



FP7-ICT-2013-10

## Policy Compass



### WP4 – Policy Compass Evaluation

## D4.4 – Specifications of Field Trials

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**Authors:** Nyree Scott (CCC), Dimitri Trutnev (ITMO), Panagiotis Kokkinakos (NTUA), Fabian Kirstein (Fraunhofer), Youngseok Choi (UBRUN)

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**Executive Summary:**

Deliverable 4.4 specifies the detailed definition of the field trial processes taking place in Cambridgeshire and Russia, these are: preparation, evaluation methods and execution as well as the identification of specific locations and sites, field contacts/controllers, individual users, and logistical issues. Both CCC and ITMO will conduct field trial training for users. ITMO and CCC will import in the Policy Compass platform the data required for execution of the evaluation scenarios. Following the creation of the field trial logs, these will be used to record issues and assist in achieving the exit criteria. The exit criteria will be based on measured facts with regards to volume of data, quality, and system conditions. The collected data during the field trial will be used to score against predefined evaluation metrics. Also, unstructured interview and indirect observation of the users will be used to collect qualitative data from the field trials. Feedback will also include user opinion both on the Policy Compass Platform but also on improvement on citizen engagement and empowerment before and after the use of Policy Compass applications.

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# D4.4 Specifications of Field Trials

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**ABBREVIATIONS**

D	Deliverable
DoW	Description of Work
CALF	Cambridgeshire Adult Learning Fund
CALS	Cambridgeshire Adult Learning Service
CIC	Committee of Information and Communication
FP7	Seventh Framework Programme
FCM	Fuzzy Cognitive Map
GUI	Graphical user Interface
KPI	Key Performance Indicator
OGD	Open Government Data
PM	Person Month
SFA	Skills Funding Agency
WP	Work Package

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**PARTNER NAME CORRESPONDING TO ABBREVIATION IN POLICY COMPASS DOW**

Fraunhofer	Fraunhofer-Gesellschaft zur Förderung der angewandten Forschung e.V.
UBRUN	Brunel University
ATOS	ATOS Spain SA
LIQD	Liquid Democracy e.V.
NTUA	National Technical University of Athens
ITMO	Saint Petersburg National Research University of Information Technologies Mechanics and Optics
CCC	Cambridgeshire County Council

## 1. INTRODUCTION

Following on from the preparation of the evaluation metrics in D4.1 (see Appendix A), the evaluation of basic functionalities of Policy Compass in D4.2 and the community engagement in D4.3, D4.4 will concentrate on the specifications of field trials of the Policy Compass platform in two countries; CCC in the UK and ITMO in Leningrad, Russia..

Specification of the field trials during the project months 25-28 will contain at least 8 aspects of the preparation as defined below. The field trials will also receive technical support from UBRRUN and LIQD.

The deliverable will prepare the ground for Task 4.4 whose tasks will be to:

- Fill field Trial logs
- Fill out evaluation templates according to the metrics from D4.1
- Support trial hot-line
- Update progress of the trials
- Check if the field trial exit criteria are fulfilled
- Maintain the Policy Compass platform
- Support on all levels (technician and administrative)
- Track results and acceptance
- Get feedbacks during the execution to perform online updates supporting user's requirements

Following the completion of the field trial tasks it is envisaged that the data feedback obtained will enable the Policy Compass platform to be evaluated by analysing the collected data, which will be scored against the selected technical and behavioural valuation metrics. Interviews and indirect observation of the users will also be used to collect qualitative data from the field trials.

## **2. DESCRIPTIONS AND BACKGROUND OF THE FIELD TRIALS**

Policy Compass will be trialled in the County of Cambridgeshire in the UK and Leningrad region of Russia.

In Cambridgeshire it will be trialled as part of the policy process centred around the Skills Strategy for Cambridgeshire leading up to 2020, a major policy decision process for the County. The vision for the Skills Strategy is to improve the skills of young people and adults across Cambridgeshire, so that we support a fairer society and can be proud of our productive contribution on a competitive world stage.

Although policy makers have access to quantitative data which is available on a county wide basis, including prosperity indices regarding community learning, skills, deprivation levels, unemployment, availability of learning provision, historical data, local knowledge of stakeholders etc. priority setting in the local district is still conducted based on the qualitative opinions of the representatives. This data is not readily available in a format suitable for cross evaluation, quite often it is in PDF format.

Taking this into consideration and with subsequent cuts in publicly funded programmes linked to skills, it is imperative that funding is spent on the right priorities, therefore the Policy Compass platform will be used for

- visualising the decision making process, by bringing the platform and the data together to facilitate this process
- assisting in the identification of local priorities by providing user friendly data
- enhancing the quality of the decisions made with respect of funding decisions

Policy Compass will also be trialled in the Leningrad region of Russia. The Leningrad region was selected because of its long standing and successful co-operation with ITMO and their interest and commitment to the project. The focus of research in the Leningrad region will be the Regional program "Development of the Information Society in Leningrad region in 2014-2018" which is the successor of a series of federal and regional programs devoted to the creation of e-government in 2002-2013. This choice is due to the high importance of this program and the real need to harmonize its goals and activities with the interests of citizens, as well as the existence of a rich history of legislative acts and their documented effects resulting from the implementation of previous projects and available for the analysis. Taking into account the lack of analytical instruments to be used by authorities and citizens, it is expected that the Policy Compass platform will be used in the Leningrad region by both of these two groups for:

- Achieving better visualisation and understanding of the trends in the development programs and their results;
- Using Fuzzy Cognitive Maps (FCM) for modelling and understanding of the factors affecting the success of these programs objectives achieving;

- Significantly increasing the number of citizens and civil servants actively involved in the policy analysis and development.

The planned field trials should help to test the Policy Compass platform itself and to find the most effective ways of involving citizens and civil servants in the processes of governance based on the use of Open Data.

## 2.1 Cambridgeshire County Council

### Context and vision for the Cambridgeshire Adult Learning Fund (CALF) Skills Strategy in Cambridgeshire

This funding originates from the Skills Funding Agency and is managed by Cambridgeshire County Council Adult Learning & Skills Service. CALF is available for learning projects throughout Cambridgeshire. The aim is to fund projects that attract and successfully engage priority groups of learners in targeted communities.

The vision for Skills Strategy is to improve the skills of young people and adults across Cambridgeshire, so as to support a fairer society and so that the Council can be proud of its productive contribution to a competitive world stage.

#### CALF allocation decision issue

At present, the process of identifying priorities is carried out without any policy modelling software in CCC. The local partnership members are invited to an informal meeting to discuss and identify local priority levels whilst also taking into consideration past performance and using a range of information from the Department for Business Innovation and skills policies, Skills Funding Agency (SFA), CCC Skills Strategy, data on deprivation, unemployment, current availability of provision, historical provision, local knowledge of stakeholders, facilities etc. This process is identified in the action plan as a local needs analysis. The priorities are reflected in the call for proposals throughout each district for local providers to bid for. The funding decision is based on scorecards which are marked by panel members.

