will acquire the necessary skill set in order to use efficiently the tool with the objective to uncover unique insights. Consequently it can be deduced that this tool may seem challenging to use for someone with no data mining background, but as data science skills are becoming widespread, we believe that these challenges will be overcome. Fraunhofer leads many projects in this field and will make sure to use the research results achieved during OBEU in the data mining field for relevant projects and proposals. Furthermore Fraunhofer IAIS is active in the preparation of proposals for EU and industrial projects and in this respect it will make sure to reuse the project's results for any relevant calls.</p>
<b>OKI</b>	<p>Since applying this tool requires a level of technical knowledge, OKI will promote it to target populations which meet this skill level.</p>
<b>CIVIO</b>	<p>Since applying this tool requires a level of technical knowledge, CIVIO will, as well, promote it to target populations which meet this skill level.</p>
<b>TI EU</b>	<p>Given the need for prior technical skills in order to properly appreciate the tool, TI EU will focus on highlighting the tool primarily to technical units in the EU institutions and/or relevant stakeholders focused on technical budget processes.</p>
<b>OKF DE</b>	<p>Considering the relatively high level of technical dexterity required to use the data mining tool collection, OKF DE will promote its use in the appropriately expert community related to its projects and use it in upcoming budget data-driven initiatives.</p>
<b>UEP</b>	<p>One of the data mining tools, EasyMiner, developed at UEP, is already being used in compulsory bachelor courses of our university. We have not considered the data from fiscal domain yet, but we can offer this data to students for experiments. We can also include other data mining tools developed in the OpenBudgets project in our data mining courses. Another option is to cooperate more closely with the experts from Faculty of Finance and Accounting where our goal would be to train these experts to work with the tools and allow them to benefit from them.</p>
<b>J++</b>	<p>Pending further market analysis by Journalism++, actions towards prospects regarding this tool might be considered.</p>
<b>UBonn</b>	<p>The University of Bonn is currently expanding its research team by actively training and involving new PhD and Master level students in its research and development activities. In this regard, the University of Bonn is actively searching for relevant calls and proposals that can fund the further research and development related to the innovative technological products and tools already produced within the duration of OpenBudgets.eu.</p>

<b>OKF GR</b>	The Data Mining Tools will be demonstrated to students in the mathematics department in collaboration with Aristotle University of Thessaloniki, it will be used in assignments and essays. Te tool will also be demonstrated in Schools of Data for advanced users of municipalities. The goal of the institution is to promote its integration by municipalities as a smart tool for budgeting and financial analysis.
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<b>Tool</b>	LinkedPipes ETL <a href="#">[link]</a>
<b>Tool Description</b>	A tool for handling and publishing web data primarily in RDF according to the Linked Open Data principles.
<b>Developed by</b>	UEP
<b>Exploitation actions and strategy per Partner during the project and after the project's duration</b>	
<b>FhG IAIS</b>	FhG IAIS tested this tool during the large scale trials and received positive feedback as per its possible use by the interested stakeholders. In this case it should be mentioned that this is a very innovative tool that requires high level knowledge in the area of RDF and LOD in order to be managed and maintained. Thus the challenge that we faced in this context was to educate the interested users and to make sure that they will acquire the necessary skill set in order to use efficiently the tool with the objective to uncover unique insights. Consequently it can be deduced that this tool may seem challenging to use for someone with no related data science background, but as data science skills are becoming widespread, we believe that these challenges will be overcome. Fraunhofer leads many projects related to RDF technologies and Linked Data and thus will make sure to use the research results achieved during OBEU for relevant projects and proposals, ensuring thus innovation transfer and maximisation of the OBEU's impact. Moreover Fraunhofer IAIS is active in the preparation of proposals for EU and industrial projects and in this respect it will make sure to reuse the project's results for any relevant calls.
<b>OKI</b>	Since applying this tool requires a level of high technical knowledge level, OKI will promote it to target populations which meet this skill level.
<b>CIVIO</b>	Given the relatively high level of technical dexterity required to use this tool, CIVIO will promote its use in the appropriately expert community related to its projects and use it in upcoming budget data-driven initiatives.
<b>TI EU</b>	Given the need for prior technical skills in order or properly appreciate the tool, TI EU will highlight it among technical experts within our existing network.

<b>OKF DE</b>	Considering the relatively high level of technical dexterity required to use this tool, OKF DE will promote its use in the appropriately expert community related to its projects and use it in upcoming budget data-driven initiatives. .
<b>UEP</b>	UEP systematically exploits LP-ETL in the practical part of a MSc-level course on Linked Data on the Web, also using the relevant fiscal datasets. This will continue even after the project’s duration. LP-ETL is currently also deployed in practice in various institutions of government in the Czech Republic, such as the Ministry of the Interior, where it supports regular data transformations of the National Open Data Catalog. In addition, it is used in other research projects for data transformation, and will be further developed by them, as it was the case before the OpenBudgets project. Since UEP is active in consultations with institutions interested in publishing Linked Open Data, it will continue to promote and deploy LP-ETL where appropriate.
<b>J++</b>	Pending further market analysis by Journalism++, actions towards prospects regarding this tool might be considered.
<b>UBonn</b>	The University of Bonn is currently expanding its research team by actively training and involving new PhD and Master level students in its research and development activities. In this regard, the University of Bonn is actively searching for relevant calls and proposals that can fund the further research and development related to the innovative technological products and tools already produced within the duration of OpenBudgets.eu.
<b>OKF GR</b>	<p>ETL processes is a common routine when manipulating data, the most when dealing with RDF and Linked data and we believe that LinkedPipes ETL is a very innovative and powerful tool for a Data Scientist or a Data Engineer.</p> <p>We have tested thoroughly the tool during WP1 and WP2 as it was the basic tool for data cleaning and manipulation during the project. Additionally, through our network and collaboration with Aristotle University of Thessaloniki and other higher education institutes, we have passed a number of courses on the tool to the graduate students curriculum as we believe it is a must have skill for a Junior Semantic Web Engineer or Data Scientist, increasing the awareness of the tool on the respective community.</p> <p>We already use the tool on other relative projects, such as the data from the National Library of Greece, and will continue to promote it’s use and contribute to it’s development. We will reuse the tool in any relevant future calls, since we are participating on the preparation of EU research and other project proposals.</p>

<b>Tool</b>	Cooking Budgets <a href="#">[link]</a>
<b>Tool description</b>	A collection of worst-practices by public officials to enrich themselves or otherwise mismanage public funds.
<b>Developed by</b>	J++
<b>Exploitation actions and strategy per Partner during the project and after the project's duration</b>	
<b>FhG IAIS</b>	This innovative tool is very user friendly and thus an ideal component of educational workshops and events. It can stimulate insightful discussions with regard to the allocations of public funds. Fraunhofer plans to further disseminate this tool within the context of related projects and events. Moreover Fraunhofer IAIS is active in the preparation of proposals for EU and industrial projects and in this respect it will make sure to reuse the project's results for any relevant calls.
<b>OKI</b>	OKI will promote the tools as a positive example of learning material that helps journalists and those interested in data-driven analysis to spot indicators of corruption in public budgets. In addition it is an attractive format of journalism that is both entertaining and informative at the same time.
<b>CIVIO</b>	Civio, which promotes international data journalism as a main part of it work, has used and shared Cooking Budgets tools and other tools developed by Journalism ++. Our annual presence in events like Dataharvest or GIJN Network conferences, also NICAR in past editions, contributes to the dissemination and better knowledge of this easy to use tool.
<b>TI EU</b>	This tool has been very helpful in advocacy activities, providing very clear examples, presented in an appealing way, of prior abuses and corruption involving public funds. TI EU has promoted this tool to a number of key stakeholder groups with very positive feedback. These groups have included, but are not limited to, journalists, policymakers, other CSOs, TI national chapters, and student groups. It has also served as an effective advocacy tool in explaining certain vulnerabilities in public financial management structures that hold common denominators, nationally and at an EU-level. TI EU will continue to highlight this tool within its network, particularly among TI national chapters and EU policy makers working on EU budget accountability. As EU-related public cases arise that are deemed suitable, TI EU will further contribute examples.
<b>OKF DE</b>	This tool has been received positively in the course of budget data-driven initiatives and will continue to be used both to motivate new players entering the field and to inspire investigative explorations in the

	<p>domain of anti-corruption that OKF DE is involved in.</p> <p>Within OKFDEs efforts to establish a German market for financial transparency and integrate the OpenBudgets.eu tools into the offenerhaushalt.de work, and further market the toolbox, it could be taken up in the general translation efforts, but also in the English version the tool has proved its effectiveness to generate interest for budget in a playful and attractive way.</p>
<b>UEP</b>	<p>Cooking budgets have been translated to Czech language. They are expected to be employed in the public finance and related courses at the UEP. Our team also prepared some specific cooking budgets from the Czech environment.</p>
<b>J++</b>	<p>Several institutions, public and private, expressed interest in the tool and wanted to see it translated or to add content to it. Because it is open source, anyone can contribute and add to it, ensuring a long shelf-life for its contents.</p>
<b>UBonn</b>	<p>The University of Bonn is currently expanding its research team by actively training and involving new PhD and Master level students in its research and development activities. In this regard, the University of Bonn is actively searching for relevant calls and proposals that can fund the further research and development related to the innovative technological products and tools already produced within the duration of OpenBudgets.eu.</p>
<b>OKF GR</b>	<p>We have presented this tool on the respective community with very positive feedback. We are in the process of translating this tool in Greek language, as there is interest to include it as an educational tool on related curriculum. Additionally, along with its interactive partner “The Accountant” online game, we have developed and continue to extend a user session analysis platform as a supportive tool for educational purposes. This will allow data tracking and has already been piloted in an International Summer School for Journalists in July 2017 (<a href="http://journsummerschool.org/">http://journsummerschool.org/</a>)</p> <p>We will reuse the tool in any relevant future calls, since we are participating on the preparation of EU research and other project proposals and we will promote its use as educational tool in the School of Journalism and Mass Media Communication of Aristotle University of Thessaloniki.</p>

<b>Tool</b>	Microsite <a href="#">[link]</a>
<b>Tool description</b>	A lean and powerful interface to facilitate citizen interaction with budgets.
<b>Developed by</b>	FhG IAIS & UBonn
<b>Exploitation actions and strategy per Partner during the project and after the project's duration</b>	
<b>FhG IAIS</b>	Fraunhofer's vision since the beginning of this project has been to incorporate the OBEU logo in the websites of the project related stakeholders, such as in the websites of municipalities, journalistic websites, websites of service providers to municipalities etc. The very user friendly interface enables even non tech savvy users to access the OBEU tools and the provided data and to gain insights with regard to the allocation of public funds. This communication interface between citizens and all related stakeholders further democratizes public spending by ensuring that all related parties will engage in a constructive dialogue and exchange of views for instance with regard to the prioritisation of the allocation of public funds. Moreover Fraunhofer IAIS is active in the preparation of proposals for EU and industrial projects and in this respect it will make sure to reuse the project's results for any relevant calls.
<b>OKI</b>	The microsite is a thoughtfully-designed entry point for promoting and introducing a complex topic and tools to explore it. It speaks to a technical audience as well as a non-technical one. OKI will promote it to civil society organisations and government project partners to point out the different aspects around budget data and how to exploit them with the tools.
<b>CIVIO</b>	The microsite is a key outcome of the Openbudgets.eu project, thanks to its low barrier of entry and its targeting towards the administrative domain. CIVIO envisions to offer it in future cooperations with governments in Spain and internationally.
<b>TI EU</b>	TI EU will highlight this tool to relevant civil society organisations and public administrations, with emphasis on national authorities managing EU funds.
<b>OKF DE</b>	The microsite is an essential outcome of the project, both due to its low barrier of entry and its targeting towards the administrative domain. OKF DE plans to incorporate it in future cooperations with governments in Germany and elsewhere. For the German market, the tool is further developed with a German-language viewer, currently being built for offenerhaushalt.de and the additional flexibility needed for the different accounting system prevalent in Germany. The first implementation and rebuild is already proposed to the Berlin municipality and further clients are being identified.

<b>UEP</b>	UEP assume the use of microsities in the teaching of public finance and related courses.
<b>J++</b>	Pending further market analysis by Journalism++, actions towards prospects regarding this tool might be considered.
<b>UBonn</b>	The University of Bonn is currently expanding its research team by actively training and involving new PhD and Master level students in its research and development activities. In this regard, the University of Bonn is actively searching for relevant calls and proposals that can fund the further research and development related to the innovative technological products and tools already produced within the duration of OpenBudgets.eu.
<b>OKF GR</b>	The microsite is a well-designed, high level entry point on top of all several other OBEU project tools which has been tested thoroughly in the Greek pilot. Open Knowledge Greece will promote its use by respective government and public sector organizations as a tool to present an organization's budget data. In parallel, the methodology and rationale of the tool is innovative and smart and can be reused and exploited by other sectors and combinations of tools.

<b>Tool</b>	Indigo <a href="#">[link]</a>
<b>Tool description</b>	Perform time series analysis of budget data, and create your own fiscal indicators.
<b>Developed by</b>	OKF GR
<b>Exploitation actions and strategy per Partner during the project and after the project's duration</b>	
<b>FhG IAIS</b>	As this tools requires an advanced skill set in order to be managed and maintained, Fraunhofer plans to promote its use within the relevant context, i.e. in related industrial, research and European projects.
<b>OKI</b>	Since this algorithm based tool demands a certain expert skill set, OKI will promote it among target populations that as a support for doing data-driven analysis and research around budgets.
<b>CIVIO</b>	Since this tool requires a set of advanced skills in order to be managed and maintained, Civio plans to promote, along with their own visualization tools, its use within relevant contexts, e.g. related journalistic and research European projects.
<b>TI EU</b>	Given the need for prior technical skills in order or properly appreciate the tool, TI EU will focus on highlighting the tool primarily to technical



	units in the EU institutions and/or relevant stakeholders focused on technical budget processes.
<b>OKF DE</b>	Indigo as the host of the newly developed algorithms during the project will play an integral part in the promotion of its results. It serves as an entry point into the more technically advanced outputs of the project and will thus be promoted in connection to the micro-site, and German budget visualisations.
<b>UEP</b>	Indigo as a data mining platform can be used in UEP's data mining courses. It can also be used to analyse budgets together with experts from the fiscal domain.
<b>J++</b>	Pending further market analysis by Journalism++, actions towards prospects regarding this tool might be considered.
<b>UBonn</b>	The University of Bonn is currently expanding its research team by actively training and involving new PhD and Master level students in its research and development activities. In this regard, the University of Bonn is actively searching for relevant calls and proposals that can fund the further research and development related to the innovative technological products and tools already produced within the duration of OpenBudgets.eu.
<b>OKF GR</b>	OKFGR will continue the development of the tool by integrating more algorithms. It is an outcome of research development and will be exploited for relevant goals. After the end of its pilot use, OKFGR is planning to create more guidelines and demo tools that will encourage its use in relevant endeavours.

