D1.5
WP1
Monitoring and evaluation plan

O-Other, PU-Public

The UniteEurope Consortium:

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3	SYNYO GmbH	SYNYO	Austria
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5	Malmö University - Institute for Studies of Migration, Diversity and Welfare	MHU	Sweden
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Document Information

Contract Number:	288308
Lead Beneficiary:	INSET
Deliverable Name:	Monitoring and evaluation plan
Deliverable Number:	1.5
Dissemination Level:	PU
Contractual Date of Delivery:	September 30, 2014
Delivery Date:	September 30, 2014
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1 Introduction

Following the second review meeting of the UniteEurope project on November 27, 2013 in Brussels, the project partners elaborated a broad-range framework for the evaluation of the developed tool including its functionalities and services and the UniteEurope project as such.

The purpose of the evaluation framework was a concrete system that the evaluation of the work and activities performed within the project. By comparing the objectives of the project with the results, we could learn about our successes, strengths, failures and weaknesses.

The evaluation framework had a two-fold role:

- First, a comprehensive and clearly defined framework with key performance indicators (KPIs) for the different streams and domains of the project allowed measuring the project's success, identifying inadequateness and learning from solution strategies for particular challenges.
- Second, the framework did not only support the internal evaluation and learning curve, but it provided valuable lessons learned, benchmarks and innovations that could be shared with the scientific community and related research projects.

As we promised to the EC, we elaborated the evaluation framework with the specific measurable KPIs. In the document at hand (D1.5 Monitoring and evaluation plan) the evaluation results of the UniteEurope project are presented by providing a transparent, well-documented and comprehensive overview of UniteEurope's goals and objectives, key performance indicators (KPIs), performed activities to achieve these, and lessons learned. This final evaluation of the UniteEurope project was discussed and finalised in the close-out meeting of the consortium from the 3rd-4th September 2014 in Vienna, Austria.

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2 Theoretical background

The evaluation framework presented in this work was elaborated following the balanced scorecard.

> *"The balanced scorecard* (Kaplan & Norton, 1996b) *is another model which integrates financial and non-financial strategic measures. It is distinct from other strategic measurement systems in that it contains outcome measures and the performance drivers of outcomes, linked together in cause-and-effect relationships* (Kaplan & Norton, 1996b, p. 31)(Kaplan & Norton, 1996a, p. 53) *making the performance measurement system a feed-forward control system. Furthermore, the balanced scorecard should be able to align departmental and personal goals to overall strategy. The balanced scorecard is a high-profile model which has attracted much attention from both practitioners and academics."* (NØrreklit, 2000, p. 67)

The balanced scorecard is illustrated in Figure 1.

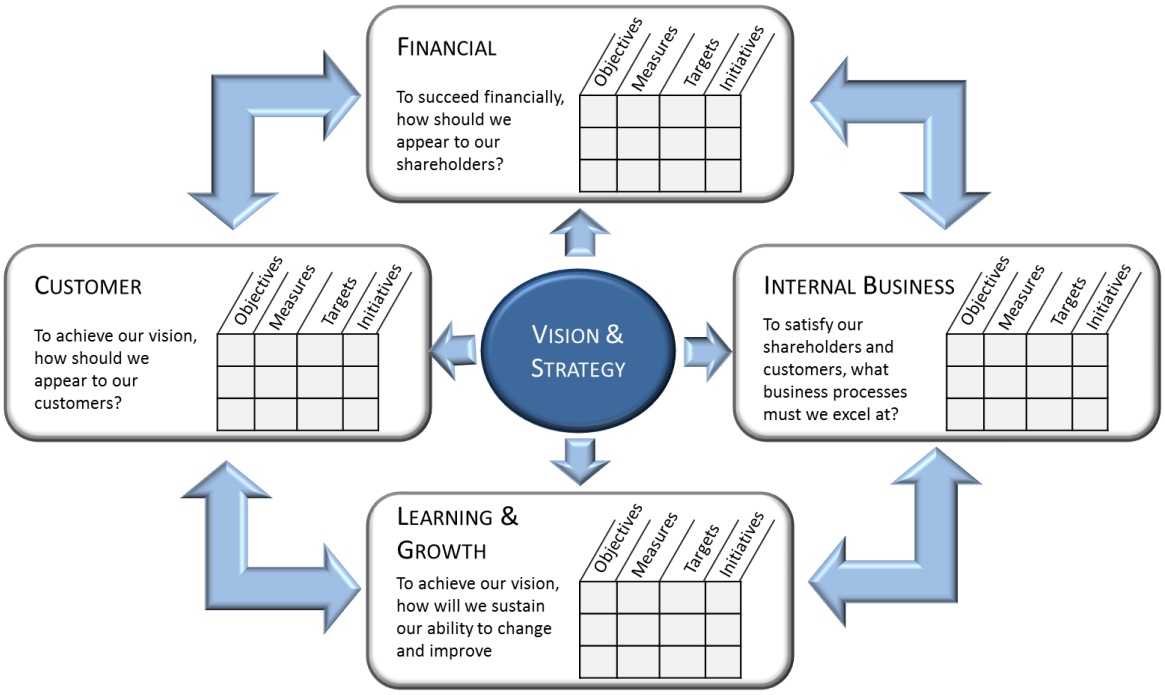

Figure 1: Balanced scorecard, adapted from (Kaplan & Norton, 1996b, p. 76)

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3 Methodology

The UniteEurope evaluation framework was elaborated by means of a multistage process and was discussed in the consortium meeting in Vienna, which took place from the 24th to the 25th of February 2014. All UniteEurope partners agreed on the following points:

- The elaboration of the evaluation framework should follow the balanced scorecard (DeHaas & Kleingeld, 1999; Kaplan & Norton, 1996a, 1996b; NØrreklit, 2000).
- The structure of the UniteEurope evaluation framework should include the following modules: domain, goal per domain, measures (subdomains), target group, objectives, key indicators (quantitative, qualitative), value, activities performed, and lessons learned.
- Key indicators will be collected by all partners according to the agreed five domains for evaluation:
    - Social political scientific domain
    - Technical and technological output and outcome
    - Dissemination and exploitation
    - Usability and user experience (formerly “Use cases”)
    - Project management and implementation (newly defined domain, to be evaluated at the end of the project in D1.5)
- Key indicators were collected by all partners according to the jointly defined guideline. The guideline included the following 10 steps:
    1. Describe goals per domain.
    2. Define n (main) measures per domain (a measure is a set of actions/task; e.g. Grid Model, Publications, Website, etc.)
    3. Describe one objective for each measure.
        (a) Identify a list of objectives out of the project proposal and the deliverable documents.
        (b) Mention the source of the objective.
        (c) Formulate further objectives that are not documented so far (if necessary).
    4. Describe, if possible, the target group for each measure and each goal.
    5. Define one key indicator (KI; qualitative and/or quantitative) per objective.