It is envisaged that the use of the Policy Compass platform will enable Cambridgeshire Adult Learning & Skills Service (CALS) to gain a clearer picture in identifying levels of priorities in each district, and by using tools such as the FCM Editor, to encourage a more informed debate about both levels of performance and funding decisions. CALS members form the evaluation panel for project proposals and their expertise will be used to decide the value for the relationships between the possible concepts in the development of the FCM model that will analyse the impact for the proposed funding calls. This FCM is to be integrated into the Policy Compass platform in order to help the decision maker evaluate the effect through the use of a friendly Graphical user Interface (GUI) that allows priorities to be viewed by geographical area.

As a starting point, table 1 shows metrics and examples of policy documents and the data that are available for consideration in the process of modelling and simulation.



**Table 1** Influential metrics which are publically available in Cambridgeshire

METRIC	LINKED POLICY	DATA AVAILABLE
Deprivation Levels	Department for Communities and Local Government policy	English Indices of Multiple Deprivation CCC Atlas data
Historical Information	2008 recession Big Society Welfare reform Digital by default Superfast broadband Further Education reform	CALF data – CCC Funding register CCC funding spreadsheet District Council data

### **Publishing Open Data in excel format on an open access web site like Policy Compass**

What are the problems with current practices?

CCC publishes data in a variety of formats, such as XLS, CSV and JSON, both for some statutory and non-statutory datasets. These include datasets which are mandated as needing to be published by central government (i.e. transparency datasets). The problem largely lies in the vast majority of organisational and project data being ‘locked in’ using proprietary, non-easily data extractable formats such as PDF. This limits the accessibility, usability and discoverability of any of the data that may be contained within. Data currency is also an issue with data needing to come from primary sources to ensure that data is of a high quality and appropriately structured. Other issues involved council officers not having enough skills and experience to enable data management to happen which is often seen as an additional task for officers.

### **Responsibilities**

Who are the data owners?

These roles are spread across the local authority with data being managed by project officers, and data owners at CCC. In order for this ‘locked in’ data to be released and used we need to transform the skills and knowledge from Information Worker to Data Scientist. IT skills in the public sector have reflected the computerisation of traditional office activities including Word-processing, Spreadsheets and data entry into stand alone or system databases. A shift in skill sets is needed in order to configure the workforce to extract value from the increasing volumes and complexity of the data.

### **What are the expected impacts of uploading excel data on Policy Compass**

It is expected that Policy Compass will provide decision makers with an intuitive GUI for analysing different indices and comparing them across regions within the district. It should also allow public sector information workers, and others, to advance their existing spreadsheet skillsets, have visibility of data from other non-standard sources and gain an understanding of the processes, complexity and context of the data that may not have been achievable using a standalone data system.

Additional work will be required in order to publish and manage data on the Policy Compass platform. However there is a need for the uploading of data to be as easy as possible. Also there will need to be some data manipulation to ensure that it fits into the required fields foreseen by Policy Compass. Training system users will be essential in order for the system to be fully integrated and it is anticipated that training guides and videos will help users to use Policy Compass.

The causal policy model based on the FCM method is expected to allow the proposal evaluators to conduct impact analysis showing the degree of impact a proposal could make on the local priorities and the Skills Strategy of the Council.

### **Ranking priorities in funding decision**

Each district has a Community Learning and Skills (CLAS) partnership which identifies local priorities for funding. Funding decisions are made based on scorecards made up of predetermined questions used to evaluate each proposal for funding against the priorities, which are marked by a panel of representatives from each district of Cambridgeshire.

Cambridgeshire is split into the following 4 districts:

- East Cambridgeshire
- Fenland
- Huntingdonshire
- City and South Cambridgeshire

### **Who is responsible for ranking?**

CLAS and CALF panel members are responsible for the ranking based on the priorities in four different districts in Cambridgeshire and is made up of community representatives from each area.

### **What are the expected impacts of using FCM to replace existing practices?**

The key outcomes expected from the use of the Policy Compass platform should be attributed to addressing the decision making issues surrounding the allocation of adult learning funds by the Cambridgeshire County Council. The issues to be tackled and addressed by the platform are summarised as follows:

- Address the main issue of lack of ‘learner voice’ within the current process for CALF funding in the decision making
- The FCM Editor in the Policy Compass platform will help the decision maker evaluate effects of different decisions by considering multiple variables at the same time for a given policy scenario.
- The Policy Compass platform will offer a user-friendly GUI setting that will enable users to view different funding priorities and the impact of policy decisions associated with skills and adult learning in different districts through FCMs for each district.

Funding priorities will be defined as concepts in the FCMs and the impact will be represented through cause-effect relationships among the concepts.

In summary, the use of Policy Compass tools will seek to facilitate a better decision making process for the allocation of adult learning funds in the Cambridgeshire region.

## 2.2. Leningrad region

### Description of the decision making problem

One of the most important decision making problem related to the government agencies activities is associated with the Information Society development projects efficiency assessment and the optimal budget distribution between them. The programs have their preset target and performance indicators, but in most cases the link between their success or failure and influencing factors is not obvious. For the proper decision making, the responsible civil servant must process large amounts of diverse data: ICT development in the regions, ICT usage by people, authorities and organisations, education level in ICT industries, employment in ICT sector, the impact of ICTs on the economy and living standards etc. The result of this data analysis should trigger political decisions regarding further improvement of the Information Society development strategic plans, portfolios, programs and some projects. The main reason for the problems encountered in the decision-making processes is the contradiction between the traditional and outdated methods of reporting and public management and new, ICT-enabled and dynamically changing reality. This unresolved conflict leads to inefficient use of public funds and a slowdown in the economy and society development.

In general, the decision-making processes have been described in D4.1. For testing purposes, it makes sense to distinguish and examine in more detail two simplified policy making cycle processes as follows:

#### 1) Executed by responsible regional civil servant(s):

- The adoption and interpretation of the goals and target indicators came from federal government by local authority;
- Elaboration of regional Information Society development programs and projects;
- Financing and implementation of programs and projects;
- Comparison of the results and effects of the projects implementation with the target values;
- Making adjustments in the regional Information Society development programs and projects in case of deviations detection;
- Reporting of results to the federal government;

#### 2) Executed by interested citizen(s) or/and non-governmental organisation(s):

- Acquiring an understanding of the objectives and development programs proposed by regional government;
- Formation of the attitude to the proposed objectives and program development, planning own actions (reaction)

- Monitoring the implementation of the programs and their effects
- Comparison of the programs results with the proposed objectives and the promised results
- Making adjustments in the attitude to the proposed objectives, program development and own actions (reaction);

### **Publishing Open Data in excel format on an open access web site like Policy Compass**

In the field trial region there is an example of open access official open government data (OGD) portal “St. Petersburg Open Data Portal”. It’s the most comprehensive portal in this area but not so successful.

The OGD disclosure started under the pressure of “Requirements for Open Data portals in the Russian Federation” set out in the “Guidelines for open gov data publication by authorities and local governments and technical requirements for publishing Open Data (version 3.0)” (approved by the Government Commission for open government coordination). This process was initiated at the federal level and its development in St. Petersburg and Leningrad region was quite logical evidence. At regional level the Resolution of the Government of 02.07.14 №571 “On placement of information in the public information system of St. Petersburg” “Open Data in St. Petersburg” was developed as initiative of the Committee of Information and Communication (CIC). This committee is the responsible authority in the field of OD program development. It coordinates all activities in this field. All CIC activities are guided by federal requirements.