<b>Tool</b>	OpenSpending <a href="#">[link]</a>
<b>Tool description</b>	A platform that offers a set of components for working with fiscal data.
<b>Developed by</b>	OKI
<b>Exploitation actions and strategy per Partner during the project and after the project's duration</b>	
<b>FhG IAIS</b>	Fraunhofer views OBEU as an extension of OpenSpending. The OBEU platform will be integrated to OpenSpending and vice versa. In collaboration with OKI, Fraunhofer plans to promote the use of OpenSpending within the target stakeholder group and to further support the vision of OBEU and OpenSpending by leading or participating in related research projects, workshops, events and initiatives.



<b>OKI</b>	<p>OpenSpending is at the heart of OKI’s fiscal transparency program and one of OKI’s flagship projects and is therefore constantly iterated. This goes for the database and its features as well as the Fiscal Data Package. With new projects coming along and the extension of the OS community (with an increase of government partners and journalists etc.), OpenSpending will be promoted as a go-to-reference tool among the different fiscal transparency stakeholders that OKI’s works with.</p>
<b>CIVIO</b>	<p>Given the principles and goals linked to OBEU, this tool will be promoted to national and regional policy makers, relevant EU institutional actors, civil society, and journalists aiming at increasing transparency around public funding.</p>
<b>TI EU</b>	<p>Given the principle goals and link with OBEU, this tool will be promoted to EU policy makers, relevant EU institutional actors, civil society, and journalists with the aims of increasing transparency around public funding.</p>
<b>OKF DE</b>	<p>OpenSpending is both the source of the technology used in OpenBudgets and the foundation of the new tools and services developed in the project. OKF DE has been incorporating OpenSpending technology in its project portfolio: OffenerHaushalt.de, SubsidyStories.eu, storyhunt.de.</p> <p>It is of key importance that civil society organisations around Europe and globally will continue to use the Fiscal Open Data Package and feed in the general repository. This ensures that the local instances of budget visualisations and budget transparency are linked and to be found in one repository.</p> <p>With its continuous work on OffenerHaushalt, OpenSpending, and German and European Financial Transparency projects OKFDE will remain committed to this goal.</p>
<b>UEP</b>	<p>UEP assume the use of OpenSpending in the teaching of public finance and related courses.</p> <p>A case study - budget for the municipality Praha 10 - was prepared and presented at a workshop for Prague local politicians and officials (<a href="#">here</a>).</p>
<b>J++</b>	<p>Pending further market analysis by Journalism++, actions towards prospects regarding this tool might be considered.</p>
<b>UBonn</b>	<p>The University of Bonn is currently expanding its research team by actively training and involving new PhD and Master level students in its research and development activities. In this regard, the University of Bonn is actively searching for relevant calls and proposals that can fund the further research and development related to the innovative technological products and tools already produced within the duration of OpenBudgets.eu.</p>
<b>OKF GR</b>	<p>OKF GR is actively participating in the OpenSpending community. Therefore, it has contributed to the development of the OpenSpending Technology and will continue to do so in the future. Specifically, OKF</p>

	<p>GR has developed the Rudolf API which will be used for RDF datasets in the same way Babbage works for OpenSpending.</p> <p>This tool has been demonstrated in the 1st School of Data that took place in the Region of Western Macedonia in July 2017.</p>
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<b>Tool</b>	KPI [ <a href="#">link</a> ]
<b>Tool description</b>	A platform to construct, calculate and present Fiscal Key Performance Indicators to measure the performance of public administrations.
<b>Developed by</b>	OKF GR
<b>Exploitation actions and strategy per Partner during the project and after the project's duration</b>	
<b>FhG IAIS</b>	As this tool requires an advanced skill set in order to be managed and maintained, Fraunhofer plans to promote its use within the relevant context, i.e. in related industrial, research and European projects.
<b>OKI</b>	Since applying this tool requires a level of high technical knowledge level, OKI will promote it to target populations which meet this skill level.
<b>CIVIO</b>	Civio is still needs to complete a further market analysis for this tool, actions towards prospects regarding business development of the tool might be considered.
<b>TI EU</b>	Given the need for prior technical skills in order or properly appreciate the tool, TI EU will highlight it among technical experts within our existing network, with emphasis on budget administrators who are interested in KPIs within the context of EU budget appropriations.
<b>OKF DE</b>	KPI offers interesting opportunities of measuring performance across cities. Given appropriate data, OKF DE considers to use the tool in the German context to offer citizens deeper insights into the standing and efficiency of their local administrations. It is an attractive tool for administrations to contextualise their financial politics. When appropriate it will be adapted to the German market and further exploited.
<b>UEP</b>	Our team expects to exploit KPI in cooperation with Department of Information Technologies who deal with this issue in detail. It will be tested in combination with the public administration performance models developed at the mentioned department. The results from the tests may be the subject of a scientific publication.
<b>J++</b>	Pending further market analysis by Journalism++, actions towards prospects regarding this tool might be considered.

<b>UBonn</b>	<p>The University of Bonn is currently expanding its research team by actively training and involving new PhD and Master level students in its research and development activities. In this regard, the University of Bonn is actively searching for relevant calls and proposals that can fund the further research and development related to the innovative technological products and tools already produced within the duration of OpenBudgets.eu.</p>
<b>OKF GR</b>	<p>KPI application offers a simple and well-designed interface to construct, calculate and present Key Performance Indicators of public organizations, as this derives from their fiscal data. This format of data can be more easily digestible by civics and also offer a common dimension for comparison of fiscal performance across public organizations.</p> <p>We plan to further expand and promote its use on the public sector as it is a tool to easy set up and serve a public organization performance dashboard and comparison platform. In specific, OKF GR has demonstrated the tool to representatives from the Ministry of Interior which could integrate it and use it in their centralized platform that administers data from all Greek municipalities. A MoU is being prepared to be signed and kick off the integration of the tool.</p> <p>We will reuse the tool in any relevant future calls, since we are participating on the preparation of EU research and other project proposals.</p>

<b>Tool</b>	Alignment <a href="#">[link]</a>
<b>Tool description</b>	A linked data alignment tool.
<b>Developed by</b>	OKF GR
<b>Exploitation actions and strategy per Partner during the project and after the project's duration</b>	
<b>FhG IAIS</b>	As this tools requires an advanced skill set in order to be managed and maintained, Fraunhofer plans to promote its use within the relevant context, i.e. in related industrial, research and European projects.
<b>OKI</b>	Since applying this tool requires a level of technical knowledge, OKI will promote it to target populations which meet this skill level.
<b>CIVIO</b>	Considering the relatively high level of technical skills required to use this tool, Civio will promote its use in the appropriately fora related to its

	projects and will use it as a complement for our budget visualization tool linked open datasets.
<b>TI EU</b>	Given the need for prior technical skills in order to properly appreciate the tool, TI EU will focus on highlighting the tool primarily to stakeholders who possess these requisite skills.
<b>OKF DE</b>	Considering the relatively high level of technical dexterity required to use this tool, OKF DE will promote its use in the appropriately expert community related to its projects and use it in upcoming budget data-driven initiatives in which linked datasets are targeted.
<b>UEP</b>	An interlinking activity can hardly be carried out using automatic techniques alone. Therefore the availability of an online tool for manual, collaborative entity linking is important. In the past, UEP employed the tool in several interlinking tasks where domain experts needed support to ease their work, e.g. building a linkset between fiscal code lists. As the tool turned out to be usable UEP plans to apply it in similar entity linking tasks in the future, too.
<b>J++</b>	Pending further market analysis by Journalism++, actions towards prospects regarding this tool might be considered.
<b>UBonn</b>	The University of Bonn is currently expanding its research team by actively training and involving new PhD and Master level students in its research and development activities. In this regard, the University of Bonn is actively searching for relevant calls and proposals that can fund the further research and development related to the innovative technological products and tools already produced within the duration of OpenBudgets.eu.
<b>OKF GR</b>	<p>This tool has been already used in other relevant cross disciplinary projects (e.g. by librarians to certify the links of the national library as well as wikidata), as it offers a very simple interface for entity/ontology linking. It has been also involved in curriculum as a must have knowledge for Junior Semantic Web developers.</p> <p>We will reuse the tool in any relevant future calls, since we are participating on the preparation of EU research and other project proposals.</p>

<b>Tool</b>	RDFBrowser <a href="#">[link]</a>
<b>Tool description</b>	A browser to gain insights into linked data.
<b>Developed by</b>	OKF GR
<b>Exploitation actions and strategy per Partner during the project and after the project's duration</b>	

<b>FhG IAIS</b>	As this tool requires an advanced skill set in order to be managed and maintained, Fraunhofer plans to promote its use within the relevant context, i.e. in related industrial, research and European projects.
<b>OKI</b>	Since applying this tool requires a level of technical knowledge, OKI will promote it to target populations which meet this skill level.
<b>CIVIO</b>	Considering the relatively high level of technical skills required to use this tool, Civio will promote its use in the appropriately fora related to its projects and will use it as a complement of data mining and parsing tools used in linked datasets.
<b>TI EU</b>	Given the need for prior technical skills in order to properly appreciate the tool, TI EU will focus on highlighting the tool primarily to stakeholders who possess these requisite skills.
<b>OKF DE</b>	Considering the relatively high level of technical dexterity required to use this tool, OKF DE will promote its use in the appropriately expert community related to its projects and use it in upcoming budget data-driven initiatives in which linked datasets are targeted.
<b>UEP</b>	UEP is deeply involved in the Linked Data exploration research and is considering integration of RDFBrowser with LODSight, a dataset summary visualization tool developed at UEP. While LODSight provides an overview of a linked dataset, RDFBrowser can provide a detailed view of example resources shown by LODSight.
<b>J++</b>	Pending further market analysis by Journalism++, actions towards prospects regarding this tool might be considered.
<b>UBonn</b>	The University of Bonn is currently expanding its research team by actively training and involving new PhD and Master level students in its research and development activities. In this regard, the University of Bonn is actively searching for relevant calls and proposals that can fund the further research and development related to the innovative technological products and tools already produced within the duration of OpenBudgets.eu.
<b>OKF GR</b>	<p>RDFBrowser offers a simple solution to a common problem of knowledge publishing in respect to the Linked Data principles, a common and most times overlooked on the emerging Linked Open Data world. We have already promoted its use through our relevant LOD projects (e.g. data of National Library and soon to be used for CORDIS data) and continue to promote it to the respective community with very positive feedback.</p> <p>We will reuse the tool in any relevant future calls, since we are participating on the preparation of EU research and other project proposals.</p>

## 5 Exploitation Plans per Partner

Impact Report	FhG IAIS
<b>Dissemination - General information during the project and after the project's duration</b>	
<b>Objective of dissemination</b>	Showcase the solutions developed during the project and demonstrate the added value for all related stakeholders, and most particularly for municipalities, service providers to municipalities and citizens.
<b>Target audiences</b>	The stakeholders' analysis identified the key target audiences, which consist of the following categories: municipalities, service providers to municipalities, citizens and journalists.
<b>Key message</b>	The goal of the OBEU solutions is to achieve financial transparency and to further enhance the democratic process with regard to the allocation of resources at municipal level by offering a platform where citizens can monitor resource allocation decisions and share their preferences in this respect.
<b>Communication channels</b>	During the project and after its duration, Fraunhofer IAIS plans to maintain and expand its network of communication channels. The successful implementation of the large scale trials provided proof of concept and confirmation of the minimum viable product. Moreover thanks to the very smooth collaboration with the City of Bonn, OBEU is searching for other funding sources, which will allow its team to prepare customised solutions for the City of Bonn. The City of Bonn will mention its activities in collaboration with this project in events at German level, mostly attended by other municipalities. We hope that this will allow us to work with other municipalities. Furthermore, Fraunhofer plans to reach out to other municipalities and to service providers to municipalities.
<b>Scientific dissemination</b>	
<b>List of conferences: Conference title + city + date + deadline</b>	Fraunhofer was present at IODC 2016, representing the project. Also Fraunhofer, together with participation of UBonn and UEP, participated and sponsored the SEMANTICS 2017 ACM conference. At SEMANTICS a poster and a demo of the OBEU platform were presented.
<b>Related Dissemination activities</b>	

<b>End-User Advisory Board: list of end-users</b>	Having identified the key stakeholders, Fraunhofer will approach potentially interested end users that will be able to finance the OBEU solutions and that will require consulting and features' customisation by the OBEU partners.
<b>Project presentations in industrial forums, panels, etc.</b>	Fraunhofer is very active in the successful implementation of industrial projects, as it has to support a hybrid business model that should be 50% financed by research projects and 50% by industrial projects. In this capacity Fraunhofer actively participates in industrial forums and panels, including major industry exhibitions. In this regard Fraunhofer employees will approach potential end-users in the effort to maintain the project's sustainability beyond its duration.
<b>Social media actions</b>	Fraunhofer and OKFDE collaborated on the implementation of a social media (mainly Twitter) ads campaign for dissemination of the platform and will continue to do so whenever particular updates or events will need further dissemination.
<b>Exploitation during the project and after the project's duration</b>	
<b>Target markets</b>	Municipalities, service providers to municipalities, journalists, NGOs and citizens' associations.
<b>Target sectors</b>	The project's goal is to enhance financial transparency and democratic decision making with regard to the allocation of public funds.
<b>Modifications of the product to introduce in these sectors?</b>	The OBEU tools are open source. However the project's sustainability is achieved by the fact that the OBEU partners can offer customised solutions and consulting services on the particular needs of each stakeholder. For instance a municipality may prefer to customise features of the OBEU tools and provide the funding for this customisation.
<b>Markets needs</b>	Based on the research conducted during our project, we value that this market has great potential. The most tangible proof of this item, is the fact that all three accepted candidates for the Large Scale Trials want to continue working with the OBEU Consortium and to thus further implement and develop the OBEU solutions in their region. Moreover during our intensive collaboration with the City of Bonn during the Large Scale trials, we have received feedback from other German cities that are interested in adopting the OBEU platform and tools and in receiving consulting as per the scientific areas on which the project focused. Currently FhG is discussing with other German municipalities the possibilities of further collaboration after the conclusion of the project.
<b>Is there competency?</b>	From the FhG side, we can confirm that the Head of our



	<p>Department and the Seniors' team at our Institute have taken the strategic decision to focus on working closely with German municipalities. This strategic decision ensures the successful take-up of the OBEU platform and its tools, especially when taking in consideration the importance of topics such as digitisation and industry 4.0 in Germany. Moreover FhG is willing to actively support the OBEU Partners beyond the project's duration ensuring thus the project's sustainability. We deem that some difficulties will be encountered with regard to funding resources, as some municipalities may have limited funding resources. On the other hand, the implementation of this technological breakthrough is of great importance in Germany. Thus we maintain our positive that local, governmental or private funds will be allocated to ensure the project's sustainability beyond its duration.</p> <p>Moreover the FhG and UBonn main management, software development and data science teams have already their contracts extended so that we can ensure the smooth take up and sustainability of the OBEU platform and tools.</p>
<p><b>List of leading competitor companies</b> <b>Do we have a specific quality to differentiate from our competitors?</b></p>	<p>In our market research, we found a very few, in fact less than 5, solutions offered mainly by startups, apart from the partners of the consortium. Thus we deem that the OBEU consortium can become market leader based on its technical capacity, business acumen and maturity of the offered OBEU solutions.</p>
<p><b>SWOT</b></p>	
<ul style="list-style-type: none"> <li>● <b>Strengths</b></li> </ul>	<p>The very well-known and trusted FhG brand name in the domain of applied research, as well as the FhG competence and resources in the domain of data science will allow the sustainability of the project's results beyond its duration.</p>
<ul style="list-style-type: none"> <li>● <b>Weaknesses</b></li> </ul>	<p>We have identified this potential weakness with regard to the municipalities, and more specifically the fact that they may encounter difficulties in collecting funds for funding initiatives related to OBEU. However the tendency is that tools related to the OBEU platform will become the norm in the future. Thus we deem that local and/ or governmental funding will be allocated in this domain.</p>
<ul style="list-style-type: none"> <li>● <b>Opportunities</b></li> </ul>	<p>We have noticed that interest has increased by the stakeholders for using and funding the OBEU solutions. Based also on the feedback we received from the implementation of the large scale trials, we deem that the project has achieved the sustainability goals, which were set at the beginning of the project, but further refined during its 1st and 2nd year.</p>
<ul style="list-style-type: none"> <li>● <b>Threats</b></li> </ul>	<p>When it comes to fighting corruption, disincentives can be posed by the fact that some stakeholders deem that their best interests</p>