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6. Make a short description of the KI.
7. Set the values for the defined KI (nominal or actual).
8. Describe the activities so far.
9. Describe the activities that need to be done.
10. Summarize the lessons learned (on the level of one objective or aggregated if possible)

- The final values of the measurements will be determined and lessons learned will be formulated

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4 UniteEurope evaluation framework

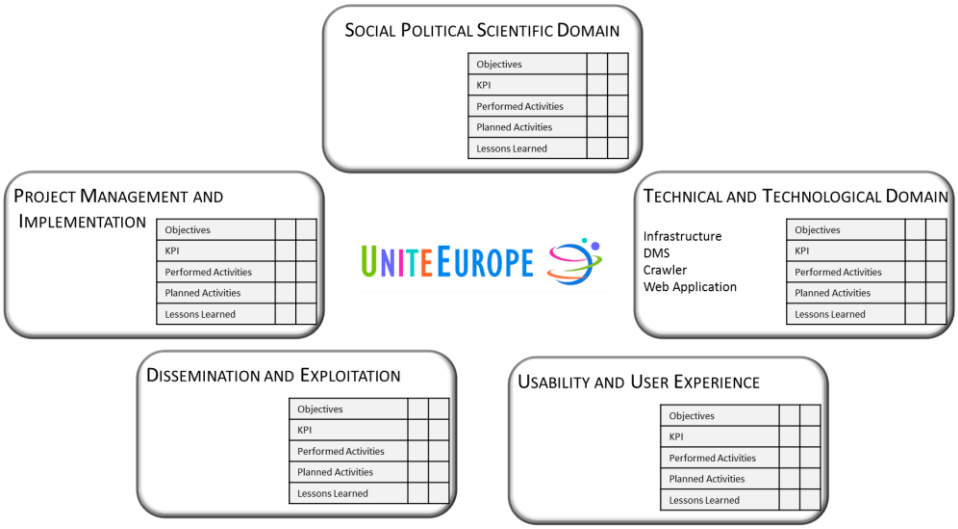

Figure 2: UniteEurope evaluation framework

4.1 Evaluation framework structure

The evaluation framework for UniteEurope (as illustrated in Figure 2) consists of the components objectives, key performance indicators (KPIs), performed activities and lessons learned. These components are considered for the five project domains social political scientific domain, technical and technological domain, usability and user experience, dissemination and exploitation, as well as project management and implementation. The evaluation framework structure was elaborated by following recommendations stated in the second review report of the UniteEurope project, 20th December 2013 and was agreed by all project partners. The final evaluation of the project by means of the measurements and the formulation of lessons learned took place in the final phase of the project.

4.2 KPIs per evaluation domain

In the following sections the evaluation structure of the five domains (social political scientific domain, technical and technological domain, usability and user experience, dissemination and exploitation, and project management and implementation) are described in more detail. Each domain of the UniteEurope project is reflected by considering its objectives, key performance indicators (KPIs), the performed activities in the domain and lessons learned within and across domains. In this document (D1.5 Monitoring and evaluation plan) the evaluation framework and the evaluation of the project following the evaluation framework are represented.

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5 Social political scientific domain

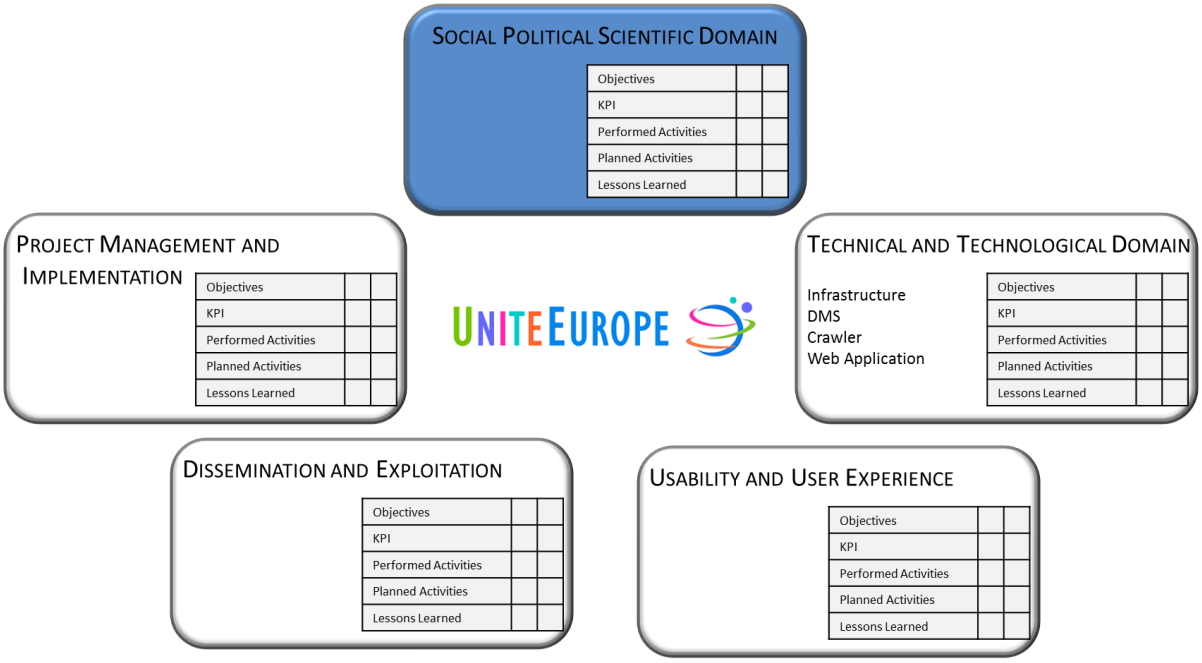

Figure 3: UniteEurope evaluation framework – Social political scientific domain

5.1 Goals

The general goals of the social political domain domain in the UniteEurope project were:

- Identify relevant workflows, key roles and technical systems in city governments
- elaborate an integration issue grid model with multilayer logic patterns
- support operational and strategic integration based decisions and measures in cities

In the following, we will describe the social political scientific domain in more detail by focussing on: the background information, the grid model, as well as decision and analytics.

5.2 Background information

The background of the social political domain within the Unite Europe project is mainly to support the development of the tool. This was done by identifying how end users, given the structure of their organisation would use the tool.

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5.2.1 Objectives

Objectives for the background information were:

- Identify relevant workflows.
- Identify relevant key roles.
- Identify technical systems in use in cities.