CIC annually develops the plan of events and budget for OGD initiatives. CIC organises all communications with other departments responsible for OD preparation and publication. CIC representative sends requests to departments asking to prepare datasets and provide it in proper format. We can consider low interest of governments in OD publication due to the following reasons: i) it lays additional burden on authorities; ii) datasets are maintained in formats that do not satisfy the portal requirements; iii) there is a lack of skills among professionals in datasets preparation and working with the portal "Open Data in St. Petersburg".

### **Ranking priorities in funding decision**

The technology for data publication consists of the following steps:

1. CIC gets a request for placing information on the portal and due to the analysis (made by the Committee) a list of information to be placed on the Portal OD is formed
2. An analysis of the legal framework for expanding the list of sets of OD
3. Request to the relevant authorities is prepared
4. Responsible civil servants are trained for providing datasets for the Portal;
5. CIC in collaboration with other responsible authorities sign OD passport, which contains the passport and the structure of each dataset. Between the CIC and Communication and the legal entity an agreement on cooperation in the sphere of information is signed

Several opportunities for feedback are provided:

1. Special feedback form on Open Data portal (<http://data.gov.spb.ru/feedback/add/>)
2. Requests for the necessary dataset
3. Review of the work

4. Suggestions for improvement
5. Linking portal with citizens' complaints "Our St. Petersburg" to OD portal
6. Opinion poll on portal on users interest in datasets

Unfortunately the feedback system doesn't work well. All the requests are received but the decision making of its implementation depends on CIC and other responsible departments. Due to long procedure of datasets preparation it isn't desirable to initiate publication of datasets which are not in the list of the Guidelines.

The contest for app-development based on OGD has been conducted annually. The app-developers pointed out the following disadvantages in connection with current state of the art:

- Less interest from the authorities to app developing after the contest
- The authorities are not ready to provide extra data as open access
- Bad quality of government data sets and the need to combine this data with Foursquare data, Yandex and Google maps data etc.
- Open Data is interesting now for programmers and civic activists only
- No business model for app-developing because of low interest and
- Hard and time-consuming process of communication with administration

In this regard, Policy Compass tools could be very useful, including FCM in particular. Its background could provide more comprehensive analysis of data.

Currently the measurement of public value created by OGD use is not obvious. Government agencies use the following KPIs to assess the efficiency of OGD development:

- Number of OD suppliers;
- Number of datasets being published;
- Number of views;
- Number of downloads;
- Refresh of OD datasets;
- The number of registered developers;
- Participation in the polls;
- The dynamics of visits to portal;
- Visit duration per user;
- Number of mobile applications developed using OD.

We can conclude that the use of OGD doesn't show clear positive and significant results, because even having available data is not enough for the improvement of decision making. The use of Policy Compass tools could provide growth in the use of analytical instruments by government agencies, as well as its recognition among citizens and business.

For such tasks Policy Compass platform can use dynamic values of the indicators listed in Table 2 are available for the 10 year period.

**Table 2. Dynamic data available for the indicators**

INDICATOR	UNIT OF MEASURE
Computer use in households	%
Mobile Internet use	Connections per 100 people
Price index for computers	Index
Employment in ICT sector	%
Computer use in organisations	Computers per 100 workplaces
Internet use in organisations	Connections per 100 workplaces
Organisational costs for ICT	% of annual budget
Average salary in ICT sector	Thousand rubles
Amount of funds for “Information society in Leningrad region” program development	Thousand rubles
Computer use in schools	Computers per 100 pupils
Average rank in informatics	Rank
Average employment level	%
Exchange rate	Rate
Average wage	Thousand rubles
Economic activity level.	%

### What are the expected impacts of using FCM to replace existing practices?

By using the Metrics Manager the new factors are put into analysis, and then the policy model is created using the FCM editor. The following tools should be used for solving the practical issue:

- Metrics creation for target indicators,
- Visualisation of the metrics via charts and graphs,
- Downloading information on Historical events (actions on regional program, the acceptance of normative documents etc.),
- Fuzzy Cognitive Map showing the relations between key indicators and historical events,
- Argumentation maps with marks for votes.

### 3. FIELD TRIAL SPECIFICATION

#### 3.1 Field Trial Scenario

##### 3.1.1 Cambridgeshire County Council

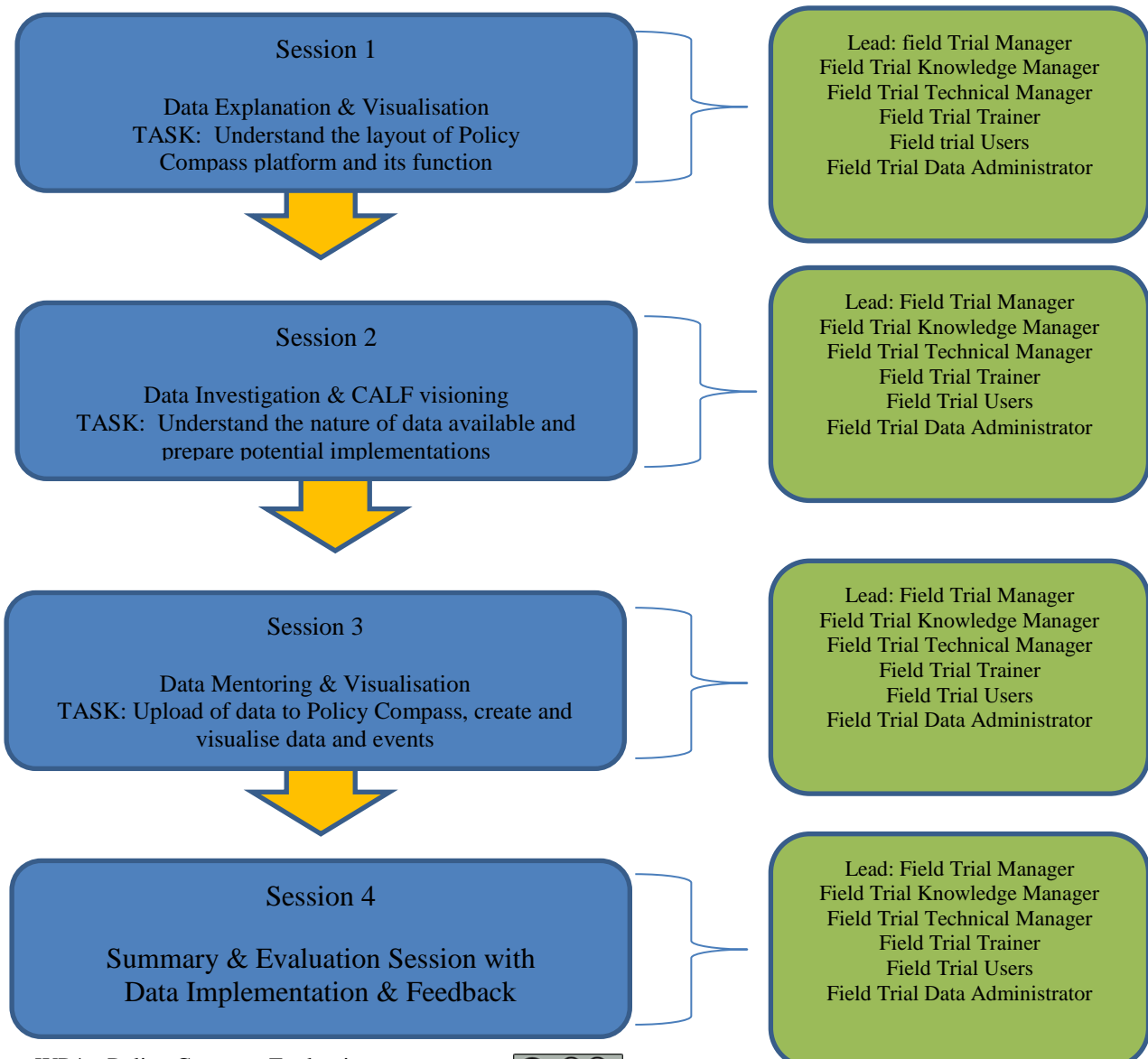
These will take place during the month of January 2016 at Cambridge Shire Hall premises. However arrangements will also be made to ensure that delegates are able to participate in field trials via online arrangements e.g Skype as well. CALF and CALS members will be invited to attend field trials on our premises. The overall field trial will consist of using data that has been preloaded into the Policy Compass system to enable field trial users to successfully understand the usability of the Policy Compass platform.