	<p>are not served by advocating transparency and applying solutions that enhance transparency and accountability. However based on the current digitisation and transparency pressures that globally exercise pressure for greater transparency, as well as based on our research and the lessons learned during the project, we deem that threats to the OBEU solutions will be minimised in the near future.</p>
<b>Exploitation plan</b>	
<b>Market opportunities</b>	<p>FhG IAIS strategically will focus during the next years into offering digital products to mainly German municipalities. Already a strategic collaboration with the Municipality of Bonn is under discussion, during which selected OBEU tools will be further developed. Moreover FhG IAIS is entering collaborations with other German municipalities with the aim to prepare digital tools for them. Thus we deem that this collaboration will facilitate the adoption of the OBEU solutions by a greater market segment.</p>
<b>Distribution</b>	<p>FhG IAIS has a very good network of contacts in the public administration and at municipality level. Thus we deem that by further showcasing the OBEU solutions and especially when a greater number of municipalities will start using them, this will increase the distribution of the project's results and enable it to reach a greater target audience.</p>
<b>Exploitation activities</b>	<p>FhG IAIS will further disseminate and showcase the project's results beyond the project's duration, while focussing on the market segment of the municipalities. As there are events organised in Germany at municipalities' level, we have noticed the tendency that municipalities tend to adopt solutions already used by other municipalities. For instance, the Municipality of Bonn has made known how satisfied they are with the implementation of the LSTs with FhG IAIS and that they will continue our collaboration in this domain. As a result we have been approached by other German municipalities including service providers to municipalities who want to use and further develop the OBEU platform and tools. As we focused on ensuring that the OBEU project will be successfully completed, we have made known to the interested stakeholders that starting from the 1st of December 2017, we will have the resources and capacity to discuss and start OBEU spin-offs.</p>
<b>Pricing</b>	<p>During our market research, we discovered that in this specific market segment, very rarely fixed prices are mentioned. In fact we found only one startup that offered such pricing models. By asking related stakeholders, including our partner CIVIO, who is already selling such solutions to Spanish municipalities, we understood the reasons why such pricing models are not common in this market segment. Namely the technological</p>

	<p>products are advanced and their uptake depends to a great extent on the data, level of experience and capacity of the customers. Thus this market segment requires a very high level of customisation. As a consequence, several meetings are required for the customers to understand the offered solutions and for the involved parties to jointly decide which solution is feasible and agree on its development degree and on the time table.</p>
<b>Return of investment</b>	<p>We believe that the OBEU project can ensure its ROI, based on the aforementioned justifications.</p>
<b>IPR and protection of results:</b>	<p>The OBEU project contributes to the Innovation at EU level by offering its open source platform and related tools. Our business model is based on customisation, further development and consulting. Moreover the FhG legal department will support us in our efforts with regard to the project's take up. Of course we are happy to share the knowledge we gain during this process and to give back to the scientific community and to all related stakeholders. Thus we would be happy to share our experience and lessons learned with interested stakeholders on a pro bono basis up to a certain extent.</p>

<b>Impact Report</b>	<b>OKI</b>
<b>Dissemination - General information during the project and after the project's duration</b>	
<b>Objective of dissemination</b>	<p>Promoting the different tools and outcomes for different occasions and knowledge levels, and to draw from the different learnings the consortium team made. We will further make use of the outcomes of the project, for example using learnings around WP 5 funding opportunities that combine open fiscal data and data-driven journalism.</p> <p>OpenSpending.org database, the OS tools, the Fiscal Data Package in combination with OKI's fiscal Transparency program provide a reliable yet flexible solution for visualising, analysing and presenting budget and spending data and contributes to fiscal transparency worldwide.</p>
<b>Target audiences</b>	<p>Journalists, fiscal transparency advocates, government agencies &amp; public administration</p>
<b>Key message</b>	<p>OBEU aims at increasing fiscal transparency around public spending. Therefore, OBEU offers different tools to meet these demands on an EU, federal and municipal level.</p>

<b>Communication channels</b>	OKI used various communication channels, using its network of advocates and CSOs, speaking presentations, blog articles about some outcomes that consortium members shared and social media activities.
<b>Dissemination</b>	
<b>List of conferences: Conference title + city + date + deadline</b>	Open Government Partnership Summit 12/2016 Paris Re:publica 05/ 2017 Berlin Public Sector Conference Zagreb 04/2017 Csv,conf, v3 2017 GIFT General Stewards Meeting 10/2017
<b>Project presentations in industrial forums, panels, etc.</b>	OGP Summit 12/2016 Paris Re:publica 05/ 2017 Berlin Public Sector Conference Zagreb 04/2017 Csv,conf,v3 2017 GIFT General Stewards Meeting in Washington D.C. 10/11th Oct 2017 OK FEST 2018
<b>Social media actions</b>	OKI uses its various social media channels, mostly blog, Twitter and Facebook to promote the various tools. OKI also conducted interviews with consortium members (i.e. Civio and Journalism++) and aspects around fiscal transparency in Europe.  Through OpenSpending, a dedicated social media outreach will be sustained after the project, as well as an active blog on Open Knowledge International's main website and the discuss forum on financial transparency with contributions from the OKF Germany and the OKF Greece team.
<b>Exploitation during the project and after the project's duration</b>	
<b>Target markets</b>	Journalists, fiscal transparency advocates, government agencies & public administration
<b>Target sectors</b>	Federal and local government Administration Journalism Non-Profit/Civil Society Organisations Freedom of Information
<b>Modifications of the product to introduce in these sectors?</b>	The OBEU project learnings have been integrated on a technical level and in various dissemination efforts on OpenSpending infrastructure and documentation.
<b>Markets needs</b>	Under the auspices of GIFT, OKI has worked with Ministries of Finances in Mexico, Uruguay, Paraguay, Croatia and many more to help them to

	<p>utilize OpenSpending.org for their fiscal transparency effort. Governments are in dire need of easy-to-use tools to publish fiscal data in order to engage citizens in the budget planning processes for example or to fulfil journalists’ needs to cover public spending.</p> <p>However, governments needs technical support services around OpenSpending.org and advice in fiscal transparency matters. OKI in collaboration with its daughter company Viderum currently build structures to provide tailored support services for government partners and other public bodies.</p> <p>For journalists, training and support opportunities in data-driven investigation and research around financial transparency research is required. For that, further collaborative partnerships are being explored around fiscal transparency. The long-term goal is to educate journalists in how to use fiscal data and produce data-driven reporting.</p>
<b>Is there competency?</b>	OpenSpending is supported by a dedicated fiscal transparency team, the OKI product team for maintenance and development, and the capacity-team for community, communication and outreach work.
<b>Exploitation plan</b>	
<b>Market opportunities and distribution</b>	As one of the core products of OKI, OpenSpending will be further marketed for non-profit purposes and goals, funded by grants; and in a for-profit setting by its daughter company Viderum, which is the commercial spin-off of OKI.

<b>Impact Report</b>	<b>CIVIO</b>
<b>Dissemination - General information during the project and after the project’s duration</b>	
<b>Objective of dissemination</b>	The general objective of Civio is to promote the tools created inside the Openbudgets.eu project. We have focused our actions to actors championing best practices in transparency, accountability, research and journalism, creating a European network community aware of the importance of the use of these

	tools. We aim these promotion actions to shift and define coming streams on policy making around Spain and Europe. The main emphasis of CIVIO's exploitation strategy is focused on the participatory budgeting tool.
<b>Target audiences</b>	Our tool is targeted at administrators, users and policy makers without advanced technical skills and it is online, presented as Software as a Service (SaaS), avoiding the need for users to download or install any special software.
<b>Key message</b>	The OpenBudgets.eu will bring the experience of taking part in a process of participatory budgeting closer to all citizens.
<b>Communication channels</b>	Civio has established different communication channels in the major and the most relevant platforms (Twitter, Facebook, Civio's Mainpage, Blogs, etc.). Face to face meeting and conference attendances have worked also really well for us.
<b>Dissemination</b>	
<b>Conferences + Meetings</b>	<p>International Open Data Conference Madrid 2016  Dataharvest 2017 Mechelem May 2017  Journalism Founders Forum May 2017  CAPPSI Conference Rome Feb 2017  GCSF Boston Sept 2017  ICT Proposers Day Budapest Nov 2017</p> <p>Numerous face to face and bilateral meetings:  Participation Department City of Paris Feb 2016  Participation Department City of Bilbao and Portugalete Dec 2016  Meeting OSIFE Barcelona April 2017  Participation Department City of Alhama de Murcia June 2017  Participation Department City of Gran Canaria Jun 2017</p>
<b>Social media actions</b>	Throughout the duration of the project the OBEU, its work, and its findings and tools were highlighted through social media activities (e.g. Twitter and Facebook).
<b>Exploitation during the project and after the project's duration</b>	
<b>Target markets</b>	<p>We are currently servicing the Spanish market already with one solution focused on administrations, Where do my taxes go? Our budget visualization tool, with more than 30 regional and local clients. We are marketing our PB platform along with our Budget Visualization solution, enhancing business development at national level.</p> <p>At the EU level we have a total addressable market of 270</p>

	<p>regional governments and approx. 150,000 local entities, which we will approach in a phased, segmented approach. In a second phase we would also target other entities (i.e. universities, research centres, private-public enterprises, etc.), or that are willing to increase their participatory practices. We will rely on strategic partnerships with other European civic technology actors in the EU's largest underserved national markets to increase our commercial outreach.</p>
<b>Target sectors</b>	<p>Public administrations, universities, research centres, private-public enterprises, etc.</p>
<b>Modifications of the product to introduce in these sectors?</b>	<p>Greater participation and thus greater consensus, compliance and political accountability.</p>
<b>Markets needs</b>	<p>Customers need a powerful tool, easy to use. We have avoided the development of tools that only technical people would use. It has a more visual approach that clearly differentiate our solution from existing solutions and gives further value to it. Our tools are targeted at administrators, users and policy makers without advanced technical skills and it is online, presented as Software as a Service (SaaS), avoiding the need for users to download or install any special software. For the Participatory Budgeting portal, the user-friendliness and visual features will keep users connected, not only to vote proposals, but also to monitor and share them, while exercising effective decision-making actions and redistributing available resources in their municipality.</p>
<b>Is there competency?</b>	<p>Yes, we have similar open replicable tools such as Decidim project.</p>
<b>List of leading competitor companies and differentiating qualities</b>	<p>Our experience shows one clear revenue stream, Software-as-a-Service. Service-level agreements and value-added services offered against implementation + yearly maintenance + value added fees. Our current clients are already under this market-tested price scheme. This option is cheaper and more effective than developing, deploying and maintaining their own platforms.</p> <p>We are currently implementing a second participatory budgeting pilot in Torrelodones (Madrid), after a first pilot in May, while another OBEU project partner, Open Knowledge Greece, is</p>

	implementing our participatory budgeting tool in Thessaloniki. We are in preliminary contact with Hivos and Bosch Stiftung to implement the tool in new locations with their support.
<b>SWOT for Participatory Budgeting</b>	
<ul style="list-style-type: none"> <li>• <b>Strengths</b></li> </ul>	The tool we have designed is powerful, but easy to use, because we have avoided the development of a tool that only technical people would use. Users are able to upload their own data (submitting or voting proposals, comments, feedback, etc. in order to generate discussions, voting processes, announcements, visualizations, etc.) It has a more visual approach that clearly differentiate our solution from existing solutions and gives further value to it
<ul style="list-style-type: none"> <li>• <b>Weaknesses</b></li> </ul>	All process need municipal representatives' commitment and citizens engagement, connected to a culture of participation, for harvesting successful outcomes.
<ul style="list-style-type: none"> <li>• <b>Opportunities</b></li> </ul>	Along with off-line participatory processes, this platform gives voice to citizens, vote and also gives them the possibility of making their public representatives more accountable <u>through its monitoring capabilities</u> . The final aim is to enable real participatory experiences, providing solutions that are easy to implement by all stakeholders involved, thus strengthening the democratic process.
<ul style="list-style-type: none"> <li>• <b>Threats</b></li> </ul>	Participation culture in Europe is decreasing.
<b>Exploitation plan and marketing opportunities</b>	
	At the EU level we have a total addressable market of 270 regional governments and approx. 150,000 local entities. CIVIO has assigned part of its sales staff to marketing the participatory budgeting tool in Spain and is looking for international sales. This is further extended by visiting conferences, presentations and meetings.