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5.2.2 KPIs per objective

KPI ID	Target Group	Objectives*	Key Performance Indicator (KPI)	Quan. KPI**	Qual. KPI***	Nominal Value	Actual Value
BI1	Policy makers, Academics	Identify relevant work-flows	Workflow description is complete		x	defined	defined
BI2	Policy makers, Academics	Identify relevant work-flows	Workflow description allows comparison with other cities		x	Allows	allows
BI3	Policy makers, Academics	Identify relevant key roles	Key roles are agreed upon both by academ-ics as well as policy makers		x	Agreed	Agreed
BI4	Policy makers, Academics	Identify relevant key roles	Key roles are described in a way which al-lows comparison		x	Allows	allows
BI5	Policy makers, Academics	Identify technical systems in use in cities	Technical system description fits general practice of city		x	Fits	Fits
BI6	Policy makers, Academics	Identify technical systems in use in cities	Technical systems description allows com-parison with other cities		x	Allows	Allows

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 1: KPIs per objective – Background information

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5.2.3 Performed activities

For the content of the performed material see the specific deliverables. Describing, analysing and comparing the workflows and key roles in different cities have been done in deliverable D2.1 Public administration workflow and key role report. In deliverable D2.2 Public administration technical systems report we have described, analysed and compared the technical systems in the different cities.

5.2.4 Lessons learned

There are three main lessons learned of our efforts to describe, analyse and compare the workflows, key roles and technical systems in different cities.

The first lesson refers to **access**. It proved to be easy to access academics since they were already in our own network; however policy makers' access is another matter. The cities which have already committed themselves to the project were very helpful in providing information, giving feedback and making time for interviews. The city of Berlin had not committed itself to the project which proved to make access to relevant information more difficult, since they were less invested. Primarily the lesson learned here is that it is very important to make sure that stakeholders from whom information is needed are committed to the project in advance, if they are not there is a realistic risk of not obtaining the information needed, or delaying the project. Even though this has not happened in the UniteEurope project, the risk was present.

The second lesson refers to the **use of the knowledge** acquired. We found that cities throughout Europe have different structures, institutionally as well as organisationally and therefore also have different technical systems embedded in their organisation. We have also found that there are constant changes in IT-platforms and organization in municipalities. Any social media tool developed should be able to work on any system and it is not realistic to tailor it to specific IT-solutions in specific cities. Knowledge collected to identify workflows and key roles is easily dated. During the project we found we had little use for the workflow and key role descriptions. Out of the background information researched in the cities, the deliverables on integration measures and issues proved to be more valuable for scientific output.

Another lesson learned was that roles and workflows proved to be very varying between cities, the study of integration proves to be a **highly complex policy field** in which roles and flows vary between departments and interrelate. Some organisations do not have an integration department and divide tasks between education, labour, or other social departments. This shows that it is absolutely necessary to account for the interrelatedness of the policy field. In terms of measures relating to integration this also shows that there is **no fixed set of measures** to be found. Measures in cities dealing with integration will often not use the word integration but will deal with general topics such as education or labour.

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5.3 Grid model

The grid model is the social scientific basis of the tool, in this grid model all the different variables on which integration depends are named and operationalized, not only on how to determine whether a social media entry is integration related but also which online sources to use, on which languages to use.

5.3.1 Objectives

Objectives for the grid model were:

1. Identify a taxonomy of integration (that is scientifically sound).
2. Identify most important integration areas.
3. Composition of a grid model logic.
4. Collection of sources.
5. Determination of multi lingual semantic tags.
6. Definition of parameters measuring strength and direction.

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5.3.2 KPIs per objective

KPI ID	Target Group	Objectives*	Key Performance Indicator (KPI)	Quan. KPI**	Qual. KPI***	Nominal Value	Actual Value
G01	Academics	Identify a taxonomy of integration (that is scientifically sound)	Academically and empirically arguable and grounded in current research		x	Done	Done
G02	Academics	Identify most important integration areas	Academically and empirically arguable and grounded in current research		x	Done	Done
G03	Academics	Composition of a grid model logic	Academically and methodologically arguable		x	Done	done
G04	Academics	Collection of sources	Most relevant global sources for integration are included		x	Done	Done
G05	Academics	Collection of sources	Most relevant local sources for integration are included		x	Done	Done
G06	Academics	Collection of sources	Diversity of sources is guaranteed		x	Done	Done
G07	Academics	Determination of multi lingual semantic tags	Most relevant keywords for integration are identified		x	Done	Done
G08	Academics	Determination of multi lingual semantic tags	Keywords are annotated according to the integration taxonomy		x	Done	Done
G09	Academics	Determination of multi lingual semantic tags	Main languages and three largest minority languages are per city are included		x	Done	Done
G10	Academics	Determination of multi lingual semantic tags	Slang words relating to integration are included and annotated in the stated languages		x	Done	Done
G11	Academics	Determination of multi lingual semantic tags	Words related to location are included in the stated languages		x	Done	Done
G12	Academics	Definition of parameters measuring strength and direction	Inclusion of posts in the index is complete and not redundant		x	Done	Done

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 2: KPIs per objective – Grid model

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5.3.3 Performed activities

For the taxonomy and the grid model logic we have elaborated in deliverable D3.1 Integration issue classifications and taxonomies report, D4.1 Concept for the monitoring and decision support tool and D3.12 Grid model and multi-layer logic patterns description 2. The collection of sources has been dealt with in deliverable D3.4 and D3.9 Global and local source library 1-2. The multi lingual semantic tags have been collected and implemented in deliverables D3.3 Multilingual semantic tag library 1 and D3.8 Multilingual semantic tag library 2, and parameters have been defined in deliverables D3.5 Integration issue-related parameter and indicator library 1 and D3.10 Integration issue-related parameter and indicator library 2. The implementation of the Grid model and the source has been detailed in the deliverable D5.5 Integration issue grid model implementation report 1, D5.7 Integration issue grid model implementation report 2 and D5.8 Social media source and data stream implementation report.

5.3.4 Lessons learned

Several lessens have been learned in the elaboration of the grid model. Since the grid-model is at the heart of the tool, many of the lessons have to do with other areas such as the content output and usability.

First, we have to acknowledge that integration is a very complicated topic to work with since what encompasses the concept tends to differ; both between the academia and the common understanding in the city administrations/political leaderships and between countries. The analytical frameworks to classify and analyse integration in the academia doesn´t necessarily suit the political community. For example, the city of Rotterdam has expressed that the grid model is too narrow in scope and they would have liked a different classification where, for example, religious issues could be studied separately. While the persons that developed the grid model think religious and other issues could be studied by narrowing searches in the content by using (for religions issues) the socio-cultural dimension in combination with some of the integration areas in this dimension, this is obviously not intuitively satisfying to some end users. Thus we found, in the development of integration areas and dimensions, a discrepancy between what scientifically can be argued for and what policy makers feel should be an area or dimension. This teaches us that while it is important that tools do exist and are being developed on lucid concepts such as integration, it is difficult to establish the scope the tool must deal with since definitions or shared understandings of concepts are lacking.