**Figure 1 CCC field trial flow chart**

Sessions 1-4 in the trial process and who will be involved

**Time Frame** January – February 2016

**Lead players and trialists**





**Field trial team roles:**

**Field Trial Manager** - the role of the manager is to describe the purpose of Policy Compass and its potential impact on local data and decision making processes

**Field Trial Knowledge Manager** - provides the local expertise on data and its implementation on a county and district level, its availability and its potential relationship to policies in the county.

**Field Trial Technical Manager** – provides technical expertise of system management

**Field Trial Trainer** - The role of the trainer is to guide the users through the platform and the use of Policy Compass from the perspective of the user

**Field Trial Users - CALF and CALS Members**

The role of the users is to be able to gain the skills to be able to use Policy Compass as an analytic tool to conduct direct impact analysis of the proposals towards local priorities and skills strategies.

**Field Trial Data Administrator** - (log tracker/evaluation templates)

This role is to document the issues logged and feedback, issues / problems raised during the event and check that the evaluation templates are completed in line with Policy Compass requirements

Each user will be given training to:

**Table 3.** *User tasks and Outcomes*

	<b>Task</b>	<b>Outcome</b>
1	Understand the layout of the Policy Compass platform and obtain access it	Trialists able to successfully access Policy Compass site independently
2	Understand the nature of the data that is available from CALS and Cambridgeshire Insight	Trialists able to identify specific and interpret the data available on a district, county and national level
3	Upload data to Policy Compass platform	Trialists to be able to upload data independently
4	Add Historical Events to Policy Compass platform	Historical Event added by trialists
5	Visualise data that has been uploaded:	Trialists to visualise their own uploaded dataset

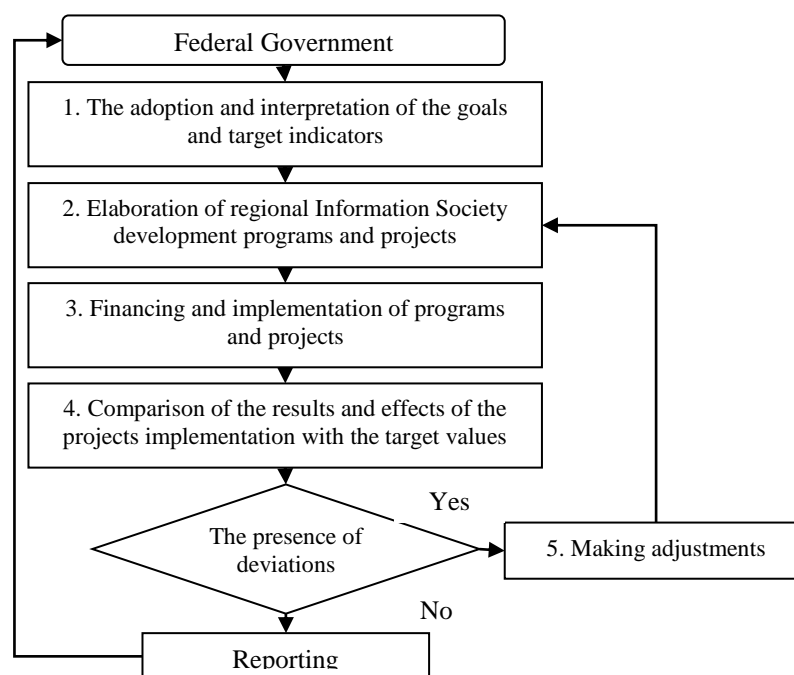


### 3.1.2. *Leningrad region*

Two types of the field trial scenario logic in Leningrad region are presented in flow chart figures 2 and 2.1. These flow charts incorporate the idea of the whole cycle of Policy Compass use, from ICT-development goal setting to their implementation and impact assessment in the processes of real-life policy-making and in everyday life of citizens in civil society.

#### **Executed by responsible regional civil servant(s):**

- 1) The adoption and interpretation of the goals and target indicators came from Federal Government by local authority. As a rule, it requires the study and analysis of the set of normative documents to create a full picture of the development goals set by the federal government for the region. Goal indicators must be extracted from these documents and compared with the needs of the region and its internal development goals. The identified goals should be ranked, selected the most important ones and suggested an explanation for the choice made. The use of the FCM at this stage of the regional development goals establishment and their interdependences analysis is very important and helpful
- 2) Elaboration of regional Information Society development programs and projects. Analysis of selected development goals and available resources allows you to develop programs and development projects to be funded in the next period. The Policy Compass platform can be used for the plans visualisation and these plans feasibility analysis
- 3) Financing and implementation of programs and projects. In the next period of funding and implementation of the planned programs and projects their results are creating. The Policy Compass platform can be used at this stage for the progress monitoring and its visualisation
- 4) Comparison of the results and effects of the projects implementation with the target values. Produced results and their outcomes and impacts can lead to the achievement of the stated objectives and target indicators, but may not lead. The Policy Compass platform and FCM should play a vital role in the analysis and interpretation of discovered discrepancies
- 5) Making adjustments in the regional Information Society development programs and projects in case of deviations detection. With the comparison of planned values of target indicators and the real progress indicators, it becomes possible and essential to make necessary adjustments to current and future development plans. The Policy Compass platform and FCM can be used to support the necessary changes