<b>Impact Report</b>	<b>TI EU</b>
<b>Dissemination - General information during the project and after the project's duration</b>	
<b>Objective of</b>	The dissemination work of TI-EU in the project itself was focused



<b>dissemination</b>	<p>on three objectives. First, it sought to generally introduce the project, as well as its findings and tools. Second, its aim was deterring corruption of public money through the advocacy of open data in EU funds and risk areas in the levels of transparency and financial management of certain of these funds. Finally, the ultimate objective was to initiate policy or administrative change to increase the openness, transparency and accountability of EU funds, with particular focus on European and Investment Funds and European Parliament spending.</p>
<b>Target audiences</b>	<p>Given the ultimate objectives of policy change and raising awareness of open data in relation to budget and spending data, the primary target audiences have been, and will continue to be EU policy makers. Given their respective mandates, particular focus has been on the MEPs on the Budget and Budgetary Control committees. Given the focus on the ESIF in the project Subsidystories.eu, audiences have also encompassed other committees and institutional actors. These have included members of the Parliament’s Regional Development committee, the Commission’s DG REGIO, and members of the Committee of Regions.</p> <p>Other bodies and institutions are also targeted given their roles in the management and oversight of EU funds in relation to efforts to prevent corruption or financial mismanagement. These included the European Court of Auditors, national managing authorities, the internal auditor and DG Finance in the Parliament, as well as the EP’s Bureau, who adopts internal rules governing certain types of expenditures.</p> <p>Policy adoption also needs other stakeholders involved to help initiate change and thus efforts were made to disseminate the project, its objectives, and the outputs and findings to other key groups. These included investigative journalists, students, the data community in Belgium, Transparency International national chapters, and other civil society organisations.</p> <p>We have also sought target audiences from other projects that have similar elements and themes; some of which we are partners. For instance, the DG REGIO-funded project Integrity Pacts, consisting of 15 project partners (national chapters and other CSOs) aimed at preventing fraud in EU structural fund projects. In part because of this dissemination work open data elements have been, and are continuing to be, incorporated into project partner work streams with national managing and contracting authorities. Also, for example, given some access to document work that was carried out in connection to the task related to legal loopholes and legislative change, CSOs like Access Info and the Ecole des Hautes Etudes Commerciales faculty were also targeted. These</p>



	<p>efforts have resulted in collaborative endeavours, one of which is the development of an EU Ombudsman complaint against the Parliament for refusing to release spending data.</p>
<b>Key message</b>	<p>There have been several key messages, supplemented by specific messaging linked to the key findings and recommendations of the data quality report, the European Structural Investment Funds and the legal loopholes. The key messages centred around the need to bring about increased transparency and accountability of EU funds in order to prevent fraud and corruption. Other advocacy messages incorporated WP findings and tools, such as increasing citizen engagement through participatory budgeting or the use of open data tools to increase good governance and efficient administrations.</p>
<b>Communication channels</b>	<p>Communication channels varied, with emphasis on bi-lateral meetings, speaking presentations, website articles and social media activities. All proved to highly effective and helped to inspire interest in the project and its goals and well as initiate concrete policy changes.</p>
<b>Dissemination</b>	
<b>List of conferences: Conference title + city + date + deadline</b>	<p>In addition to the speaking engagements listed below, a number of conferences were attended in order to bi-laterally disseminate project findings and tools to relevant participants. These have included DataHarvest Journalist conferences in 2016/17 in Belgium, and the International Open Data Conference 2016 in Madrid. The numerous bi-lateral meetings held at DataHarvest with investigative journalists were instrumental in garnering interest in EU financial transparency and accountability and subsequent media interviews.</p> <ul style="list-style-type: none"> <li>- EU Council/Dutch Presidency Diplohack, Brussels. November 2016</li> <li>- IHECS Journalist school, Brussels. November 2016</li> <li>- ICAEW-PwC dinner, Brussels. November 2016</li> <li>- Transparency International Open Data Workshop, Berlin. November 2016</li> <li>- HIGGS - NGO Workshop, Athens December 2016</li> <li>- Ecole des Hautes Etudes Commerciales workshop, Brussels. March 2017</li> <li>- IHECS Journalist school, Brussels. March 2017</li> <li>- European Court of Auditors staff seminar. May 2017</li> <li>- Meeting European Integrity Pacts Romania. December 2017</li> <li>- Meeting European Parliament on EU Transparency December 2017.</li> </ul>
<b>Media</b>	<p>Media mentions have been contained in a number of magazines,</p>

	both national and Brussels-based, such as <i>Stern</i> and <i>Knack</i> . Additionally, in connection to the “legal loopholes” activities, over 65 media mentions were recorded in a variety of print and online news outlets including the <i>Guardian</i> , <i>DW</i> , <i>Le Monde</i> and <i>Politico</i> .
<b>Social media actions</b>	Throughout the duration of the project the OBEU, its work, and its findings and tools were highlighted through social media activities (e.g. twitter and Facebook) on the channels of TI-EU, and TI-EU will continue to do so.
<b>Exploitation during the project and after the project’s duration</b>	
<b>Continuous projects and take-up in TI-EUs activities</b>	TI EU is a non-profit legal entity and does not engage in for-profit market activities. Following OpenBudgets.eu, TI-EU will continue to focus on EU Transparency and specifically its financial flows. The work will continue with follow up projects around financial transparency pacts, and the lobby for increased budget transparency, and accountability of the European Parliament, the EU and other institutions.

<b>Impact Report</b>	<b>OKF DE</b>
<b>General information during the project and after the project’s duration</b>	
<b>Objective of dissemination</b>	<p>The general objective of OBEU is to provide tools to publish, integrate, visualise, and analyse fiscal data. As the work package lead for dissemination and the promotion of best practices in fiscal transparency, Open Knowledge Germany has striven to link the project and its result to the global network around fiscal transparency and make sure that the developments in the wider community are linked back to our work.</p> <p>Within Open Knowledge Germany, we have integrated the tooling of OpenBudgets.eu, the training and community with OffenerHaushalt, the German financial transparency project run by OKFDE. OBEU will be further exploited by developing consultancy and advising services, training and the holistic implementation stream for local and regional administration.</p> <p>.In addition, we have created subsidystories.eu and storyhunt.de as concrete applications in order to provide resources for journalists, NGOs and public officials alike on financial transparency and open data. This ambition has been further supported by our projects for FIOA requests (fragdenstat), the H2020 project on public procurement Digiwhist, and the project on Data training Datenschule. These projects together will form a</p>

	<p>new stream on politics, transparency and open data, focused on Germany and the EU. OKFDE will continue this work through new grant-funding opportunities and further sponsorships.</p>
<b>Target audiences</b>	<p>For the different types of toolboxes, the consortium has identified target groups such as data wranglers (analysts and programmers) Journalists and CSOs, and civil servants. Governments as the main provider of budget data is simultaneously its most prevalent user. Journalists are in need of data, but generate significant added value through analysis. Thus, while we have identified four main target groups - journalists, civil society organisations, government (executive and legislative branch) and academia (see dissemination strategy for further details) - we have considered them in accordance with the specific role they have at a given time. In the future, OKFDE will continue its program on EU financial transparency in collaboration with journalists and collaborate with civil society organisations for more budget transparency, especially focused on the German market. Finally, the offenerhaushalt program will incorporate parts of OpenBudgets.eu and roll out budget transparency in Germany together with local governments.</p>
<b>Key message</b>	<p>Use the tools and services provided through the OpenBudgets solution to tackle complex problems related to budget data, to increase transparency in the fiscal domain, and to engage in research and investigative inquiries.</p>
<b>Communication channels</b>	<p>A series of communication channels have been set up on the major and most relevant platforms (see Dissemination Report for details). The most prevalent throughout the project's duration have been the project's website, Twitter account, and press releases. In the continuation of this work, OKFDE will maintain the networks and community built up, continue its work through the German and international forums and mailing lists around OpenSpending and OpenBudgets.eu</p>
<b>Dissemination activities</b>	
<b>Professional exhibitions: exhibition title + city + date</b>	<ul style="list-style-type: none"> <li>- Digitaler Staat May 2017</li> <li>- Berlin Open Data Day October 2017</li> <li>- Week of cities and Regions Brussels October 2017</li> <li>- EU Open Datathon November 2017</li> <li>- OpenNRW November 2017</li> <li>- Berlin Senatsministerium fuer Finanz presentation October 2017</li> <li>- Presentation of OpenNRW project Moers December 2017</li> <li>- PDF CEE 2017, 2018, 2019</li> </ul>
<b>Social media actions</b>	<p>Throughout the duration of the project, social media actions have</p>

	<p>been executed continuously following major project developments such as the launch, tool releases, the beta release, blog posts, as well as important events and conferences. A more detailed analysis of social media use is to be found in the final dissemination report. Open Knowledge Germany will maintain the main communication channel on twitter for OpenBudgets.eu and additionally publish, blog and tweet on the main website okfn.de and the financial transparency project offenerhaushalt.</p>
<b>Press releases</b>	<p>The following events have been promoted using press releases in on the Open Knowledge Germany press-list.</p> <ul style="list-style-type: none"> <li>● Prototype Launch</li> <li>● Large Scale Trials call for tender announcement</li> <li>● Platform Beta Launch</li> <li>● Subdiystories launch</li> <li>● Platform launch</li> </ul>
<b>Exploitation during the project and after the project's duration</b>	
<b>Target markets</b>	<p>The target markets are dictated by the target groups, which are data producers and users. These include governments, administrations, journalists, activists, CSOs and NGOs, civil society, and data experts. The various aspects and tools of the platform have been and will be targeted to the according markets.</p>
<b>Target sectors</b>	<p>Government, Journalism, Civil Society, CSOs / NGOs</p>
<b>Modifications of the product to introduce in these sectors?</b>	<p>The OpenBudgets platform has been designed with the different target groups in mind. The landing page offers the choice of sector and presents the relevant tools accordingly upon the choice of one sector. Thus, the product is inherently modular and adaptive. It will be further translated and integrated in the Open Knowledge Germany portfolio for financial transparency.</p>
<b>Markets needs</b>	<p>Administrations / Government:</p> <ul style="list-style-type: none"> <li>● use better tools to process and analyse budget and spending data</li> <li>● find more efficient workflows in daily business</li> <li>● be more transparent</li> </ul> <p>Journalists:</p> <ul style="list-style-type: none"> <li>● have better tools to work with budget and spending data</li> <li>● find inspiration and resources to develop research questions</li> <li>● have access to better data</li> </ul> <p>Civil Society:</p> <ul style="list-style-type: none"> <li>● have better tools to solve budget and spending data related questions</li> <li>● have better means of enabling transparency to</li> </ul>

	<p>investigate certain issues</p> <ul style="list-style-type: none"> <li>• stronger advocacy for specific goals</li> <li>• specific, highly technical tools, algorithms, and data to solve specific problems</li> </ul>
<b>Is there competency?</b>	Yes, the financial transparency team of Open Knowledge Germany has implemented numerous programs on open budgets, open spending, EU transparency and journalism training.
<b>List of leading competitor companies and differentiating qualities.</b>	There is no alternative organisation or company offering the specific suite of tools OpenBudgets offers. There may be commercial entities offering similar technical solutions, what makes OKFDE solution unique is the focus on training, independent implementation and reach towards different target groups.
<b>SWOT</b>	
<ul style="list-style-type: none"> <li>• <b>Strengths</b></li> </ul>	The tool suits encompasses a broad variety of use cases.
<ul style="list-style-type: none"> <li>• <b>Weaknesses</b></li> </ul>	It needs to be marketed to several market segments.
<ul style="list-style-type: none"> <li>• <b>Opportunities</b></li> </ul>	Cross-fertilization between the user groups.
<ul style="list-style-type: none"> <li>• <b>Threats</b></li> </ul>	Decreasing interest with governments in transparency and openness.
<b>Exploitation plan and Market Opportunities</b>	
	OKFDE will continue to work on financial transparency in local, regional, national and EU level. On the local and regional level in Germany, there is a wide market. OKFDE as a non-profit and community driven NGO has developed a strategy to build out its financial transparency projects together with the Open Data Community in Germany and administrations, developing training and implementation programs under OpenBudgets.eu, now implementing it in the first programs in Germany. Per partner different aspects of the OpenBudgets.eu toolbox are adjusted, implemented and used for OKFDEs financial transparency program. On European level it will continue its work on EU Financial transparency, cooperation with journalists and open data training and projects.

<b>Impact Report</b>	<b>UEP</b>
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<b>Dissemination - General information during the project and after the project's duration</b>	
<b>Objective of dissemination</b>	Raise awareness on the developed solutions among potential stakeholders, including the public sector, academia (from both the educational and scientific viewpoint) an industry.
<b>Target audiences</b>	The University of Economics is a public university, so the main target audience are students of Informatics and also of Public Finance. The other part of the target audience is the scientific community, primarily from the Public Finance field but also from Informatics. Thanks to the various out-reaching seminars and workshops contacts with local municipalities can also be leveraged.
<b>Key message</b>	State-of-the-art information technology can be beneficial for handling the public finance data.
<b>Communication channels</b>	The main communication channel for UEP has been scientific discourse through conferences, where the researchers from our team presented the results of their work on the project. In addition, other communication channels have been used such as the project's webpage (where the blogposts are included), twitter account and press releases.
<b>Scientific dissemination</b>	
<b>List of journals: Journal title + deadline</b>	Acta Informatica Pragensia
<b>List of conferences: Conference title + city + date + deadline</b>	OTM 2015 Conferences, Rhodos, 26.10.2015 – 30.10.2015. SEMANTICS '15, Wien, 16.09.2015 – 17.09.2015 12th International Experiences and Directions Workshop on OWL, Bethlehem, 09.10.2015 SEMANTiCS 2016, Leipzig, 13.09.2016 – 14.09.2016 SemStats 2016 (at ISWC 2016), Kobe, 18.10.2016 WIKT & DaZ 2016, Smolenice, 03.11.2016 – 04.11.2016 ESWC 2016, Anissaras, 29.05.2016 – 02.06.2016 RuleML'17, London, 12.-15.7.2017 KDD'17, Halifax, 13.-17.8.2017 SEMANTICS '17, Amsterdam, 11.09.2017 – 14.09.2017 ISWC'17, Wien, 21.-25.10.2017
<b>Workshops</b>	Open data stand up Otevřená propojená data veřejné správy ČR - příklady dobré praxe Workshop on fiscal data publishing, visualization and analytics Veřejné rozpočty a jejich otvírání směrem k veřejnosti
<b>Related Dissemination activities</b>	