That some **end users feel that the content of the tool reflects a too narrow interpretation of integration** does not only have to do with how the concept of integration is seen in city administrations. For example, our experience is that what is seen as an integration issue is different also between countries which reflect differences between countries when it comes to integration discourses. The view that the content is too narrow also has to do with the fact

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that the tool so far has produced too little content. All end users agree that something has to be done to increase the number of posts added to the tool.

It is very important that, compared to other tools the list of words that we have used is very sophisticated. It is not just a list that is found anywhere but it has been made and evaluated by integration experts as well as policy makers. This accounts for a very **sophisticated understanding** of the concept of integration and makes the tool unique in the sense that it does not work with a pre-established list but with a list of words that can academically be grounded.

At first we have found that the grid model accounted for too few posts in the tool. This has to do with complex issues such as the weight we attached to the keywords, the threshold of what posts are added to the tool and the algorithm we used to decide if a post is integration related or not. In recent weeks the project has addressed this important question, but it is obvious that more efforts should´ve been done earlier to analyse the output of the tool. If we tweak those three content selection deciders, we could easily get a broader and fuller content and more posts. More calibration tests should be performed: The inclusion of forums is extremely complicated (because of heterogeneity that makes it problematic to develop an automatic approach to retrieve information. However, we tried it with a few forums.

Another lesson deals with **online sources** on the basis of which content is fed into the tool. 5784 sources have been automatically identified whereas 715 sources are currently active and used by the crawler. 85055 Feeds are referenced and regularly parsed. 5 APIs (Twitter, Google+, Facebook, Wordpress and Blogger) have been implemented and 3 Forums are wrapped.

It proved to be very difficult to find proper sources for two reasons. Firstly the local dimension of the tool made it difficult, most sources dealing with integration are nationally or internationally based, making the specific local focus very difficult. Where at the beginning of the project we expected to find a large number of local sources, in practice this is not the case. This teaches us that a local tool is nearly impossible in the cities we have looked at, even with the measures taken to take the local dimension into account. In fact, the tool is at this point more nationally based than locally based. Additionally when people post we are legally not allowed to track their location only if they choose to share it themselves. We have found that more often people do not share their location than they do. A second problem we have run into with the sources is that a lot of sources either cannot be used because of privacy concerns, forums online shield their users and their content so it cannot be integrated into the tool, additionally it proved to be very difficult to add forums with a technically different make up than the tool, accounting for these sources not to be included. It is far more difficult to access online content by individual users and we had originally expected, although we have identified a very large number of sources to be included we are also missing a lot of very important and relevant content. Diversity of opinions in the tool is still guaranteed, how-

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ever, the frequency of different opinions cannot be measured because of the lack of inclusion of a large number of sources.

UniteEurope developed the first multi lingual social media analytical tool for complicated policy fields. When it comes to the determination of the multi lingual tags, we have found that it is very important to make sure that tags are annotated by integration experts with expertise in the specific language. While words can have different connotations in different languages, not only linguistically but also culturally, it is important to recognize this. We are happy to say that we have been able to accommodate with this. In order to ensure consistency for all languages we had to meet in person to compare and agree on our annotations. In this process we had to come up with innovations, such as separating integration associated and migration associated keywords.

A final lesson learned in **the grid model is the measurement of strength and direction**. Here it is important to realize what kind of tool one would wish for. While the scientific partners in the consortium opted for an analytical tool, the policy makers opted for a more normative tool. The measurement of sentiment for example to the scientist seemed too normative and politically based, (who decides what is 'good' or 'bad') while policy makers would want labels as 'positive developments'. In the end it was decided not to include normative features in the tool, but this discussion has learned us to in the future communicate this in advance in terms of management of expectations.

5.4 Decision and analytics

The decision and analytics module of the tool can be seen as the outcome, here it is where policy makers can use the tool as a device to partly base their decisions on or to make longitudinal analysis on the state of integration.

5.4.1 Objectives

Objectives for the decision and analytics were:

- Support operational and strategic decisions.
- Provide aggregated data.
- Prediction of impact of policy measures.
- Collection of measures.

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5.4.2 KPIs per objective

KPI ID	Target Group	Objectives*	Key Performance Indicator (KPI)	Quan. KPI**	Qual. KPI***	Nominal Value	Actual Value
D01	End user	Support operational and strategic decisions	Perception of end users is that the tool will help decision making		x	Support	Yes D6.3 shows a justification of the perception
D02	End user	Provide aggregated data	Tool provides aggregated data over time		x	Yes	Yes
D03	End user	Provide aggregated data	Tool shows which types of sources are used over time as well as between cities		x	Yes	Yes
D04	End user	Provide aggregated data	Tool shows which areas and domains are relevant over time as well as between cities		x	Yes	Yes
D05	End user	Provide aggregated data	Tool shows which topics are prevalent over time as well as between cities		x	Yes	Yes
D06	End user	Prediction of impact of policy measures	Tool shows discussion on measures		x	Yes	Yes
D07	End user	Collection of measures	Tool provides measures in other cities than that of the end user		x	Yes	Limited, end users have not added many measures to the tool and therefore the amount of measures is limited

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 3: KPIs per objective – Decision and analytics

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5.4.3 Performed activities

Decision support and analysis of aggregated data in concept is dealt with in deliverable D3.5 and D3.10 Integration issue-related parameter and indicator library 1-2, the measure library is dealt with in deliverable D3.6 and D3.11 Integration measures library 1-2. The deliverable D5.8 Social media source and data stream implementation report describes the methodology applied to get the social media source and data stream.

5.4.4 Lessons learned

In terms of the lessons learned it must be noted that the tool does indeed provide what it promised, however there are some issues that need to be addressed.

There is a fear for interpretation, we know that the tool cannot be used to measure the frequency of opinions on a topic, since we lack important sources, policy makers of the tool need to be aware of this before using the tool in order to prevent them from misinterpreting results, this is solved by explaining the ethical dimensions of interpretation to end users by having them agree with a user agreement in which all is explained before using the tool.

We see that the **measures** evaluation and comparison does not meet the standards we hoped for. The evaluation and prediction of reactions to measures does work, but a policy maker would have to look for it explicitly, by adding keywords in the integration monitor which deal with the measure. As long as end users are willing to do so, there is no problem with the evaluation of measures. Additionally we find that because integration is a very complicated topic, a lot of measures do not deal directly with integration but with general topics such as education or labour. This accounts for a situation in which policy makers are often not aware that their measure is also dealing with integration. The comparison of measures is another issue. Local policy makers seem to not to be willing to invest time (and thus money) in adding measures to the library, which makes comparison of measures impossible. On the one hand it can be explained by the fact that it would cost time to translate the measures into English and add them to the library and this does not seem to be a priority for policy makers. On the other hand, a much heard comment is that policy makers of one city do not want to invest this time if others do not either. All policy makers have agreed that comparison of measures could be very useful but because no policy maker is invested in keeping the library updated, no other policy maker will do it either. A lesson learned here is that at the beginning of the project we should have appointed a measure manager who would both motivate policy makers to add measures as well as would be able to have an overview of which measures relate to integration.