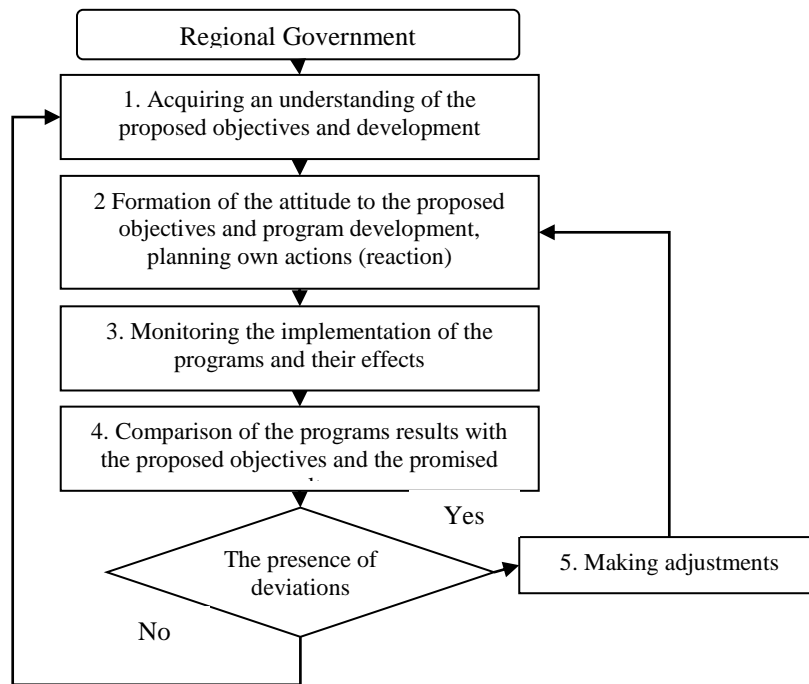
**Figure 2 Field trial flow chart (executed by civil servant(s)).**

When reporting of results to Federal Government, the Policy Compass platform and FCM may be useful in explaining the results obtained

**Executed by interested citizen(s) or/and non-governmental organisation(s):**

- 1) Acquiring an understanding of the objectives and development programs proposed by Regional Government. It requires the study and analysis of the large amount of published normative documents to create a full picture of the proposed development goals. Goal indicators must be extracted from these documents and compared with the personal citizens and non-governmental organisations needs. The identified goals should be ranked, selected the most important ones and suggested an explanation for the choice made. The use of the FCM at this stage of the goals elaboration and their interdependences analysis is very important and helpful
- 2) Formation of the attitude (opinion on) to the proposed objectives and program development and desires to support or hinder them, planning own actions (reaction). The Policy Compass platform can be used for the trends and proposed actions impacts visualisation and analysis
- 3) Monitoring the implementation of the programs and their effects. The Policy Compass platform can be used at this stage for the progress monitoring and its visualisation
- 4) Comparison of the programs results with the proposed objectives and the promised results. Produced results and their impacts can lead to meeting the personal citizens and non-governmental organisations needs, , but may not lead. The Policy Compass platform and FCM should play a vital role in the analysis and interpretation of discovered discrepancies

- 5) Making adjustments in the attitude to the proposed objectives, program development and own actions (reaction). With the comparison of proposed and really achieved values, it becomes possible and essential to make necessary adjustments to citizen's attitude to them and their willingness to make necessary correction actions (reactions). The Policy Compass platform and FCM can be used to support the necessary changes



**Figure 3 Field trial flow chart (executed by interested citizen(s) or/and non-governmental organisation(s))**

**Both trials will require the following roles for its preparation and execution:**

**Trial Manager** (eGov-Center ITMO University) is responsible for delivering the specification and execution of the field trials. The person in charge of this role will be the major contact points between the trial and the Policy Compass consortium. Trial Manager is also responsible for identifying candidate public authorities for the trials.

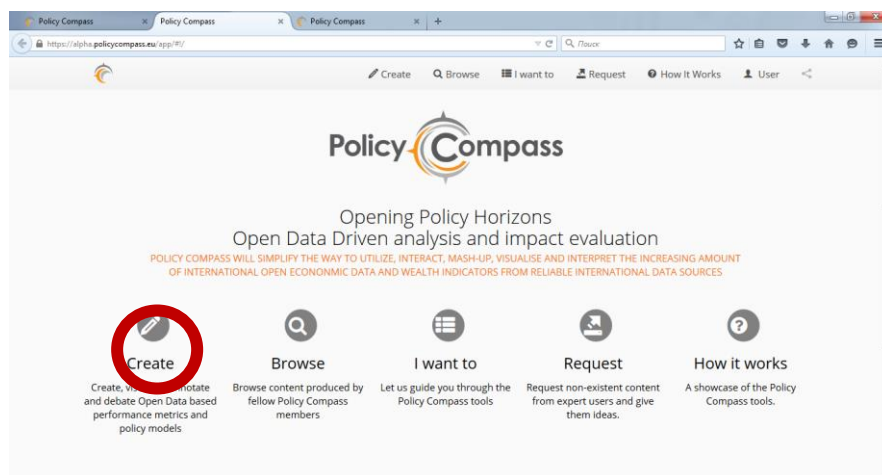
**Field Trial Requirement Analyst Team** (eGov-Center ITMO University) will be responsible for the detailed trial plan preparation, analysis and propose the requirements, the trial goals and tools, analyse results of the trial and make the necessary corrections in the trial plan. Also, they will be responsible for the trial report delivering.

**Trial Evaluation Team** (public authority's representatives and interested citizens) is responsible for explanation their responsibilities and decision-making goals, the trial

estimations, defining the evaluation metrics, defining data sources, the use of the Policy Compass and its instruments for the stated decision-making goals achievement.

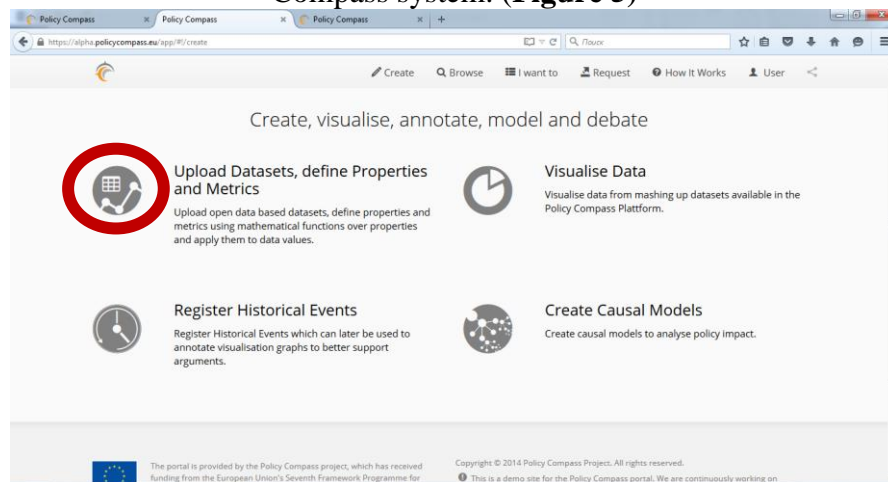
In accordance with the proposed logic, trial evaluation teams will pass the same steps in the Policy Compass use:

- Trial Manager prepares informational material, looking for interested (authorities and citizens) representatives and discusses with them the possibility of their participation in the trials.
- Trial Manager forms the Field Trial Requirement Analyst team, taking into account the number and skill level of the Trial Evaluation Team.
- The Field Trial Requirement Analyst Teams and Trial Evaluation Teams begin to clarify with the participants the goals of their cooperation and general trial procedures.
- The Field Trial Requirement Analyst Teams helps Trial Evaluation Teams members to use the Policy Compass instruments. After with user registration, they will start with the “Create metric”. (**Figure 4**)