<b>Social media actions</b>	Throughout the duration of the project, several social media actions have been executed, primarily the blog posts. A more detailed analysis of social media use is to be found in the final dissemination report.
<b>Press releases</b>	Project plenary meeting at Prague was promoted at the official UEP's website. The participation on other dissemination activities was carried out according to the project's plan.
<b>Exploitation during the project and after the project's duration</b>	
<b>Target markets</b>	The University of Economics is a non-profit, public university so it can only participate in research projects and teaching.
<b>Target sectors</b>	Research and scientific activities, teaching.
<b>Modifications of the product to introduce in these sectors?</b>	The tools developed by UEP team will be supported after the official end of the project and some minor modifications may be made if necessary.
<b>Is there competency?</b>	The team participating in the project was highly competent, mostly consisting of people with both academic and practical skills and expertise gained from past projects.
<b>Do we have a specific quality to differentiate from our competitors?</b>	The combination of computer science, business informatics and public science expertise within one institute is unique compared to any potential competitor within the country
<b>SWOT</b>	
<ul style="list-style-type: none"> <li>• <b>Strengths</b></li> </ul>	The combination of technical team focused on data mining and open data together with financial domain experts from the Faculty of Finance and Accounting.
<ul style="list-style-type: none"> <li>• <b>Weaknesses</b></li> </ul>	Limitation of the University from its non-profit status.
<ul style="list-style-type: none"> <li>• <b>Opportunities</b></li> </ul>	The interlinking of technical and public finance expertise could lead to fruitful collaboration in the future.
<ul style="list-style-type: none"> <li>• <b>Threats</b></li> </ul>	no significant threats could be identified
<b>Exploitation plan</b>	
<b>Market opportunities and Distribution</b>	UEP is active in the scientific community. UEP participate at many relevant scientific conferences showing the results of the project to the scientific community. The toolbox and its application as well as the case studies will be taken up in the UEP curriculum and presented in the teaching at UEP. Research on linked data, the semantic web and financial data will continue and the tools such as the ETL pipeline will continue to be



	promoted in UEPs work and research.
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<b>Impact Report</b>	<b>J++</b>
<b>Dissemination - General information during the project and after the project's duration</b>	
<b>Objective of dissemination</b>	Ensure the largest reach for the project's tools and deliverables.
<b>Target audiences</b>	Journalists, journalism students, communication professionals.
<b>Key message</b>	Public budget and corruption must be understood before they can be fought.
<b>Communication channels</b>	Online news websites, social networks, conferences.
<b>Scientific dissemination</b>	
<b>List of journals: Journal title + deadline</b>	The results of the experiment we led as part of T5.1 was shared with researchers at University Jyvaskyla and others, who might publish in academic journals.
<b>Future conferences</b>	JournalismFest, Perugia, April 2017 Dataharvest, June 2017
<b>Magazines</b>	Our work as part of OpenBudgets.eu was featured in Le Monde, Zett (ZEIT Online), Linkiesta, Le Vif etc. (see dissemination impact report).
<b>Workshops</b>	All workshops part of T5.2 focused on the tools of WP5. Subsequent workshops, such as the one run by OKFGR in June 2017, "International Journalism and media organizations in a turbulent age: European and Asian Perspectives", shows that the tool can be used beyond the Work Package and the project
<b>Related Dissemination activities</b>	
<b>End-Users</b>	The end-users of the tools J++ built as part of the project are journalist, journalism students and communication professionals.
<b>Project presentations in industrial forums, panels, etc.</b>	The tools were presented at professional conferences such as JournalismFest and Dataharvest.
<b>Social media actions</b>	The tools received widespread acclaim on social media and were

	shared by several thousand users.
<b>Press releases</b>	None ; we ensured dissemination by contacting journalists directly.
<b>Exploitation during the project and after the project's duration</b>	
<b>Target markets</b>	Communication and compliance teams of large companies
<b>Target sectors</b>	Hospitality, banking, consulting
<b>Modifications of the product to introduce in these sectors?</b>	Minor modifications would have needed to be made to the tool "The self-learning experience on budgets".
<b>Markets needs</b>	Prospective customers needed expertise in interactive storytelling and compliance management.
<b>Is there competency?</b>	Yes.
<b>List of leading competitor companies</b>	Any agency specializing in online development.
<b>Does J++ have a specific quality to differentiate from our competitors?</b>	Expertise in corruption and public budgets.
<b>SWOT</b>	
<ul style="list-style-type: none"> <li>• <b>Strengths</b></li> </ul>	Expertise in corruption and public budgets.
<ul style="list-style-type: none"> <li>• <b>Weaknesses</b></li> </ul>	The company is winding down.
<ul style="list-style-type: none"> <li>• <b>Opportunities</b></li> </ul>	The need for no-frills, no-nonsense interactive learning experiences is huge at corporations where HR are looking for new ways to engage employees.
<ul style="list-style-type: none"> <li>• <b>Threats</b></li> </ul>	If corruption were to be rooted out, the need for such a tool would be diminished. However, the market seems to be growing rather than shrinking.
<b>Exploitation plan</b>	
<b>Market opportunities and distribution</b>	The tool could be adapted to serve the needs of many corporations. The source code is open source, so that any developer can reuse it. As a matter of fact, many already did, to create an onboarding experience for new employees, for instance.

<b>Impact Report</b>	<b>UBONN</b>
<b>Dissemination - General information during the project and after the project's duration</b>	
<b>Objective of dissemination</b>	<p>The objective of the dissemination activities has been to showcase the project's results and to network with the scientific community developing related products and services and using similar technologies with the aim to engage in a mutually beneficial exchange. Moreover the University of Bonn has undertaken a very active role by participating in the organised Large Scale Trials and particularly by being present in all the bi-weekly meetings with the Municipality of Bonn. Through the intense collaboration with the selected candidates of the large scale trials, the University of Bonn has had the opportunity to directly engage with project related stakeholders and to incorporate requirement elicitations in the tools it is co-developing in collaboration with the other partners of the OBEU consortium.</p>
<b>Target audiences</b>	<p>The University of Bonn has maintained an active role in the successful implementation of the large scale trials. As a University, its aim has been to disseminate the project to all related stakeholders, while maintaining a focus on the scientific community and the municipalities. Moreover within the context of this project, the senior post-doctoral researchers of the University of Bonn have actively involved PhD and Master level students in the software development and data science activities with the aim to educate them with regard to the technologies used in the project and to support the requirements elicitation and platform integration activities.</p>
<b>Key message</b>	<p>The key message disseminated has been adjusted to the recipient. For instance, at a very high level scientific context, the key message has been the innovate data science and software development approach implemented during the project, whereas when engaging with the selected candidates for the Large Scale Trials the key message and main communication goals has been to understand the perspectives of the potential users of the OBEU platform and to create a smoother and more user-friendly customer experience, for tech-savvy and non tech-savvy users of the OBEU platform.</p>
<b>Communication channels</b>	<p>The communication channel mainly used has been the scientific community. The researchers of the University of Bonn involved in the OBEU project have been active in co-authoring scientific papers, showcasing the research conducted during the project and the results of the testing and experimenting, for renowned international conferences.</p>

<b>Scientific dissemination</b>	
<b>List of journals: Journal title + deadline</b>	Transactions on Large-Scale Data- and Knowledge-Centered Systems 27: 84-110 (2016)
<b>List of conferences: Conference title + city + date + deadline</b>	ICEGOV 2016, Montevideo, Uruguay, March 1-3, 2016 HICSS 2016: Hawaii, USA, Jan 5-8, 2016 SEMANTICS '17, Amsterdam, 11.09.2017 – 14.09.2017 ICEGOV 2017, Galway, Ireland, April 2018
<b>Related Dissemination activities</b>	
<b>End-User</b>	The University of Bonn has directly exchanged with the Municipality of Bonn, in order to receive feedback and to integrate stakeholders' insights with the objective to make the OBEU platform more user-friendly from the municipalities, tech-savvy and non tech-savvy perspective.
<b>Professional exhibitions: exhibition title + city + date</b>	1.OpenBudgets.eu: A Distributed Open-Platform for Managing Heterogeneous Budget Data, Amsterdam, September 11-14
<b>Press releases</b>	The University of Bonn has actively participated and provided input in all the dissemination activities. For instance it has participated in the tools descriptions featured on the project's website.
<b>Exploitation during the project and after the project's duration</b>	
<b>Target markets</b>	The University of Bonn is a non-profit oriented, public University. In this capacity, it can only participate in research oriented projects. In this regard, the University of Bonn is actively searching for European, German or local funding in order to continue its research related to the OBEU tools. Moreover the University of Bonn is willing and available to support the other OBEU partners by offering consultancy services when it comes to implementing the OBEU solutions for interested stakeholders.
<b>Target sectors</b>	Participation in scientific research activities and provision of consultancy services.
<b>Modifications of the product to introduce in these sectors?</b>	The University of Bonn supports the OBEU partners by offering technical solutions, which contribute substantially into customising the OBEU tools and platform based on the specific preferences and requirements.
<b>Markets needs</b>	The University of Bonn is willing to collaborate very closely with interested stakeholders and in particular with municipalities. Based on the experience and the results derived during the large

	scale trials, the University of Bonn strongly believes that there is a need for the OBEU platform and tools, which is anticipated to increase in the very near future.
<b>Is there competency?</b>	The University of Bonn has involved and trained a numerous team with the aim to ensure the successful implementation of the OBEU project. This team consists of Senior Post Doctoral Researchers, PhD students and carefully selected Master students, which have the skill set and know how to contribute to the successful implementation of the OBEU project. In this regards, the University of Bonn maintains the skill set, the work experience and the technical know-how in order to contribute in related projects and research activities, after the project's duration.
<b>List of leading competitor companies</b>	The University of Bonn is an active participant and contributor in the global, European and German data science research community. In this respect, the University of Bonn considers the other research institutions as potential contributors for future projects related to OBEU. Moreover from a researcher standpoint, research forums provide an impportunity to mutually exchange views and experience with regard to innovative technical solutions and data science approaches. Briefly stated, the University of Bonn perceives such exchanges as learning opportunities, and not as competitors.
<b>Do we have a specific quality to differentiate from our competitors?</b>	The University of Bonn considers that its differentiating quality is related to the skill set, experience, and know-how of its researchers and students. Moreover thanks to the OBEU project, the University of Bonn has made significant advancements in all OBEU tasks related to software development and data science.
<b>SWOT</b>	
<ul style="list-style-type: none"> <li>• <b>Strengths</b></li> </ul>	Highly tech-savvy and specialised research team, consisting of highly committed postdoctoral and doctoral researchers and master students.
<ul style="list-style-type: none"> <li>• <b>Weaknesses</b></li> </ul>	As a public University, the University of Bonn cannot develop a commercial, self-sustainable business model. In this regard it has to receive funding in order to continue developing all OBEU related technologies.
<ul style="list-style-type: none"> <li>• <b>Opportunities</b></li> </ul>	Through the very successful implementation of the large scale trials and the very close collaboration with the City of Bonn, the University of Bonn, along with the City of Bonn, are searching for public, German or local funding, with the objective to ensure the collaboration beyond the duration of the project.
<ul style="list-style-type: none"> <li>• <b>Threats</b></li> </ul>	The University of Bonn is actively collaborating and exchanging with the researcher community. In this regard, it does not

	perceive similar solutions as a threat, but rather as an opportunity to learn and to further develop the OBEU tools.
<b>Exploitation plan</b>	
<b>Market opportunities</b>	As a public university, the University of Bonn cannot directly market the OBEU solutions.
<b>Distribution</b>	The University of Bonn is particularly active in the research community and will continue to disseminate the results of the project using this network.
<b>Exploitation activities</b>	The University of Bonn participates in scientific conferences at a global level. Moreover its researchers have prepared a great number of scientific papers showcasing the project's results in the global data science community. Outcomes of the project can be reused for new projects where extensions of the same are envisioned.

<b>Impact Report</b>	<b>OKF GR</b>
<b>Dissemination - General information during the project and after the project's duration</b>	
<b>Objective of dissemination</b>	Demonstrate the tools created in the framework of OBEU project. Promote fiscal transparency and fighting against corruption with the use of OBEU tools. Involve all related stakeholders (municipalities, governmental entities, journalists, developers) and expand the OBEU network to a global network around fiscal transparency.
<b>Target audiences</b>	OKF GR has considered a wide range of target audiences which include the following categories: Users of OBEU tools: governmental entities, municipalities, journalists, citizens Developers: technical communities, web scientists, data scientists Academics: Teachers, Students of various related disciplines
<b>Key message</b>	Engage in financial transparency by using OpenBudgets.eu solutions. Consider applying relevant solutions for the promotion of democratic processes in other domains with the use of open data.
<b>Communication channels</b>	Project website, OKF GR website, Social media (twitter, facebook), Press Releases and blogs, Scientific paper writing

<b>Scientific dissemination</b>	
<b>List of journals: Journal title + deadline</b>	For the list of published articles, see the final dissemination impact report.
<b>List of conferences: Conference title + city + date + deadline</b>	OKF Greece has published work on OpenBudgets.eu on a number of related conferences such as ISWC, LREC, NODA, Semantics
<b>Magazines</b>	OKF Greece is continuously disseminating information on OpenBudgets.eu achievements and related events at <a href="http://okfn.gr/blog-magazine/">http://okfn.gr/blog-magazine/</a> and in the press such as Makedonia, CNN Greece
<b>Workshops</b>	OKF Greece continuously participates in numerous workshops and events, and organizes a large number of them, in which OpenBudgets.eu leaflets are being distributed and the achievements of the project are being promoted.
<b>Related Dissemination activities</b>	
<b>End-Users</b>	In the large scale trials, the OKF Greece has closely collaborated with the municipality of Thessaloniki and continues to reach out in partnerships with local, regional and national administrations as well as journalists and CSOs.
<b>Project presentations in industrial forums, panels, etc.</b>	Presentations in industrial forums is limited, however, OpenBudgets.eu was presented to a large number of Greek and Norwegian companies which participated at the Bilateral funded by EEA Grants
<b>Professional exhibitions: exhibition title + city + date</b>	Re:publica 2016 Berlin Re:publica 2017 Thessaloniki Re:publica 2017 Dublin
<b>Social media actions</b>	Newsletters, Twitter and Facebook posts are continuously used to disseminate OpenBudgets.eu progress and achievements.
<b>Press releases</b>	OKF Greece is continuously disseminating information on OpenBudgets.eu achievements and related events at <a href="http://okfn.gr/blog-magazine/">http://okfn.gr/blog-magazine/</a>
<b>Exploitation during the project and after the project's duration</b>	
<b>Target markets</b>	Greek Regions, Municipalities, Communities, Journalists, Universities, Data experts, Researchers



<b>Target sectors</b>	Data Journalists, Public administrations, Universities, Research institutions, OpenGovernment
<b>Modifications of the product to introduce in these sectors?</b>	Datasets processing, Translations (e.g. of Participatory Budgeting Portal), Customizations and web portal adaptations
<b>Markets needs</b>	Public administrators of all levels need to understand the benefits of OpenBudgets.eu tools and utilize workflows in daily business
<b>Is there competency?</b>	OKF Greece offers competency on technical developments and research use of the OpenBudgets.eu outcomes
<b>List of leading competitor companies</b>	Commercial companies offer similar services and tools
<b>Do we have a specific quality to differentiate from our competitors?</b>	The OpenBudgets.eu are open source, available in several languages and have already been tested in pilot sites.
<b>SWOT</b>	
<ul style="list-style-type: none"> <li><b>Strengths</b></li> </ul>	<ul style="list-style-type: none"> <li>- Open Source, Software as a service</li> <li>- Outcomes of OpenBudgets.eu have become part of the 3<sup>rd</sup> Greek Open Government Partnership action plan (Commitment 31: Linked, Open and Participatory Budgets <a href="http://www.opengovpartnership.org/sites/default/files/GREEK_NAP3-OGP-ENG.pdf">http://www.opengovpartnership.org/sites/default/files/GREEK_NAP3-OGP-ENG.pdf</a>)</li> </ul>
<ul style="list-style-type: none"> <li><b>Weaknesses</b></li> </ul>	In some cases technical and financial experts need to collaborate in order to be able to utilize OpenBudgets.eu applications
<ul style="list-style-type: none"> <li><b>Opportunities</b></li> </ul>	Public administrators to realize the value and benefits from using OpenBudgets.eu tools
<ul style="list-style-type: none"> <li><b>Threats</b></li> </ul>	<ul style="list-style-type: none"> <li>- Datasets may not be open (although this is enforced by law)</li> <li>- OKF Greece may not have enough manpower to cultivate a culture of participation and citizen engagement</li> </ul>
<b>Exploitation plan</b>	
<b>Market opportunities Distribution</b>	Several pilot sites and further implementations will demonstrate results in the following months. OKF Greece is organizing Schools of data in which we demonstrate the tools

	and invite public administrators to adopt them. OKF Greece is planning to promote further the OpenBudgets.eu applications.
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## 6 Stakeholder Engagement and Stakeholder Advisory Board

The engagement of stakeholders is key for the success of [OpenBudgets.eu](http://OpenBudgets.eu) for user input, feedback, testing and dissemination. That is why the consortium of the project is diverse and contains research institutes, NGOs, CSOs, and Journalists. Additionally, [OpenBudgets.eu](http://OpenBudgets.eu) has installed a stakeholder advisory board to consult the consortium at crucial stages of the project: user-stories, platform development, testing and dissemination. The Stakeholder Advisory Board of [OpenBudgets.eu](http://OpenBudgets.eu) consists of 5 members: David McNair of the ONE Campaign, Gisele Craveiro of the University of Sao Paulo, Jed Miller consultant in Open Data, Open Spending and Extractives, Daniel Macyszyn the CEO of ePF, and Claire Schouten from the Open Budget Partnership. Each of them is a key player in the field of Budget Transparency with a wealth of experience in civic tech, campaigning, and budget transparency research. They have already provided valuable feedback at every stage of the process and remain to do so in the current dissemination and exploitation phase. The consortium has organised two offline workshops one wide to gather input and feedback from stakeholders as well as two online meetings and several calls.