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6 Technical and technological domain

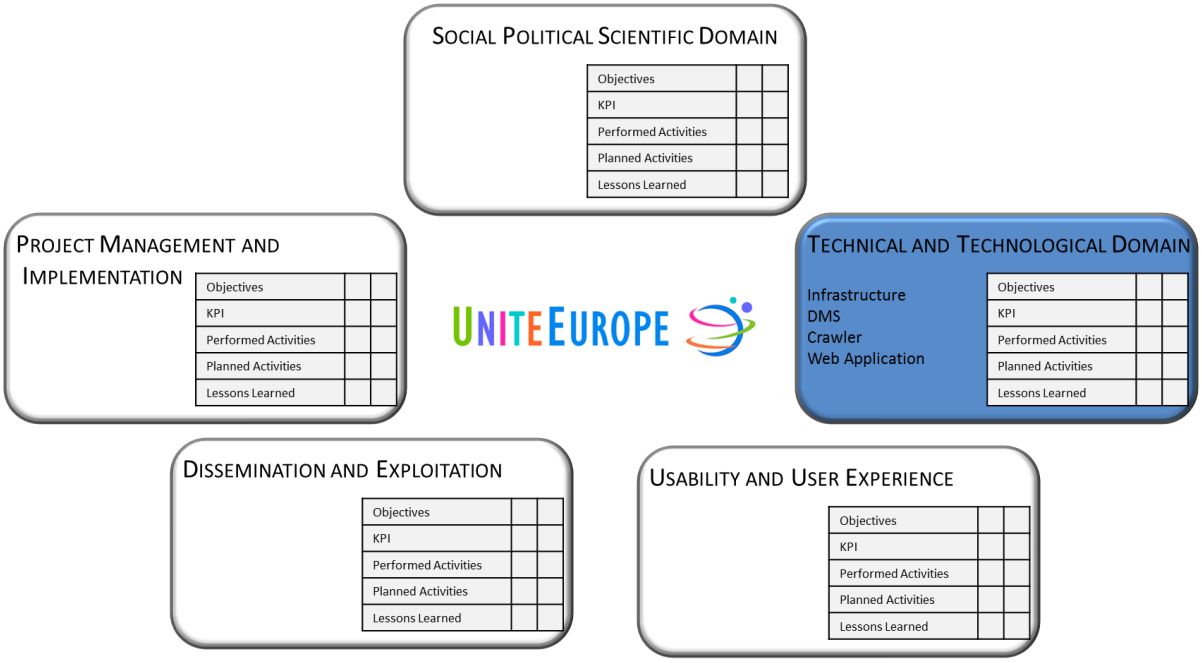

Figure 4: UniteEurope evaluation framework – Technical and technological domain

6.1 Goals

The general goals of the technical and technological domain in the UniteEurope project were:

- A stable tool architecture to handle a mass of data (p10) streams connected through application programming interfaces (APIs), feeds (RSS, ATOM,..) and other standardized interfaces to build real-time monitoring under usage of modern mash-up, crowdsourcing and collective intelligence approaches.
- Thus, the tool will have implemented the integration issue grid model multi-layer logic to automatically collect, filter and aggregate relevant information out of a big mass of data generated by citizens. The Grid model is composed by a multilingual semantics Tags (Project proposal, p. 9) and available in several language (Project proposal, p. 9). An index of global and local sources (including API's) is done (Project proposal, p. 9).
- The gathered data have to be presented by relevance and other individual parameters in an informative way through visualization dashboards integrated in the tool (Project proposal, p. 12). Some parameters measuring the strength, the relevance

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and the Sentiment are available (Project proposal, p. 9) and serve as indicator for automated decisions support alerts (Project proposal, p. 9). The data are order by relevance and other parameters (Project proposal, p. 10) as for example items of the grid model (Project proposal, p. 11). The tool provides specifics trends, rankings and key figures (Project proposal, p. 11). The data have to be provides in a standardized form to be comparable (Project proposal, p. 12).

- Users of the tool must have the technical possibility to save and track specific integration issues (Project proposal, p. 10-11) to access them at any time and check impacts of their decisions and measures.
- During the UniteEurope project the tool will be delivered by software as a service (SaaS) approach (Project proposal, p. 10). And the visualization technologies are implemented with Ajax (Project proposal, p. 11).
- The Policy maker will automatically receive policy recommendation and a directory of measure and case is available (Project proposal, p. 12). User is able to create and save cases (Project proposal, p. 12).
- The administrative area of the tool will allow to perform user management in the administrative area (Project proposal, p. 10) at all levels, such as administering policy makers, administrators or other target groups (Project proposal, p. 11).
- The tools will have to be scalable and flexible to be easily adoptable for other cities in Europe (Project proposal, p. 10). Scalability will ensure that it can be used in cities of different sizes. Flexibility will ensure that the tool can be customized for local requirements. (Project proposal, p. 10)

In the following, we will describe the technical and technological output and outcome in more detail by focussing on: the Infrastructure, the DMS, the Crawler, and the Web Application.

6.2 Infrastructure

Before starting the development of UniteEurope, we required a certain amount of technical infrastructure. Two LAMP servers were set up, one for development purposes and one for user tests (TI6). Since the development system is only accessible to the technical engineers, they are able to extensively test new configurations and software. Whenever the tests are finished, the new version is deployed on the second machine. This logic minimizes server downtime for the users. Additionally, several values of the server state can be monitored by the UniteEurope administrators, so that problems are quickly recognized (TI1 – TI3).

The user's task is then to find bugs in the tool and report them to the developers via the bug tracker (TI4).

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Both machines were further enriched with a highly scalable database software. Several databases were compared during the design phase of the project, based on literature research (TI5, see deliverable D4.2 Framework architecture specification). However, at that time we could not realistically estimate the number of relevant posts. Towards the end of the development phase, it became obvious that the data volume was smaller than expected, so we decreased complexity of the tool by solely relying on a Solr search index for storing the data. The first solution implemented for the project and based on HADOOP / HBASE technology is however fully documented and reactivatable.