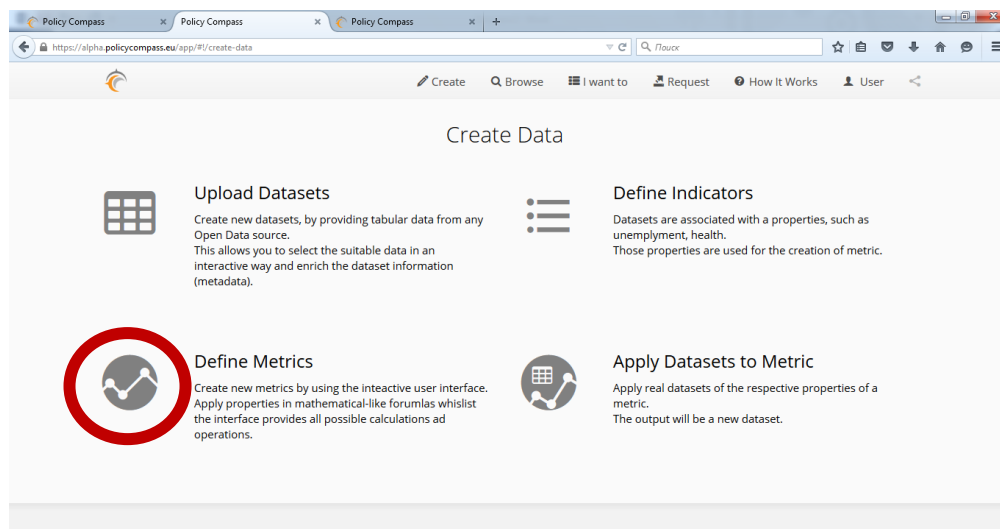
**Figure 4 The metrics creation**

- Then they select the “Upload datasets” option to put our official open data in to Policy Compass system. **(Figure 5)**



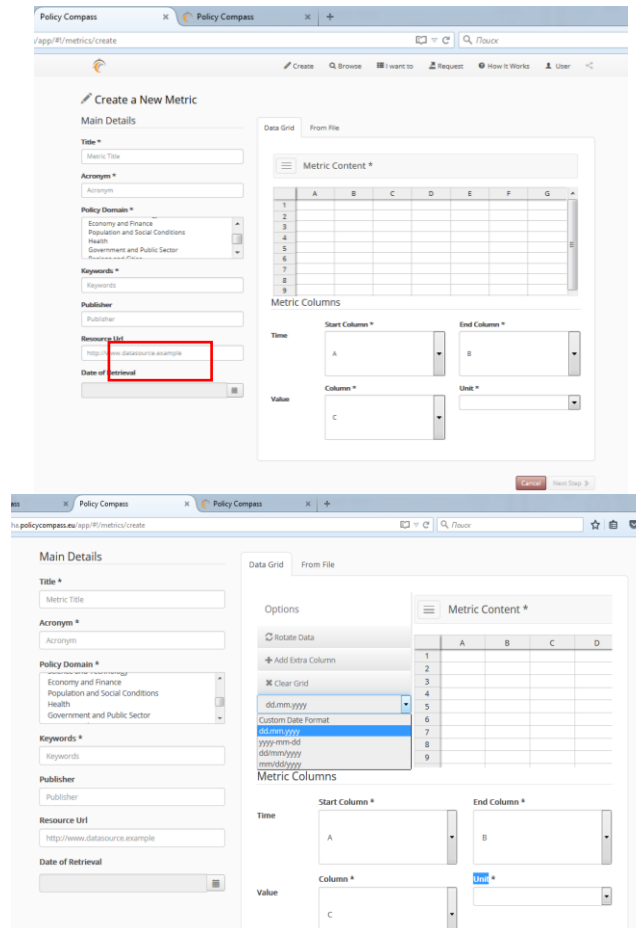
**Figure 5 Upload datasets**

- Thus, they will consistently add data into the Policy Compass platform. **(Figure 6)**



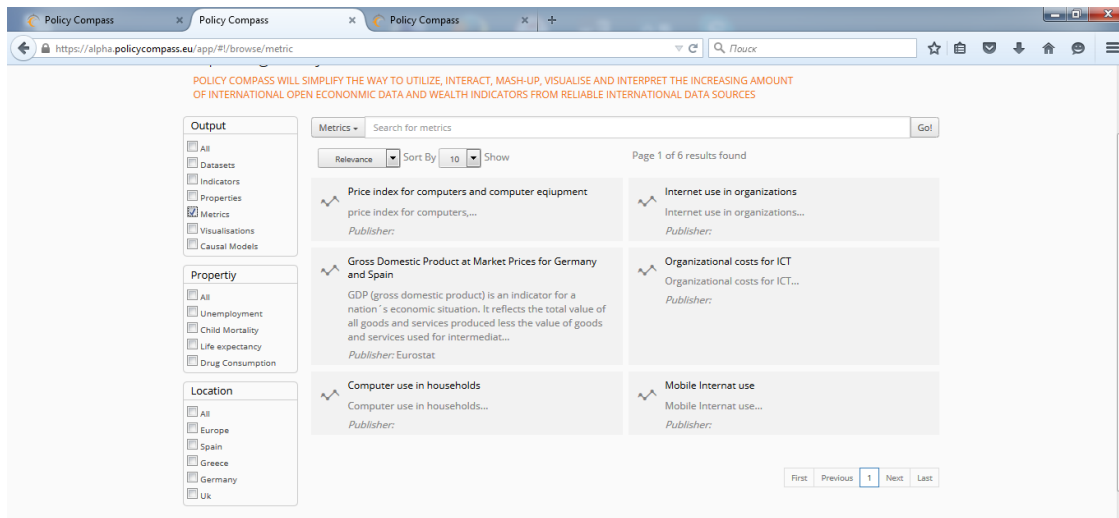
**Figure 6 Define metrics**

- They will fill all the appropriate details: title, acronym, keywords, content, unit and select the date format (**Figure 7**)



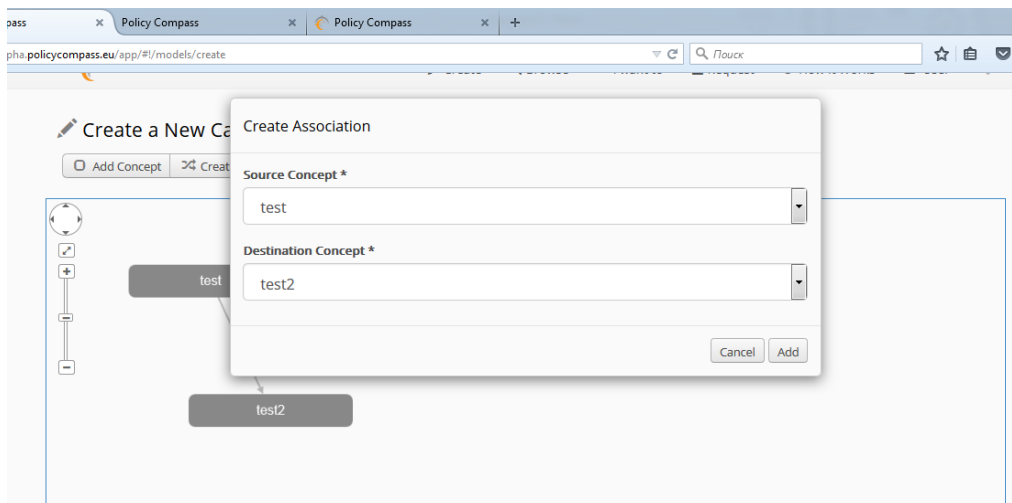
**Figure 7 Data input**

- They will organise the datasets together and then choose each of them for the causal model (**Figure 8**)



**Figure 8 The causal model creation**

- After that they will create the links between indicators for the following use in the description (**Figure 9**)



**Figure 9 Description of indicators**

- The complete production cycle using platform functionalities will be applied as follows:
  - Metrics creation for target indicators
  - Visualisation of the metrics via charts and graphs
  - Downloading information on historical events (actions on regional program, the acceptance of normative documents etc.)
  - Fuzzy Cognitive Map showing the relations between key indicators and historical events,

- Argumentation maps with marks for votes.