### Workshops, Calls and Meetings

The first stakeholder workshop in December 2015 and the experts meeting at IODC led to the establishment of the current stakeholder board, which was informed of the progress of the project and asked for input during online meetings in November and July, as well as several follow up phone calls throughout the year. Concretely, the SAB has advised in the first round on the participatory budgeting model and the selection of test-cities and possible criteria. They highlighted that the consortium should be aware of the necessity of necessary support from the city's leadership and a conducive environment in which the first experiences with digitisation and data had already been collected, so that the test case could be truly a test case of the tools, not of the digitisation of the cities.

In the second round, the beta version of the tools - especially the linked data and data mining tools - were send around for feedback and comments. Especially Gisele Craveiro and her department provided an extensive review report. Pointers on marketing the tools, and next steps were then given by David McNair and Claire Schouten especially.

In the third round, the re-design was presented and discussed. In particular Jed Miller and Gisele Craveiro provided valuable feedback on the presentation of the tools, the different audiences and how they could be best reached. The user-journey and division in different user-groups was applauded and in general the new design welcomed.

In the final talks at the end of the project in October 2017, pointers were provided on how to best reach the “user”, beyond the client. Claire Schouten from the IBP suggested to link budget visualisation to concrete political themes, such as the SDGs. Jed Miller wrapped up the entire endeavour of OpenBudgets.eu as contributing to the full ecosystem of budget transparency in all its aspects. He highlighted that the value of the project lies therein that it has touched upon both the semantic web, and flat-file repositories, the visualisation, training and outreach to on the ground audiences. To make an impact in the complex topic of financial transparency, such a project as openbudgets.eu must touch upon all these aspects to be effective.

## 7 Large Scale Trials Exploitation and Impact Report

### City of Bonn

#### 1. Impact achieved during the trials

The participation of citizens becomes more and more important for municipalities. Particularly if the financial situation of a city is in deficit and not all of the projects can be realised. Participation can be successful, when citizens have serious interest, the relevant information (transparency) and if they have the chance to read and understand the information. Up to now the financial data of Bonn are available in form of a pdf document on the website [www.bonn.de](http://www.bonn.de)<<http://www.bonn.de>>. This form of representation is related to the digital progress and transformation no longer state of the art. There are no easy possibilities for citizens to search and find specific data, to easily understand the data because there are no visualised data, to "play" scenarios and compare different versions (e.g. municipal proposal and enacted/finalised version).

During the OBEU project we had the possibility to test some tools which have these characteristics. We started to engross our thoughts how to provide the financial data in a more transparent and easy understanding way.

#### 2. Lessons learned during the trials

- A regular meeting of the OBEU consortium is necessary to answer questions (from both sides) in a direct way
- The financial data of Bonn is very complex and the hierarchy is not self-explanatory. The data set in form of a csv is not successful capable of being integrated in every tool.
- For giving a qualified feedback it is necessary to test the tools like an administrator, not only as a user (e.g. a citizen). This wasn't possible for all of the tools, so we couldn't answer all of the questions (handling of the tool).

### 3. How has the OBEU funding proven useful?

Up to now we had no capacity (manpower and financial resources) to start a project like this. The OBEU funding gave us the possibility to get to know several tools. With the support of the OBEU consortium we got an introduction of every tool and could test them in a very short time, so we could decide which tool is appropriate for our requirements. Without the OBEU funding we wouldn't had come that far.

### 4. How do you envision the future collaboration with the OBEU Consortium beyond the project's duration?

The collaboration with the OBEU consortium was very good. At any time we could bring our own ideas, which were realised immediately. The atmosphere was very kindly, attentive and confiding.

Because of this we could envision to realise more projects with the OBEU consortium. For Example a collaboration for the municipal project "Digitale Verwaltung" ("digital municipality") or for other current questions/ challenges.

### 5. What are your plans for the future with regard to the OBEU solutions?

We are very interested in using one of the visualization tools for our financial data. For example on our website [www.bonn.de](http://www.bonn.de)<<http://www.bonn.de>>. Therefore we will need support for the administration and technical Realisation and integration. We're hoping to find another funding or support to extend the collaboration with the OBEU consortium or single members. Our plan is to go live with the next planning period 2019/2020 ff.

## OOFEE large scale trial (Paris)

### 1. Impact achieved during the trials.

One of the main impacts achieved was *to mobilize a number of civil society actors and public authorities around the issues of fiscal transparency, in order to improve citizens' access to budget data and facilitate their participation in public debate.*

During the bootstrap of this project we defined the best case scenario (full access to raw data of the 18th district of Paris municipality) and the worst-case scenario (no access to this raw data). Due to different elections and municipalities' organisational slow down, we don't have access to raw data of the 18th district. However, to counter that, we focused on this municipality open-data during the trial and sought for other municipalities to share their raw data. We actually have two municipalities that show strong interest in the project and we have meetings scheduled in order to bring them onto the project and to exploit their data by the beginning of September.

Up to now, our tests were focused on the open data set of the budget of the 18th district of the city of Paris, [officially published by the central town of Paris](#). From a technical point of

view, those data are in CSV format, and relatively “clean” even if some manual processing were done. This dataset allow us to gain good feedback related to the OBEU tools specifications and process.

We contribute to the emulation around the OBEU project : we informed about the current activities of the consortium in order to mobilize much as possible the civitech community and different citizen movements, especially via different events hosted by [Open Democracy Now](#) as well as French academics in order to give to OBEU an optimal visibility, and be already known by those actors once the various tools finalized. There are already many kindle hopes.

We achieved a significant dissemination of the OBEU project to: the University of Rennes 1 (Brittany), and the FinLoc research centre (dedicated to local fiscal data); the civil society organisation, ODN - “Open Democracy Now”, with whom we are organizing a hackathon which will likely be taken place during the weekend of the 14-15th of October; Etalab and more generally we raised awareness among national authorities in charge of budget.

We can also affirm that OBEU project supports a very useful standardization expected by a lot of actors, and a common platform connecting the OBEU tools is a must. The FDP format, that we discover through the large scale trial, and now use, is very convenient and the use of RDF format provide a really valuable interoperable dataset with a 5 stars Open-Data as defined by Tim Berners-Lee. Our data set will be published as a reuse and improvement of data in the data.gouv.fr platform and the OGP toolbox, in French and in English.

## 2 - Lessons learned during the trials.

The first lesson learned is probably related to the context in which these tools were evaluated: implementing transparency tools requires a good and substantial support from the executive power of the targeted local government, otherwise administrative slowness would be a real issue. As a matter of fact, during our trial, even though no one opposed to our large scale trial planning, we did face many different successive administrative slowness. The first one was related to the electoral period, then the project was not a priority compare to some other important current affairs. Lately the head of financial affairs resign, and the position is still vacant. Indeed, our trial take place on the level of 18th district of Paris municipality. After being mobilized by the presidential and then legislatives elections of the beginning of 2017, it was impossible for authorities to carry out communication operations which may disturb the public debate.

Then, as a continuation of debates linked to the democratic life, the municipal executive of the 18th district was monopolized by the management of various crises and polemics - notably due to migratory pressure - not giving the necessary breath to the administration to deliver their sets of raw data that we had been promised for the large scale trial. Finally, the finance manager position is still waiting for a replacement due to its hasty departure, which leaves us in a situation of waiting.

Facing all those issues we started some negotiation with other municipalities of the suburban Paris area to access to some other raw data by the end of the large scale trial.

All the different tools developed by OBEU do have a real interest, confirmed by all the different actors we interacted with. We can notice a clear expectation of a common platform interacting the different tools developed by the OBEU consortium in order to provide a united standardization in the area of fiscal transparency.

From a technical point of view, the tests were carried out with data put in open source by the central [city of Paris - budgets executed](#) (). These data are reliable and in a CSV format, requiring less data wrangling compare to internal raw data.

Technical lessons are more meaningful: our current trial provide valuable feedback about our implementation of the OS chain (ETL / Babbage / Rudolf), on KPI and Microsite, in other words testing scenarios 1, 2, 4 & 5. In the knowledge that the 3rd one is the alternative to the first scenario combine with the second: it is used when your dataset has a complex structure, multiple files where your data are, or you want to annotate your data with codelists unavailable on OS Packager. It gives you a total control over the data modelling and gives you a better flexibility on data cleaning, meaning more suitable for raw data set.

Regarding the tool named **Openspending (testing scenario n°1)**, we test the import to OpenSpending (Next platform - <https://next.openspending.org/>) which at the same time converts the source file (CSV) to the Fiscal Data Package (FDP) format. The experience depends on the quality of the source data, obviously. In our case, the data was already clean (official published open data), yet can already indicate that small abnormalities (like # in cells) should not prevent the upload. We notice a compatibility problems with Firefox regarding a display issue only while using the internet explorer. Most end-users won't be able to manually "debug" their CSV to make the import work. The user path to access 'My datasets' should be simplified: once logged in, "My datasets" should appear on the top bar or in the User drop down menu - instead of 'Profile' or "Admin". Also, the user path to access OS Viewer from "My datasets" should be simplified. For most users, we assume this is the feature they would like to use (visualize their data and publish their dataviz), so this should be evident and straightforward. (More on this in our TS4 feedback).

We notice some bugs related to the **Automated Data Transformation** from FDP (fiscal data package) to RDF (resource description framework), **following testing scenario n°2**, some points has been fixed, yet our trial show clearly that there are still some issues with OS-Explorer/Rudolf. The matching of CSV (comma-separated values) field to FDP classifications during import is mostly straightforward but could be simplified. After following the tutorial instruction, it mentions "Now the transformation to RDF will be performed in the background (it can take a few minutes) and after that, the dataset will be available in the "OpenBudgets platform", but it doesn't explain what the "OpenBudgets platform" is and where the output of the ETL is. After some exchange with OBEU, we discover that In fact the 'Run External Hooks' button on OS (SaaS version) - <https://next.openspending.org/admin/> - was hard-coded to point to the RDF ETL Pipeline hosted at the Fraunhofer Institute. During our test, the bug was in the process of being fixed.

This step is necessary to transform to RDF, but the OBEU documentation - [https://docs.google.com/document/d/1Q-cbP8luos4dZae9vbm6EbAkS1qc-yC\\_xE0\\_R8vQBUQ/edit](https://docs.google.com/document/d/1Q-cbP8luos4dZae9vbm6EbAkS1qc-yC_xE0_R8vQBUQ/edit) - as well as the specific tutorial - <https://github.com/openbudgets/pipeline-fragments/tree/master/FDPtoRDF/documentation/user%20documentation> - does not say anything about this platform. We had to discover this while interacting with the different actors of the OBEU consortium. There is clearly a need of more information for the coming users. Thus, we needed the help of Sotiris Karampatakis (KPI team) to find the dataset on the Fraunhofer platform without using search engines, but with the API. In our case the dataset is here : [http://eis-openbudgets.iais.fraunhofer.de/viewer/budget\\_mairie18\\_994e0](http://eis-openbudgets.iais.fraunhofer.de/viewer/budget_mairie18_994e0) .

About **Microsite**, following **testing scenario n°5**, an instance of Microsite had been installed by OBEU team for us to use and test. This team was composed of Fabrizio Orlandi (Bonn University), Georgiy Shurkhovetsky (Fraunhofer) and Jean Piero Hernández Meze.



Microsite is basically an embedded version of **OS Viewer** (<https://next.openspending.org/viewer/>) which explain why our following comments concern both.

Basically this tool allows a stakeholder to publish dataviz of their budget on their own websites, available for their citizens to use. This first test was based on the dedicated instance, yet we will install our own instance of Microsite, using the real data (TBC).

Since its audience is the general public, this makes Microsite the most prominent and visible part of the whole OBEU toolchain. This is one of the key tools of OBEU which requires a specific attention to the aspects of UI and UX. As for the maintenance by the town hall, it shouldn't be a problem. Since Microsite is just an embed of OS Viewer, there's no replication of data. Every change on the OpenSpending platform, including OS Viewer will appear as it is on the Microsite, which is very convenient and simple to be used by civil servant.

We suggest that the “social dimension” of Microsite should be expanded. Indeed, at the moment, only the default viz is published on the Microsite webpage. Users can tweak the parameters on the left panels to create their own personalized dataviz, but they cannot make it public or available to other users. They can only share a link to their dataviz, or embed it on their own website. We suggest to improve the personalisation option, to reinforce as much as possible the implementation and regulate the use of Microsite, especially to support a communication department use of the outcome of Microsite.

A suggestion of a different prestation would be to let the UI have 3 different tabs: (1) main for the default dataviz (new one in development), (2) one for "expert dataviz" (old OS Viewer), a (3) last one for "showcases" published by the admin.

**KPI** is a very interesting tool, we tested only, following the **testing scenario n°4** with the data from Greece - available on <http://kpi.okfn.gr>. Our feedback will be mostly related to the UX of KPI app since the target of this tool is to undifferentiated citizen. A lot of different ways to visualize fiscal datas are possible, yet the navigation is not very user-friendly, and some explanations should be suggested while the users are looking to display those data sets. Graphism are clear when appear, yet the user experience would be truly improved with some more text explaining on the displayed datas. Simplicity is appreciated, but may exclude a large part of novice users. It is not intuitive enough.

If all these tools rise positive expectations, it is necessary to allow an optimal use to **improve the interaction between the different tools**, via a common platform, and to **leave room for a personalization** of tools to fit the different use cases.

### 3 - How has the OBEU funding proven useful?

The OBEU funding was necessary to allow a concrete grasp on the different OBEU tools, and to identify a certain numbers of anomalies or dysfunctions that in order to solve them and thus be able to distribute these tools more widely.

Technical requirements had been well took in consideration during the development process through the implementation of testing scenarios, which enabled us to carry out this evaluation. However some enhancements are necessary since the support of various OBEU stakeholders had been decisive and necessary at some point for us to overcome some difficulties encountered.

Fabrizio Orlandi, Sotiris Karampatakis, Marek Dudas and & many other people supported our test, without whom our Large Scale Trial plan wouldn't have been possible.



The OBEU funding supports us to involve budget & local administration expert in the evaluation of the OBEU tools, to promote coworking between different stakeholders from the civil society and especially to support our engagement in the “Open democracy now” (ODN) movement. *“Open Democracy Now (ODN) is a French initiative that gather an important community of complementary competencies of civic passionate that want to provide concrete solutions to a more participatory and collaborative democracy. This initiative is run by DemocracyOS, Etalab, Open Law, Open Source Politics et République Citoyenne and have the target to build the community of actors and solutions on the long run, structuring the community and inter-solutions complementary with the help of a serie of hackathons.”*<sup>1</sup> Openbudget.fr is now part of it and will organizing an hackathon by mi-october to promote our word with OBEU.