6.2.1 Objectives

Objectives for the infrastructure were:

- Database should support a large amounts of data (Project proposal, p. 14)
- IT architecture should be scalable and flexible.
- Minimise system downtime by setting up two instances of UniteEurope (for development and production, Project proposal, p. 47)
- Implementation of monitoring system at the different level of the tools
- Implement a bug tracking solutions
- Document the IT architecture

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6.2.2 KPIs per objective

KPI ID	TARGET GROUP	OBJECTIVES*	KEY PERFORMANCE INDICATOR (KPI)	QUAN. KPI**	QUAL. KPI***	NOMINAL VALUE	ACTUAL VALUE
TI1	UniteEurope system administrators	Monitoring functionalities	Implementation of monitoring functionalities to monitor the Server (e.g. Ping time, Load Average...)		x	yes	yes
TI2	UniteEurope system administrators	Monitoring functionalities	Implementation of monitoring functionalities to monitor the different crawl processes.		x	yes	yes
TI3	UniteEurope system administrators	Monitoring functionalities	Implementation of monitoring functionalities to monitor the Crawler result (Ex; Overview of amount of Post / Day / Sourcetype...)		x	yes	yes
TI4	UniteEurope users, UniteEurope developers	Bug tracking	Number of bug reporters	x			73
TI5	UniteEurope developers	Support large amounts of data (p. 14)	Number of databases compared during conceptualisation	x		4 - 5	7
TI6	UniteEurope developers	Minimise system downtime by setting up two instances of UniteEurope (for development and production, p. 47)	Number of instances of UniteEurope (1 instance = LAMP server + DMS + Crawler + Web Application)	x		2	2
T17	UniteEurope developers	Document the IT architecture	Implementation of solutions to document the tools		x	yes	yes
T18	UniteEurope developers	Architecture should be scalable and flexible	Scalable solution afford regarding the amount of data		x	yes	yes
T19	UniteEurope developers	Architecture should be scalable and flexible	Amount of server used	x		2	2

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 4: KPIs per objective – Infrastructure

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6.2.3 Performed activities

The IT architecture is monitoring by Nagios (TI1, deliverable D5.1 Tool architecture documentation). Several crawlers (TI2) has been implemented to control that the system is well running and in case of issues, send an email to the administrator or / and process some restart functionalities. Other crawlers (TI3) has been developed to monitor the amount of news saved by API what allows the administrator to see if some problems occur with the social media API itself and more generally send alert if contents are no more saved efficiently. Bugzilla (TI4) has been installed to optimize the development process by collecting the different bugs.

The following databases were compared (TI5), we decided to use Solr: Hadoop, HBase, Solr, MySQL (RDBMS in general), CouchDB, Riak, and Cassandra.

Each program is documented (TI7) and legible by thirds software as for example PhpDocumentor. The IT architecture has been developed to manage a high quantity of content base on the HADOOP framework but we decreased complexity of the tool by solely relying on a Solr search index for storing the data at the end of the project as it became obvious that the data volume was smaller than expected. The first solution is always available and easily reactivatable (TI8). The both instance of the IT architecture (TI9), the development server and the production server, have been documented from the beginning to the end of the project.

6.2.4 Lessons learned

In many respects, UniteEurope has turned out to be similar to other projects which deal with social media analytics. For example, the separation of the project into three different modules (DMS for configuration, web crawler for processing of content, and web application for user interaction) can probably be found in many other analytics tools on the market, even if the exact implementation is realised in different ways. Furthermore, our decision to adopt a user-centred design approach is in line with good practices for software development. An early integration of the users in the design process helped us to define functional requirements for the tool, not only from a technical perspective, but covering the needs of social scientists, city administrations and NGOs. An iterative development cycle assured that after every implementation step, feedback on bugs and missing features was given, resulting in improvements of the usability of the tool. This did not only include the visualisation level (such as the highlighting of search terms), but also the functional level (e.g. the possibility to order search results by relevance) and the content processing (e.g. the inclusion of web-scraping capabilities).

The monitoring functionalities allow a optimize overview of the tools what improve the convenience of the maintenance. The both instance server structure was perfect to develop and test issues before to publish the validated version. The storage system, originally based on the Hadoop framework was the ideal solution for large-scale processing but towards the end

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of the development phase, it became obvious that the data volume was smaller than expected, so we decreased complexity of the tool by solely relying on a Solr search index for storing the data. The first architecture base on Hadoop / Hbase is still available and document for further development.

As describe in deliverable D5.10 Application development and functionality report 2, other modern asynchronous application platform like Node.js could have been used instead of the PHP solution selected. The IT architecture would have been then built on JAVA to process the backend task and Node.js for the frontend functionalities. This would increase the tool's performance and allow us to implement more real-time functions like interactions between users. However, Node.js technology was not mature enough to be used at the beginning of the project.

6.3 Data management system (DMS)

The UniteEurope project required a clean data management system (DMS) that allows a convenient management of the grid model implemented (p9), add easily the source and feed required by the system (p9) and afford some monitoring solutions. A library of cases and measures (p12) used to follow other actions about Integrations issues is directly editable there or in the tools by the user itself. New accounts with dedicated user rights are firstly created there.

6.3.1 Objectives

Objectives for the DMS were:

- Manage and monitor the grid model pattern composed by keyword, source and annotation (Project proposal, p. 9)
- Manage user account, measure, case and organization (Project proposal, p. 9-10)
- Automatic feed detector for Blogger.com and wordpress blogs
- Source search crawler
    - The tools can be customized for local requirement (Project proposal, p. 10)
    - Support multiple languages (Project proposal, p. 9)

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6.3.2 KPIs per objective

KPI ID	Target Group	Objectives*	Key Performance Indicator (KPI)	Quan. KPI**	Qual. KPI***	Nominal Value	Actual Value
TD1	UniteEurope Team Members	Management functionalities	Management of every component of the tools: grid model items, translation items, sources, keywords, integration cases and measures		x	yes	yes
TD2	UniteEurope Team Members	Monitoring functionalities	Amount of monitored parameters		x	-	16 parameters of the tools are constantly monitored in the DMS. (Ex. Daily amount of news per API, Amount of source per language, crawler status…)
TD3	UniteEurope Team Members	Monitoring functionalities	Integration of third-party software to improve monitoring functionalities (Ex; Nagios)		x	yes	yes
TD4	UniteEurope Tools	Support multiple languages	Amount of integration keyword languages used	x		9	9
TD5	UniteEurope Tools	Support multiple languages	Amount of Keyword languages for which stemmers are available	x		9	6
TD6	UniteEurope Tools	Support multiple languages	Amount of languages translated	x		-	8 available, 5 active
TD7	UniteEurope Grid Model	Content Management	Amount of Integration Keywords	x		-	8034 German (1064) , English (824) , Swedish (668) , Dutch (968) , Polish (756) , Turkish (838) , Bosnian (980), Croatian (945), Serbian (991)
TD8	UniteEurope Grid Model	Content Management	Amount of Place Keywords	x		-	23105
TD9	UniteEurope	Content Manage-	Amount of active Sources	x		-	715