The main results of the work are related to the data model applicability's determination for the preparation and management decisions. The preliminary model to be implemented at the further steps is demonstrated on the figure below.

## 3.2 System Requirement

### 3.2.1 Hardware requirement

In order to use all functionalities and tools of Policy Compass a desktop computer or laptop is required. That computer does not have to meet strict specifications in performance or features, although it should be able to run the required software (browser) adequately. A recommended system may have the following properties:

- Dual-core processor
- 2GB System Memory

Policy Compass features visualisation and editing tools which require a minimum screen resolution to use them properly. At least a resolution of 1024x768 is needed, where at least a resolution of 1280x800 is recommended.

Policy Compass may also be used on mobile devices, like smartphones or tablets, as the platform adapts to such screen sizes. The recommended use case for such devices is only to read content, as the creation tools are optimized for touch use.

### 3.2.2 Software requirement

Policy Compass is a pure web application and therefore requires a modern browser to run. The operation system is arbitrary, but the platform was tested with:

- Microsoft Windows
- Apple Mac OS X
- Ubuntu
- Fedora

The following minimum versions of the most common browsers are supported:

- Firefox 40
- Chrome 45
- Internet Explorer 11
- Safari 8



It is very likely that older versions or different browser will work as well, or only small features are not available. Although this cannot be guaranteed and it is recommend to use one of the listed browsers.

JavaScript has to be enabled and is recommended to deactivate ad-blocker plugins like (e.g. Adblock Plus).

### 3.2.3 Network requirement

In order to use Policy Compass a steady internet connection is required. It is recommended to have a bandwidth of at least 4 Mbit/s available. This enables a fluent work process, although Policy Compass will work with slower connections. Especially the initial loading time can be very high with too little bandwidth.

## 3.3 Field Trial Requirement – Cambridgeshire County Council

### 3.3.1 Hardware specification

Trialists will be invited to use CCC Desktop PC with Internet access in premises in Cambridge City. They can use their own laptops if they wish.

### 3.3.2 Software specification

IE11 or Firefox must be used to edit the PC platform.

### 3.3.3 Logistics

January – February 2016 at Shire hall in Cambridgeshire

### 3.3.4 Definition of Field Trial Exit Criteria

**Table 4.** *Field Trial Exit Criteria*

	Participants numbers	Duration of Trials	Number of individual unique logins	Files uploaded in total
Session 1	10	1 day	10	0 * Files to be preloaded to enable initial understanding and visualisation
Session 2	5	1 week	5-10	5
Session 3	10	1 – 2 days	10	10
Session 4	10	1 day	10	10

The field trial log will be available on-line during the field trial. All problems/issues encountered during the field trial will be entered on the field trial log. In such cases, each situation can be followed up for evaluation purposes after the field trial.

### **3.4 Field Trial Requirement – Leningrad region**

#### *3.4.1 Hardware specification*

All planned trialists have their own laptops or personal computers and broadband Internet access at their workplace and/or home. In case of any technical problems, the eGov Center of ITMO University is ready to provide trialists with fully-equipped workplaces at its premises.

Mobile devices (smartphones or tablet-PC) will be used to check their compatibility only, but not to enter data or test FCM.

#### *3.4.2 Software specification*

Traditionally, the majority of Russian Internet users use Google Chrome as their primary browser. However, in case of compatibility problems, they may use one of the alternative browsers: IE11, Opera, and Firefox.

For the preparation of input data, visualisation and validation of some models, all trialists will use MS Excel (MS Office 2007, 2010, 2013).

#### *3.4.3 Logistics*

#### **Field Trial Dates: January – February 2016**

11-15 January 2016 - Instruction and pre-field trial training of trialists at eGov Center of ITMO University under Trial manager. All necessary training materials will be prepared in advance by trainers – eGov Center staff - the Policy Compass project participants.

18 January – 19 February 2016 - Implementation of the planned test work by the Trial evaluation Team at their workplaces, homes and monitoring of the work progress by the field Trial Requirement Analyst Team from the eGov Center of ITMO University.

22-27 February 2016 - Summing up and discussion of the field trial results at eGov Center of ITMO University under Trial manager.

#### *3.4.4 Definition of Field Trial Exit Criteria*

It is planned to attract the 10-15 trialists including civil servants and interested citizens to field trial.

During the field trial, each trialist will be required to:

- describe a scenario of their own tests (under guidance of the Field Trial Requirement Analyst Team);

- enter at least 20 sets of data from available Open Data sources;
- prepare one working model using a FCM at least;
- prepare a description of the obtained results and their interpretation.

All obtained deliverables will be discussed and evaluated by the Trial Manager with respect to their conformity with the established requirements of achieving the field trial objectives.

## 4. EVALUATION OF FIELD TRIAL

### 4.1. Evaluation Process

The evaluation of the field trial will be focused on the behavioural aspects of trial participants and the technical availability of Policy Compass system during the field trial. Most of the technical KPIs will be evaluated by system log, created by field trial participant during trials. For the behavioural evaluation, the survey will be addressed to the participants after trial. Both categories of KPIs will be selected from D4.1.

**Table 5. Technical KPI for Field Trial**

KPIs category	KPIs	Calculation Type
Time behaviour	Average Latency	$(\text{Total Response Time})/(\text{No. of Requests})$
	Throughput	$(\text{Total No. of Kilobytes})/(\text{Total Time of Operation})$
Resource utilisation	Mean % CPU Utilisation	$(\Sigma (\% \text{ CPU utilisation probes}))/(\text{No. of probes})$
	Mean Memory Usage	$(\Sigma (\text{RAM Megabytes used in each probe}))/(\text{No. of probes})$
	Max. Memory Used	No. of max Megabytes of RAM Memory recorded
	Max. Processing Power Used	max % CPU utilisation recorded
Accessibility	WCAG 2.0 Conformance Level	None/A/AA/AAA
Maturity	Load Size	$(\text{Concurrent Users at any Instance})/(\text{Total Operation Time})$
	Simultaneous Requests	No. of Simultaneous Requests
	Requests per Second	$(\text{No. of Requests})/(\text{Total Time of Operation})$
Availability	% Monthly Availability	$1 - ((\text{Downtown Time Minutes})/(\text{Month Days} * 24 * 60))$
	Error Rate	$(\text{No. of Problematic Requests})/(\text{Total Number of Requests})$
Accountability	Username included in each log entry	YES/NO
Modularity	% Modularity (excluding backbone infrastructure)	$(\text{No. of components that can operate individually})/(\text{Total number of components})$
Installability	Mean Installation Duration	$(\text{Total minutes recorded for installation})/(\text{Total No. of Installations})$