More generally, those funds lastingly allow to hold in the public debate the interest, the need of transparency, and citizen involvement It supported on a long terme schedule the OBEU opportunity to implement a concrete, large scale tools trial to experiment the use of innovative civic-tech tool in the existing public budget decision making and transparency.

Finally, this funding allows us to explore deeply those concrete tools, along with methodologies and data related to the immense field of open budget data.

This funding also allows us to determine two complementary and best chance to win strategies for the following works on OpenBudget :

1/ Width Coverage Strategy : import available data for a large amount of cities. Even if the data are not precise or totally clean, harvest as much as possible data from different cities in France and French speaking countries.

2/ Depth Coverage Strategy : gather more precise and detailed real-time data from partners' cities in order to provide more data and features. Even if it is much longer and requires more important political support, this strategy will provide some good examples for other cities to come in.

This two strategies will complement, create traction and start interest from more cities and citizens interested in OpenBudget.

#### 4 - How do you envision the future collaboration with the OBEU Consortium beyond the project's duration?

The OBEU Consortium provides an approach sharing our value, through open source innovative tools we are glad to go along with during this large scale trial. This approach aiming to support journalists, civil society organisations, NGOs, citizens and public administrations, by providing an overview of public budget and spending data as well as related tools and stories, thus serving advocacy and fiscal transparency objectives. In other word, it pursues one of our important aim: empower citizen, via transparency.

We consider the project of this consortium as a source of great hope and wish without any hesitation to continue and to accompany its development. On one hand, we wish to participate in the technical improvement of the tools and more particularly the valorisation of the UI and UX experiences to be part of their long term behaviour.

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<sup>1</sup> Translated from : <http://opendemocracynow.net/>

On the other hand, we also want to adapt the tools to the French national constraints of its system of local and regional authorities (*collectivités territoriales*). This includes a translation of all the tools and related documents, in order to allow easier and more accessible use.

In the spirit of dissemination, a strong communication operation to different communities, citizens and journalists will be carried out as soon as the tools are operational, we wish to take part of it, targeting the French speaking area.

We believe that it is necessary to capitalize the developed tools in order to maintain a dynamism into the existing community, both within the consortium but also within the associative and academic relays working on fiscal themes and participatory democracy.

We must be able to use the OBEU tools by going further in data fields but also in the amplitude of those data.

We also want to participate, beyond supporting free access to data, to its clarification: through a specific accompaniment, a specific education. We must give the opportunity to understand the stakes to different publics, and such to empower them.

In few words, we wish to be **the French-speaking voice of the European OBEU consortium!** This presupposes that we provide a translation of all the existing documents, and that concurrently the **OBEU consortium will give us** the opportunity to have a **Francophone instance** allowing us to exploit the OBEU tools on the French market, while the server will still be manager during 3 years by the consortium (especially Fraunhofer).

## 5 - Any other comments/suggestions with regard to your experience during the OBEU trials? What are your plans for the future with regard to the OBEU solutions?

Our experience through the OBEU trials pushes us to reaffirm the need for a common platform, a common frame that allows us to use in a fluid way the various tools developed. We suggest leaving a significant possibility of personalization, both in visualizations and in the types of data to be captured, in order to be able to adapt easily to different situations and needs, while allowing building a common standard of transparency within Europe.

OpenBudget.fr is an initiative to make the public budget available and participatory, creating the socio-technological conditions for a real time democratic control of the public budget by involving the voice of citizens. For OpenBudget.fr, open data, budget education and citizen participation are the 3 pillars of a new democratic budget management, which means that our long-standing approach to popularizing the functioning of the budget, supporting the transparency of public data and disseminating these data to the widest possible public can only encourage us to continue using OBEU solutions over a long term period, in order to further disseminate these tools that are improving through this trial, and to help public authorities (the different levels of government) to use these tools, available in open source. We want to be involved in a OBEU tools spread large as possible. This involves securing the support of executives in the process of transparency and then training officials and also supporting good practices habits in the use of these tools.

In our opinion, the OBEU solution represents a great civic opportunity, promoting the transparency of budgetary data, and commercial by give us the possibility to monetise the implementation and staff training to the use of these new tools on the French market. These conditions allow us to consider long-term support for these OBEU tools.

## Intelspace Innovation Technologies S.A. (Thessaloniki)

### 1. Impact achieved during the trials

The testing activities included the technical trials and the demonstration of the OBEU tools to a group of staff members of the municipal authorities and to a group of external experts.

We conducted a group discussion with staff members of the municipal authorities which are the natural users of the OpenBudgets.eu applications. This included the presentation of the entire project and especially the tools to the staff members. We demonstrated thoroughly the tools to the staff members of the municipal authorities and encourage them to use and evaluate the tools. A discussion on the tools followed.

A similar approach was adopted with the group of the external experts.

The result of the above activities is that the project aims and its achievements was communicated to groups of future users of the tools and to external experts with considerable influence in their respective fields.

The impact gained from these activities is relying on the following pillars:

- The OBEU approach and tools was recognized by the two groups, as a very interesting and effective solution to serve the need for transparency of municipal fiscal planning and implementation, almost for the entire municipal authorities in EU due to the powerful components for data modeling, description and data structures unification and conformance to the existing standards such as RDF.
- The two groups recognize that this feature of the tools may support a wide spectrum of applications targeted to comparison and benchmarking of fiscal planning and performance between the municipal authorities in EU. The tools also may serve for monitoring and optimization of fiscal policies at a national level.
- A last finding, with a special importance for the entire project impact, is that the OBEU methodology and tools are of a user-friendly nature and they could be easily adopted by the municipal authorities with a mild intervention and support of ICT and data experts.
- Due to the above findings, it became clear for the experts and the staff members of the municipal authorities that the OBEU platform could be easily deployed in a considerable number of municipalities after the completion of the project.

### 2. Lessons learned during the trials

The trials allowed to reach a thorough evaluation of the applications from the perspective of: a) the ICT experts, b) the staff members of the municipal authorities and c) experts of the data science. This evaluation led to the following lessons:

- The OBEU platform provides a series of tools to import, analyze and influence public budgets. A rich model of data transformations between several formats makes the process of importing data more flexible and easier to the end user.
- The semantic data model facilitates the benchmarking process between different regions and patterns.
- The modular design of the platform, and its partition in independent components, makes easier to reuse and extend them.
- A key challenge of the project is the interoperability of the tools regarding the different stakeholders, for example to provide a way to the citizens to monitor and review their suggestions regarding the budgets and projects and their progress.
- The whole project approach looks simple and easy to use in some of its aspects. On the other hand, some components such as the Indigo Data Mining tool require expertise and capacities that are not available by the staff members for the majority of municipal authorities.
- To exploit these tools, it would require cities to hire some experts to conduct the customization and support regarding these tools. The services of these experts could be provided in an integrated approach to cover both budget implementation and consultation.
- It would be important to use the OBEU tools to setup a module for dissemination to have public follow up planning and implementation in a few years perspective.

### 3. How has the OBEU funding proven useful?

The OBEU project addressed the issue of transparency and publication of fiscal budgetary data of public organisations, primarily for the municipalities but also for other public administration bodies, across the European Union. The project created tools allowing the transformation of fiscal data and the unification of the fiscal data models. In addition, the project created powerful tools for data visualization, data mining and participatory budgeting.

The data transformation and data model unification tools allow to apply the OBEU methodologies for the entire number of municipal authorities in European Union, as well as for other public administration bodies. This ensures that OBEU offers a universal solution for budgetary data publications and comparison between bodies across the EU. This serves the needs for transparency, publication, participatory budgeting, public information and discussion on fiscal policies design and implementation.

The above issues are critical for the entire EU, and the solutions offered by OBEU as a result of its funding, may serve the public administrations and the citizens across the EU. This is applicable of course for the Greek municipalities and, in particular, for the Municipality of Thessaloniki.

The above facts prove that OBEU funding led to the creation of powerful methodologies and tools with an intense European dimension.

#### 4. How do you envision the future collaboration with the OBEU Consortium beyond the project's duration?

Intelspace Innovation Technologies S.A. offers a wide variety of services to municipal authorities. The services of Intelspace are based on advanced ICT and are aiming to the development and application of solutions towards the vision of smart cities. Intelspace offers also consulting services in the domain of smart cities.

We are interested to include and embed the OBEU methodology and applications in our portfolio of solutions and services we are proposing and offering to municipal authorities for smart cities.

#### 5. Any other comments / suggestions with regard to your experience during the OBEU trials?

We had an excellent cooperation with the OKF Greece development group, during the entire testing. We enjoyed a full access to the tools and had support and very helpful clarifications on the tools, when needed.

#### 6. What are your plans for the future with regard to the OBEU solutions?

We at Intelspace Innovation Technologies S.A. are interested to include and embed the OBEU methodology and applications in our portfolio of solutions and services we are proposing and offering to municipal authorities for smart cities. Our proposed path towards this target could be outlined as follows.

After the completion of the project, we may arrange a technical meeting to summarize information of the final version of platform and the tools. This could cover also issues regarding the required technical training on the installation and administration of the platform and the tools.

In parallel with the technical discussion it is necessary a discussion on the economic issues related to a business cooperation between the OBEU consortium and Intelspace. These two discussions (technical and economic) may evolve in the same period. After the completion of the discussions, having clarified the economic aspects of the cooperation, Intelspace will initiate a series of information events with selected municipal authorities in Greece to promote the OBEU solutions. In addition, Intelspace will launch a complete package of targeted publicity activities.

## 8 Market Analysis

OpenBudgets.eu as a project has created impact and tools in many different aspects of financial transparency, and the different tools and projects that found their seed in the OpenBudgets.eu project will continue. Due to the diversity of the project, a full market analysis is not possible, that is why we focus on a few other players offering open government data platforms, visualisations and especially budget visualisations for municipalities.

### Open Government Data Platforms

#### Socrata

It is one of the “market leaders in making existing government data discoverable, usable, and actionable for government workers and the people they serve. Socrata provides a data-as-a-service data platform and cloud applications exclusively for city, county, state, and federal government organizations”<sup>2</sup>. It develops and operates a government domain-specific, cloud-based data-as-a-service platform that has the ability to ingest, store and serve all variety of public sector data workloads. The Socrata platform can store structured or unstructured operational, geospatial, financial and performance data and digital content like video footage. One of its main goals is to automate and integrate the flow of this content from the underlying source systems governments operate. Additionally, it makes government data easy to discover, visualize, analyze, contextualize and publish or share internally or externally.

The Socrata Open Data Portal includes several services, such as:

- *Socrata DataSpace*: An elastic cloud-based data storage, indexing and retrieval service that simplifies data management and automatically optimizes access for a wide variety of data sources.
- *Socrata Data Publishing Services*: Easy-to-use tools for publishing and updating data from spreadsheets, file systems and transactional databases, including real-time automated publishing.
- *Socrata Data Discovery and Visualization*: Consumer friendly interfaces that make it easy to discover data, explore it online, visualize it with charts and maps, and share it with others.
- *Socrata Open Data API (SODA)*: An open, standards-based API that automatically provides RESTful access and an expressive query language for every dataset.

Many more services are also available as extensions of the core platform.

#### Junar<sup>3</sup>

It delivers an easy-to-use, cloud-based open data platform that enable businesses, governments, NGOs, and academia to free their data to drive new opportunities, collaboration, and transparency. With the Junar Open Data Platform, government agencies can:

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<sup>2</sup> <https://socrata.com>

<sup>3</sup> <http://www.junar.com/index9ed2.html?lang=en>



- Meet Open Data legislative requirements
- Easy deploy and maintain Open Data without IT investments
- Promote accountability and proactive transparency
- Make data more accessible and empower citizens to unlock online resources
- Use the Junar API to allow developers to access data from their applications programmatically

## OpenGov<sup>4</sup>

It offers a Smart Government Cloud aiming at achieving better budgeting, improved reporting and operational performance, and comprehensive transparency and open data. OpenGov solutions drive impact by giving governments the tools and relevant data for more informed decision-making and better outcomes for the public. According to the company's website, the platform complements traditional accounting and enterprise resource planning systems by providing user-friendly access to data. The OpenGov Open Data offer is powered by CKAN to deliver public data to civic developers, businesses, and citizens. This solution provides a hosted and managed CKAN instance with customizable portals.

## Relation with OBEU

While Socrata is one of the leaders in the open government data market, it differs from what OpenBudgets.eu offers. Socrata targets the entire government data spectrum, not focusing specifically on budget and spending data. The infrastructure and the set of tools offered are generically aiming at ingesting, managing and publishing any open data that a government has to offer, hence not going deeper in the understanding and the semantics of data in particular domains such as the fiscal one. Similar competitors in the market such as Junar and OpenGov offer similar functionalities as Socrata's and also target the entire open government data workflow. Therefore, they do not specialise on budget and spending data. Additionally, these solutions do not make use of semantic technologies, therefore missing the benefits of standardised solutions based on Linked Data.

As an example of pricing scheme for these solutions we provide in the following Figure an example of pricing scheme of Socrata in 2014. This was available [online](#), however recent pricing schemes are not public anymore (also for Junar and OpenGov). It is common in these cases not to publish a fixed pricing scheme for every solution but to adapt the offer to each case or municipality requesting the services. The prizes depend on the size of the municipality, the requirements, the country and many other factors.

However, we can see that Socrata was charging around 5000 US dollars per month for the Basic platform offer.