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	Grid Model	ment					
TD10	UniteEurope Grid Model	Content Management	Amount of API used	x		-	5 (Facebook, Twitter, Google+, Bloggers, Wordpress)
TD11	UniteEurope Grid Model	Content Management	Amount of Forum Crawled	x		-	3
TD12	UniteEurope Grid Model	Content Management	Amount of Source referenced by the Source Crawler relative to integration Issue	x		-	5784 sources have been identified in relation to the Integration Keyword defined. Not every source has been selected by the consortium to be used.
TD13	UniteEurope Grid Model	Content Management	Amount of Organizations	x		-	99
TD14	UniteEurope Grid Model	Content Management	Amount of Feed	x		-	86055
TD15	UniteEurope Grid Model	Content Management	Amount of Case	x		-	69
TD16	UniteEurope Grid Model	Content Management	Amount of Annotation that composed the Grid Model	x		-	31
TD17	UniteEurope Grid Model	Content Management	Amount of Item Annotation that composed the Grid Model. A item annotation is a sub element of a annotation. (Ex. Country is the Annotation, Germany is a Item Annotation)	x		-	555

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 5: KPIs per objective – DMS

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6.3.3 Performed activities

The DMS is the dashboard to manage the grid model and every parameter of the project (TD1). The team members can edit the grid model (TD1) by adding or editing annotated keywords, sources, organisations, measures, cases and every annotation / Item annotation used by the UniteEurope system. To improve the use of the tools, a monitoring page has been implemented that display the current amount of news saved by the API, amount of source per language and several log access to the different crawlers (TD2). The connections between the integration keywords of different languages are managed in the DMS and are immediately taken in consideration in the calculation of the comparative analytics charts. The translation of the tools (TD7) is managed there and it is convenient to add or edit language what improve the flexibility of the tools. The source identify by the source are listed and suggested to the UniteEurope team members (TD6). We use stemming for matching derived word forms of keywords, e.g. “children” matches “child”. However, stemmers are not available for the three Serbo-Croatian languages (Bosnian, Croatian and Serbian) (TD5).

6.3.4 Lessons learned

One of the challenges of UniteEurope was to implement and manage easily the grid model that structures every part of the project, from the keyword definition to the filtering annotation and the translation. Therefore the consortium decided to edit all of this parameter in a dedicated DMS platform used by UniteEurope team members. All these information are saved and structure in a MYSQL Database. The flexibility of this solution is optimal because it is then very convenient to add new languages, edit the integration keyword used to build the UniteEurope index or add item to the grid model but this required a high level of human administration and maintenance. Of course some automation process to get source, to calculate statistical value or search new feeds have been implemented but the global process remain mainly manual what involve cost and competence.

Our keyword matching approach, including two different word classes manually defined (integration-related and ‑associated) as well as stemming, seemed to offer a quick and easy way to develop a running prototype in the given time frame. Unfortunately, the amount of work for defining the keywords and a sensible relevance formula was much higher than expected.

Accordingly, it seems that annotating training data for an automatic document classifier would have been a better strategy. While this is probably true, it must not be forgotten that the costs involved in such a strategy increase linearly with the number of languages supported, and that the multilingual character of UniteEurope is one of its unique selling points.

Concretely, we would have to agree on guidelines which define if a text is integration-related, and for the nine languages found in our tool, we would have to educate nine different native speakers to follow these guidelines, so that a certain inter-annotator agreement is reached.

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Each annotator would then be asked to classify hundreds of documents in his language. In contrast, translating the keywords to all nine languages was rather inexpensive in comparison. And the inter-lingual connection between these keywords allows us to statistically compare their usage over time (comparative analytics). All things considered, the trade-off between the two classification approaches is clearly one of the interesting outcomes of the project.

In addition, Polish, Serbian, Bosnian and Croatian are underrepresented in our index; we should therefore add more sources for them. The three Serbo-Croatian languages are still missing stemmers, so there is a lot of room for improving their keyword matchers.

From a technical perspective it has also to be kept in mind that social media API's are constantly in development and legislation that applies to social media is not stable.

6.4 Crawler

The UniteEurope crawler is responsible for downloading, analysing and persisting integration-related documents. Several web sources with different formats are currently supported (TC1), while others such as Youtube and Tumblr still need to be included. A special challenge are sources which do not offer a standardised data feed. We developed custom-tailored web scrapers for a handful of those which were deemed especially important by the social science partners (TC2).

The number of web feeds in the DMS is very large (> 70.000). It takes about one second to process a single feed, which is a lot of time within the scope of IT. We made several performance improvements in the FeedParser library, but some expensive network operations are unavoidable (TC3). Retrieving content from the APIs works much faster. Here it would be very helpful if all APIs supported real-time streaming; however, this is only the case for Twitter (TC4). For all other APIs, we have to define query frequencies when searching for keywords.

After a document is downloaded, the crawler proceeds with analysing its language (TC7). From the 185 languages listed in ISO 639-1, we can detect about 70, which are the most common ones. For some languages like Chinese, we support different encodings. Manual investigation of the analysis results has shown that there is still room for improvement, especially for short texts like tweets.

Finally, the crawler detects duplicates, because we want to avoid showing redundant information to the user (TC8+9). The bigram shingling approach was already described in D5.7 Integration issue grid model implementation report 2. As was explained in this deliverable, we only detect duplicates that were published at most 14 days apart from each other, due to memory restrictions. Furthermore, we only look at the first 500 words.

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When it comes to the development process of the project, there are two important indicators for evaluation: Code coverage and conformity to coding conventions (TC5+6). The first measure tells us how much of the source code is covered by unit tests. Again, there is no reasonable benchmark available; we refer to "The Way of Testivus"[1].

The second measure tells us how many of our Java classes were documented, and therefore conform to the conventions which are defined in IMOOTY's check style rules.

6.4.1 Objectives

Objectives for the crawler were:

- Support all kinds of data streams (Project proposal, p. 8)
- Real-time monitoring (Project proposal, p. 10)
- Documentation (Project proposal, p. 36)
- Minimise software errors
- Iterative development cycle (Project proposal, p. 47)
- Geotagging (Project proposal, p. 18)
- Language detection (Project proposal, p. 16)
- Duplicate detection (Project proposal, p. 16)

[1] http://www.artima.com/forums/flat.jsp?forum=106&thread=204677

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6.4.2 KPIs per objective

KPI ID	TARGET GROUP	OBJECTIVES*	KEY PERFORMANCE INDICATOR (KPI)	QUAN. KPI**	QUAL. KPI***	NOMINAL VALUE	ACTUAL VALUE
TC1	UniteEurope platform	Support all kinds of data streams (p. 8)	Number of data streams support-ed	x			5
TC2	UniteEurope platform	Support all kinds of data streams (p. 8)	Number of HTML data sources supported (via web scraping)	x		3	3
TC3	UniteEurope platform	Support all kinds of data streams (p. 8)	Average time needed to download and analyse an RSS feed	x		0 sec	1 – 2 sec
TC4	UniteEurope platform	Real-time monitoring (p. 10)	Number of data streams which support real-time monitoring	x			1
TC5	UniteEurope developers	Documentation (p. 36)	Number of Java classes that were documented	x		85	85
TC6	UniteEurope platform	Minimise software errors	Code coverage	x		100%	72%
TC7	UniteEurope platform	Language detection (p. 16)	Number of detectable languages	x		185	~ 70
TC8	UniteEurope platform	Duplicate detection (p. 16)	Maximum number of tokens con-sidered for duplicate detection	x		∞	500
TC9	UniteEurope platform	Duplicate detection (p. 16)	Time window in which duplicate documents are detected	x		∞ days	14

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 6: KPIs per objective – Crawler

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6.4.3 Performed activities

The following sources and formats are supported: RSS and Atom syndication feeds, diverse social media APIs (Google+, Facebook, and Twitter), and web scraping of three different web sources which are only available in HTML:

- http://www.nujij.nl/
- http://forums.marokko.nl/
- http://wijblijvenhier.nl/

6.4.4 Lessons learned

Various lessons were learned concerning the web sources:

1. While it was relatively easy to implement clients for different social media APIs (Twitter, Facebook, Google+), it seems not possible to retrieve comments from these APIs. Facebook and Google offer a search function for posts, but currently not for comments on these posts.