**Table 6. Behavioural KPI for Field Trial**

<b>KPIs category</b>	<b>KPIs</b>	<b>Evaluation method</b>
Performance Expectancy	Perceived Usefulness	Survey after field trial
	Extrinsic Motivation	Survey after field trial
	Job-fit	Survey after field trial
	Relative Advantage	Survey after field trial
	Outcome Expectations	Survey after field trial
Effort Expectancy	Perceived Ease of Use	Survey after field trial
	Complexity	Survey after field trial
	Ease of Use	Survey after field trial
System Quality	Reliability	Survey after field trial
	Flexibility	Survey after field trial
	Integration	Survey after field trial
	Accessibility	Survey after field trial
	Timeliness	Survey after field trial
Information Quality	Completeness	Survey after field trial
	Accuracy	Survey after field trial
Service Quality	Tangibles	Survey after field trial
	Reliability	Survey after field trial
	Responsiveness	Survey after field trial
	Assurance	Survey after field trial
	Empathy	Survey after field trial
Information Use	Usefulness	Survey after field trial
	Ease of Use	Survey after field trial
User Satisfaction	System Satisfaction	Survey after field trial

## 4.2. Evaluation Criteria

The evaluation of the field trials will be done by analysing the collected data during the field trial to score the evaluation metrics, while unstructured interview and indirect observation of the users will be used to collect qualitative data from the field trials. Both technical and behavioural KPIs will be applied for field trial evaluation. The evaluation criteria are selected from Policy Compass evaluation measurements that are relevant to the field trial scenario.

### 4.2.1. *Technical KPIs for Field Trial*

Technical KPIs for Policy Compass evaluation are adopted from ISO/IEC 25010:2011. The evaluation criteria to be used have been defined at greater detail, as ISO/IEC 25010:2011 which provides general guidelines rather than detail attributes for evaluation. For the field trial evaluation, we selected and merged the KPIs from original index considering the implementation progress at the moment. The details of KPIs for field trial are presented in Table 5 below.

### 4.2.2. *Behavioural KPI for Field Trial*

Behavioural KPIs for Policy Compass evaluation originally have 10 categories that have derived from IS literatures as presented in D4.1. In this field trial, only 7 KPIs categories will be evaluated by trial participants based on the survey to be employed after the field trial. Three categories (Social Influence, Facilitating Conditions, and Willingness to provide personal information to the e-service) are excluded due to their low relevance to the field trial objectives and application context. The selected behavioural KPIs are presented below.

## 5. CONCLUSION AND NEXT STEPS

The main purpose of Policy Compass is to facilitate various stakeholders' engagement in the process of Open Data utilisation for policy evaluation. To verify the usability of Policy Compass as a service platform, the field trial is necessary. In this regard, the Policy Compass consortium has designed two field trials from UK and Russia regarding policy decision making in realistic situations. This deliverable presents the specification of two field trials which will be performed between M27 and M29.

The expected outcomes of the field trials are anticipated to be the following:

- Trialists able to successfully access Policy Compass site independently
- Trialists able to identify specific and interpret the data available on a district and national level
- Trialists able to upload data independently

- Trialists equipped with the necessary skills to be able to add historical events
- Trialists able to visualise their own uploaded dataset

This outcome obviously will be evaluated based on the predefined technical and behavioural KPIs.

The next step will be the preparation of field trials based on the specification, and the execution of field trials presented in this document. The Policy Compass will be tested and retested through internal alpha tests to meet the requirements and the technical and behavioural KPIs will be refined accordingly to evaluate the trial in a more accurate and strict manner.

The present deliverable will be followed by the D4.5 field trials [M28] and extended by the D4.6 Evaluation of Policy Compass [M32], which will report on the activities for the comprehensive evaluation of Policy Compass.

**Appendix A –The UTAUT model and its root constructs that will be adopted for evaluating Policy Compass platform respectively**

UTAUT Constructs	Definition	Root Constructs	Definition	Models Derived From	References
Performance Expectancy	The degree to which an individual believes that using the system will help him or her to attain gains in job performance (Venkatesh et al., p.447).	Perceived Usefulness	The degree to which a person believes that using a particular system would enhance his or her job performance.	TAM	(Davis, 1989, p.320)
		Extrinsic Motivation	The perception that users will want to perform an activity because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself, such as improved job performance, pay or promotions.	MM	(Davis, Bagozzi and Warshaw , 1992)
		Job-fit	Defined as perceived job fit and measures the extent to which an individual believes that using a PC can enhance the performance of his or her job.	MPCU	(Thompson, Higgins and Howell, 1991, p.129)
		Relative Advantage	The degree to which an innovation is perceived as being better than its precursor.	DOI	(Moore and Benbasat, 1991, p.194)
		Outcome Expectations	Relates to the consequences of the behaviour.	SCT	(Compeau and Higgins, 1995)
Effort Expectancy	The degree of ease associated with the use of the system (Venkatesh et al., p.440).	Perceived Ease of Use	The degree to which a person believes that using a particular system would be free of effort.	TAM	(Davis, Bagozzi and Warshaw, 1989; Davis, 1989)
		Complexity	The degree to which an innovation is perceived as relatively difficult to understand and use.	MPCU	(Thompson, Higgins and Howell, 1991)
		Ease of Use	The degree to which an innovation is perceived as being difficult to use.	IDT	(Moore and Benbasat, 1991)
Social Influence	The degree to which an individual perceives that important others believe he or she should use the new system.	Subjective Norm	The person’s perception that most people who are important to him think he should -or should not- perform the behaviour in question.	TRA, TPB, C-TAM-TPB	(Thompson, Higgins and Howell, 1991)
		Social Factors	The individual's internalization of the reference group's subjective culture and specific interpersonal agreements that the individual has made with others, in specific social situations.	MPCU	(Thompson, Higgins and Howell, 1991)
		Image	The degree to which use of an innovation is perceived to enhance one’s image or status, in one’s social system.	IDT	(Rogers, 1995; Moore and Benbasat, 1991)
Facilitating Conditions	The degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system.	Perceived Behavioural Control	Reflects perceptions of internal and external constraints on behaviour and encompasses self-efficacy, resource facilitating conditions and technology facilitating conditions.	TPB, C-TAM-TPB	(Taylor and Todd, 1995; Ajzen, 1991)
		Facilitating Conditions	Objective factors in the environment that observers agree make an act easy to do, including the provision of computer support.	MPCU	(Thompson, Higgins and Howell, 1991)
		Compatibility	The degree to which an innovation is perceived as being consistent with existing values, needs, and experiences of potential adopters.	IDT	(Rogers, 1995; Moore and Benbasat, 1991)
Behavioural Intention	A measure of the strength of one’s intention to perform a specified behaviour			TRA, TAM	(Davis, Bagozzi and Warshaw, 1989)