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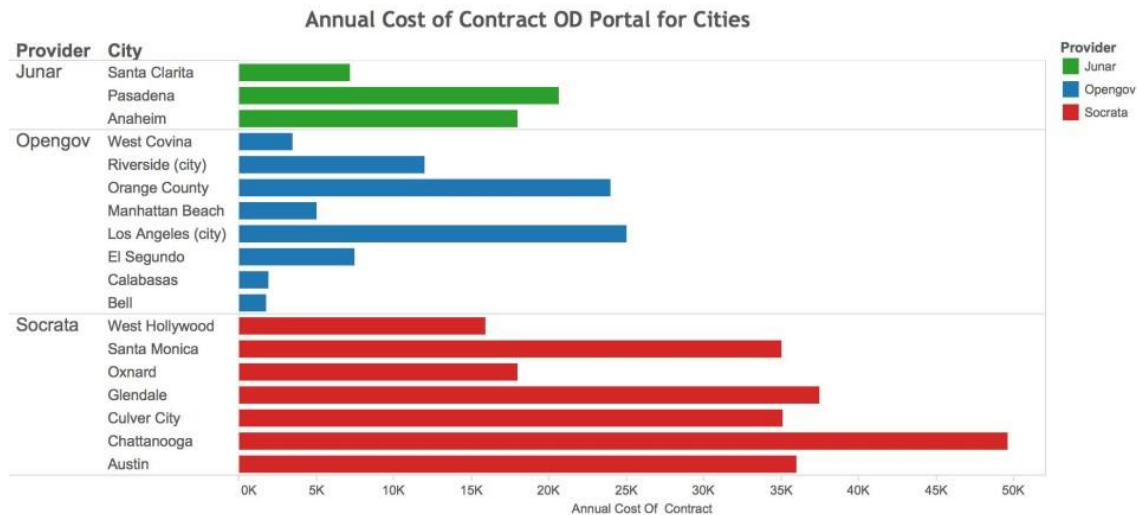
<sup>4</sup> <https://opengov.com/about/>



Jul-14	All prices shown are monthly	
Product Code	Product Description	DES Price
Soc-OD-B	<p><b>Socrata Open Data Portal- Basic</b></p> <p>The Socrata Open Data Portal enables government leaders to deliver on their transparency and digital government initiatives with unprecedented speed and costs savings. The Portal offers a complete software-as-a-service platform that unlocks the organization's data from its legacy silos and puts it into people's hands. It simplifies the entire data lifecycle, from capture and collection to distribution and consumption. Key Open Data Portal functionality includes:</p> <ul style="list-style-type: none"> <li>◆ <b>Socrata DataSpace:</b> An elastic cloud-based data storage, indexing and retrieval service that simplifies data management and automatically optimizes access for a wide variety of data sources.</li> <li>◆ <b>Socrata Data Publishing Services:</b> Easy-to-use tools for publishing and updating data from spreadsheets, file systems and transactional databases, including real-time automated publishing.</li> <li>◆ <b>Socrata Data Discovery and Visualization:</b> Consumer friendly interfaces that make it easy to discover data, explore it online, visualize it with charts and maps, and share it with others.</li> <li>◆ <b>Socrata Open Data API (SODA):</b> An open, standards-based API that automatically provides RESTful access and an expressive query language for every dataset.</li> <li>◆ <b>Socrata Open Data Federation Services:</b> A game-changing technology that enables two or more organizations to exchange and aggregate their data, with one click.</li> <li>◆ <b>Socrata Data Player:</b> A web widget that allows government agencies to embed live data, maps and charts on their agency websites.</li> <li>◆ <b>Socrata Sitewide Analytics:</b> Real-time analytics on usage, distribution and traffic patterns for each dataset in the Open Data Portal.</li> <li>◆ <b>Socrata Mondara:</b> Extends the open data experience to geospatial data that was previously only accessible to GIS experts. Mondara makes it easy for the other 99% of users to create rich online maps instantly, and use this valuable data to power location-based services.</li> <li>◆ <b>Socrata API Foundry:</b> a powerful wizard-based application that simplifies the creation, deployment and management of enterprise-class APIs for mission-critical cloud and mobile applications. It dynamically creates an API catalog featuring documentation, client code libraries, and an interactive test console for each API to help developers discover, explore, and start using your APIs right away. It also includes enterprise-class capabilities for IT administrators to control fine-grained API access and security, management of application tokens, throttling, and API analytics to monitor trends and usage patterns in real-time.</li> </ul> <p><b>Usage Details:</b></p> <ul style="list-style-type: none"> <li>• 150 Datasets</li> <li>• Unlimited Views and Visualizations</li> <li>• Unlimited Users</li> <li>• Unlimited Open Data APIs</li> <li>• 10 Premium APIs</li> <li>• Up to 5 million API calls per month</li> <li>• Unlimited Storage</li> <li>• Up to 1 TB in bandwidth per month</li> <li>• 5 Microsites</li> <li>• Native Support for Geospatial Data</li> <li>• Up to 50,000 Geocoding Requests per month</li> <li>• Sitewide Usage Analytics</li> </ul> <p>Price is per month.</p>	\$ 5,129.57

**Figure 1: Socrata Basic, Pricing Example from 2014<sup>5</sup>**

In a study conducted by the [GovEx team at the Johns Hopkins University](#) in March 2016, insight on how much governments pay for Open Data is provided<sup>6</sup>. In the following Figure we report a diagram extracted from this study that depicts the annual costs of contracts for open data portals in several cities adopting either Junar or OpenGov or Socrata. It is clear that Socrata is a more expensive option and contracts can rise up to 50K US dollars per year.



While these figures cannot really be applied to OpenBudgets.eu, they anyway provide an idea of the size of the market and the costs that such projects with municipalities have.

## Tableau<sup>7</sup>

Tableau Software is a visual analytics engine that makes it easier to create interactive visual analytics in the form of dashboards. These dashboards make it easier for non-technical analysts and end users to convert data into understandable, interactive graphics. It facilitates the use of data from public sources in conjunction with proprietary data, enabling new and useful insight. Tableau separates the data layer from the presentation layer and makes updating a spreadsheet data source a trivial append to the bottom of a source spreadsheet. It basically reduces the burden on an IT team by enabling end users to conduct meaningful analysis, make useful discoveries and build interactive dashboards with much less technical support versus traditional (developer-centric) tools.

<sup>5</sup> Extracted from: <http://des.wa.gov/SiteCollectionDocuments/ContractingPurchasing/socrata/SocrataJuly2014PriceList.xlsx>

<sup>6</sup> Michael Benison, “Open Data - How much does it cost?”, 2016: <https://govex.jhu.edu/wiki/open-data-how-much-does-it-cost/>

<sup>7</sup> [www.tableau.com](http://www.tableau.com)

Tableau, however, does not allow data creation. It is possible to make new data in Tableau only using forecasts, trend lines, reference lines, calculated values and table calculations. It is also not an ETL engine for cleaning-up or transforming data, although it can be very helpful in identifying missing or erroneous data in existing data sources. Visualizing data via time series, bar charts, scatter plots or in maps highlights errors and outliers more effectively than grids of data in a spreadsheet. However, Tableau is not a table-production tool.

The software comprises three core products: Tableau Desktop, Tableau Server and Tableau Online. There are also two recently added, additional products: Tableau Reader and Tableau Public. Furthermore, under the title of Tableau 8.2, the company has released a whole range of new features. Tableau handles all data sizes, is accessible for technical and non-technical users, and the customizable dashboards are updated in real-time.

As per the pricing model, it is based on a subscription model. These are the costs published in 2017:

Tableau Desktop Personal Edition: \$35 per user, per month.

Tableau Desktop Professional Edition: \$70 per user, per month.

Tableau Server: \$35 per user, per month.

Tableau Online: \$42 per user, per month.

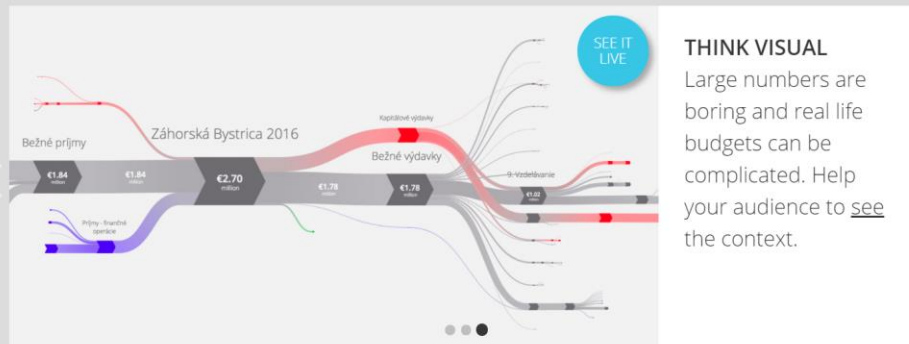
## Wikibudgets<sup>8</sup>

Wikibudgets is a small company started in Czech Republic that offers as a main product a particular tool capable of visualising budget data. The company offers this visualisation tool with a subscription model, where customers can subscribe for a monthly fee (*from 9 to 89 Euro per month* depending of the extras and the support). They currently produced interactive visualizations of the budget of several municipalities: Czech Republic (21,767), United Kingdom (371), United States of America (142). They are specialised in visualising budget data, however they do not offer a complete and open source platform for managing budget data, as in OpenBudgets.eu. The solution is basically limited to a specific visualisation “hardcoded” or built on top of the data obtained by each municipality. Making it difficult to reuse or exchange the data and the visualisations as well. Data mining functions, transformations and querying capabilities are not offered by Wikibudgets.

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<sup>8</sup> <https://www.wikibudgets.org/#about-us>

## wikibudgets - the world's most intuitive budget visualization tool



## Summary of market analysis

The only major study to quantify the economic benefits to open data on a global scale is the McKinsey Global Institute study “Open data: Unlocking innovation and performance with liquid information”<sup>9</sup>. The key finding is that an estimated \$4 trillion in annual economic potential could be unlocked globally through increased efficiency, development of new products and services, and consumer surplus. This is calculated across seven main domains: education, transportation, consumer products, electricity, oil and gas, health care, and consumer finance.

The analysed benefits of open government data in the EU are estimated, for the value of open government data, as a current contribution of \$102 billion annually<sup>10</sup>. Another more recent study of European open government data<sup>11</sup> returned an updated and smaller estimate of the overall market for public sector information in the EU region with an estimated \$39.2 billion with an upper boundary of \$71.1 billion.

<sup>9</sup> Manyika, J. Chui, M. Groves, P. Farrell, D. Van Kuiken, S. and Doshi, E, A.. “Open data: Unlocking innovation and performance with liquid information”, McKinsey

<sup>10</sup> PIRA. (2000). Commercial exploitation of Europe's public sector information, European Commission, Brussels. Retrieved from ftp://ftp.cordis.europa.eu/pub/econtent/docs/2000\_1558\_en.pdf

<sup>11</sup> Dekkers, M. Polman, F. te Velde, R. & de Vries, M. (2006). MEPSIR: Measuring European Public Sector Information Resources, European Commission, Brussels. Retrieved from http://ec.europa.eu/information\_society/newsroom/cf//document.

The long experience and networks of the consortium partners, spread around Europe, allows us to from the start spread the product around Europe, adjusted to different geographic and political contexts, and in different languages. Socrata is market leader, but has its main client base in the USA, with occasional platforms for the EU.

The OpenBudgets.eu solutions and consortium have the advantage that the platform is flexible and the model developed so that it is applicable to different budgetary systems and political context. Seeing the cultural, political and linguistic diversity in Europe, it is of utmost importance that the implementation is done in collaboration with local partners and/or consultants. The geographic spread of the OpenBudgets.eu consortium and its vast network in Europe over the Open Knowledge Chapters based in 21 countries in Europe, ensure a solid translation of the tools to local context.

Finally, the links and integration to the wider network of Open Fiscal data makes our product attractive, comparison and integration are foreseen in the network that municipalities join when implementing the services.

## 9 Conclusion

This deliverable serves the objective to describe the final exploitation plan for OBEU and evaluate the final results of the project in terms of impact, stakeholders' engagement, sustainability and business potential. The impact of the project is analysed under several perspectives: (i) impact of the general overall OBEU framework, (ii) impact towards the H2020 Work Programme objectives, (iii) impact for each developed tool and for each consortium partner, (iv) impact on the stakeholders, (v) impact on the large scale trials, and finally (vi) impact on the market. We have taken a great number of management and technological tools in consideration with the aim to properly address all project related aspects and involved stakeholders. We have developed a platform with 13 tools, 3 use-cases, and extensively tested the platform in three large scale trials. Moreover, we currently hosts more than 2,293 data packages from 78 countries with over 52,927,656 fiscal records. These achievements have been considered in terms of exploitation objectives and potential. By conducting risk management, we tried to uncover potential obstacles, while working on the business side of the project and refining the Business Model Canvas and Revenue Streams for the OBEU SaaS business. The various Exploitation plans per Partner and the focus on OBEU's sustainability constitute significant parts of this deliverable. Taking all the above into consideration, we believe that there is market potential for OBEU, not only thanks to its unique value proposition that makes high technology affordable at a low price for municipalities, public administrations and citizens, but also thanks to the positive effects that will result by the project's implementation. In particular, these positive effects can be summarised with the following four points: (i) stimulating the creation, delivery and use of new services on a variety of devices, utilising new web technologies, coupled with open public data; (ii) more personalised public services that better suit the needs of users, (iii) reducing the administrative burden of citizens and businesses; (iv) increased transparency of and trust in public administrations.

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Aufzugsgruppe, Etage, Zimmer 2, 12 B  
Mein Zeichen  
Datum 9. November 2017

## LOI Feedback OBEU and further collaboration

Dear Ms. Garatzogianni,

cooperation with the Fraunhofer team was excellent and constructive. Throughout the entire project, we had the feeling that our wishes and requirements were taken seriously and were implemented as far as feasible. The team supported me and my colleagues in many ways, presented a number of new ideas and asked the right questions to fully understand the structure of Bonn's budget plan and its complexity.

The OBEU funding project offered the opportunity of learning about and testing a number of new tools that provided a variety of new options for us. We could do so in a very short time and were able to choose the most suitable tool for Bonn's budget plan.

With such a comprehensible presentation of the planned budget, our citizens have the option of obtaining information down to the level of product groups and the actual use of funds. This adds to the understanding and transparency within the scope of civic participation. Detailed information can be accessed and more information can be requested if needed.

We intend to adopt and implement the Open Budget tool for our operations. It will be used for the first time during the budget debate for the year 2018. I hope that subsequent funding will be possible. And we are highly looking forward to our further cooperation with Fraunhofer.

Best regards



Alessandra Caroli

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Internet: [www.bonn.de](http://www.bonn.de)

Öffnungszeiten  
Mo, Do: 8.00 - 18.00 Uhr  
Di, Mi, Fr: 8.00 - 13.00 Uhr  
Zusätzliche  
telefonische Servicezeit  
Di, Mi: 13.00 - 16.00 Uhr

Öffentliche Verkehrsmittel  
Bahnen: 61, 62, 66, 67  
Busse: 602, 604, 605

Sparkasse KölnBonn  
IBAN:  
DE79 3705 0198 0000 0113 12  
BIC:  
COLSDE33

Postbank Köln  
IBAN:  
DE04 3701 0050 0011 8905 01  
BIC:  
PBNKDEFF

Volksbank Bonn Rhein-Sieg eG  
IBAN:  
DE95 3806 0186 2003 7530 10  
BIC:  
GENODE1BRS

Thessaloniki, 10 November 2017

To whom it may concern

## Letter of Intent

We had the pleasure working during the last 7 months with the Fraunhofer-Institut für Intelligente Analyse und Informations systeme (IAIS) and members of the consortium of the Horizon 2020 project “OpenBudgets.eu: Fighting Corruption with Fiscal Transparency” (OBEU).

We conducted the large-scale trials for the evaluation of the OpenBudgets.eu Platform, which included:

- Trials on the OpenBudgets.eu platform, using budgetary data of the Municipality of Thessaloniki,
- Group discussions with key personnel of the municipality of Thessaloniki, regarding the functionalities offered by the OpenBudgets.eu platform,
- Consultation with a group of external experts on data management and semantic transformation,
- Preparation and submission of a report which outlines the results of the testing and evaluation activities.

During this assignment, we had excellent collaboration with the IAIS, the Open Knowledge Foundation Greece, and other partners of the OBEU consortium.

We would be happy continuing this collaboration, using the OBEU platform, and including the e-tools of the OpenBudgets.eu platform in our portfolio of smart city services and applications that we offer to local authorities and cities in the EU.

Sincerely



Christina Kakderi, PhD  
CEO, Intelspace Innovation Technologies