2. Only Twitter offers a server-push real-time API. For all other sources, we have to define a crawl interval for each web feed, and a search interval for each keyword.

3. Also, we learned that the implementation of web scrapers does not scale; the amount of work for each web source takes between one and two days.

A keyword matching algorithm was used for classifying posts according to different dimensions: Integration relevance, integration areas, and geographical location. But as we already explained earlier in this section, this approach is very hard to evaluate, because we do not have any gold standard for measuring accuracy. It wouldn't make sense to compare our key indicators with values found in the literature, because the underlying data would not be the same. We therefore have to rely on manual investigation of the analysis results.

As for the duplicate detector, we cannot compare all documents with each other if we keep our data structures in memory. Instead, we have to restrict the comparison to a certain time window, which should not be a problem since duplicate documents tend to be published concurrently.

One of the remarkable features of the tool is its ability to localise content, required by municipal administrations and local NGOs who need to deal with integration issues in their own region. In contrast to the relevance calculation, keyword matching seems to be very effective for geolocalisation. A preliminary inspection of the city filter shows that it produces many posts whose content refers to the selected city. Also, the fact that only 9% of all posts are

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geotagged is not a problem, because we expect that people are more likely to talk about global integration issues instead of local ones.

If we can identify this localised content correctly, our work is done. Again, a gold standard would allow for a more detailed evaluation. It seems that the general interest in the integration topic is lower than expected. While commercial analytics tools need to distribute data on large server clusters, UniteEurope gets along with a single machine. Considering that 40% of all posts in our index are duplicates, and that most content cannot be geotagged, it is probably possible for a single user to track all relevant content for the city he lives in.

Finally, an important question for future developments is how to include comments from social networks, what we did not success to realise due to limitations of the API's.

6.5 Web application

The UniteEurope web application is the SaaS solution and the result of the collaboration with the consortium.

6.5.1 Objectives

Objectives for the web application were:

- Develop scalable and flexible social media monitoring as SaaS solution (p10)
- Save and track specific integration issues (Project proposal, p. 10), Enable filtering of data by relevance and other parameters (Project proposal, p. 11), optimal filtering of integration issues and automatically generated alerts.
- Allow user management in the administration area (Project proposal, p. 10)
- Different dashboard available per targets groups (Project proposal, p. 11)
- Profile trends, ranking, key figures based on integration issues (Project proposal, p. 11 and p. 20)
- Modern visualization technologies implemented with Ajax (Project proposal, p. 11)
- Identification of good practice in the cities (Project proposal, p. 12)
- Create an index with measure and case, and afford the possibility to the user to edit them (Project proposal, p. 12)
- Platform integration cross-browser testing

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6.5.2 KPIs per objective

KPI ID	Target Group	Objectives*	Key Performance Indicator (KPI)	Quan. KPI**	Qual. KPI***	Nominal Value	Actual Value
TW1	End Users	Enable filtering of data by relevance and other parameters (p. 11)	Creation of filters/parameters based on research insights and user feedback		x	yes	yes
TW2	End Users	Profile Trends, ranking, Key Figures based on integration issues (p. 11, 20)	Number of indicator used	x		31 annotations – 555 Item Annotations	555 Items Annotations for 31 Annotations is composing the grid Model. Some are used to filter the content (Language, Integration Area…) whereas other are used to optimize process (Status definition, variable to control process…)
TW3	End Users	Profile Trends, ranking, Key Figures based on integration issues	Amount of type of representation available	X		-	5
TW4	End Users	Profile Trends, ranking, Key Figures based on integration issues	Amount of key figures	X		-	7
TW5	End Users	Ajax Implementation	Use of modern Javascript library that allows a convenient Ajax implementation to optimise content management and data processing		x	yes	yes
TW6	End Users	Identification of good practice in the cities	Amount of organization	x		-	99
TW7	End Users	Identification of good practice in the cities	Amount of case	x		-	69
TW8	End Users	Platform integration	Version of browser and system supported	x		yes	The tools has been validated for IE9+, Firefox 5+, Chrome 14+, Safari 4+. The website is not optimized for resolution smaller than 1028*1024. Every operation system are well running.

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TW9	End Users	Develop scalable and flexible social media monitoring as Saas solution	Is UniteEurope a Saas solution	x		Yes	yes
TW10	End Users	Afford Alert functionality	Amount of alert available per user		x		No limitation
TW11	End Users	Afford export possibility	Possibility to export the content as standardized format (ex: .csv)	x		yes	Yes (export as csv)
TW12	End Users	Allow user management in the administration area	Is the account manager available to edit and manage user in admin-istration area	x		yes	Yes. Account manager select which com-ponent should be activated for each user.
TW13	Team Members	Different dashboard available per targets groups	Can the Key account manager personalisethe Dashboard following the targets groups	x		yes	Yes. Team member can select which component should be activated for each user of the account.

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 7: KPIs per objective – Web application

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6.5.3 Performed activities

By the use of Solr and the Zend technology, the content collected in the UniteEurope index is easily available as SaaS solution (TW9). The use in the design of the mains Items that composed the grid model, allow user to access, collect and filter the content (TW1). Several indicators have been implemented (TW2 – TW3 - TW4). Each user is able to publish cases (TW7) for the other users and edit his organisation description (TW6). The tool is involving the modern javascript library Jquery 1.11 to manage some Ajax query and run convenient interaction as toggle function to show / hide form to add, update or edit content (TW5). The tool has been tested on every modern browser (TW8). User can edit alert (TW9) and export the result of his query (TW10). A powerful and flexible user right management has been implemented (TW12 – TW13).

6.5.4 Lessons learned

On the frontend side, we might reconsider the usage of an asynchronous application platform like Node.js. This would increase the tool's performance and allow us to implement improved real-time functions like interactions between users. However, it would also require us to find a stable, matching MVC framework and change deeply the IT architecture.

The filtering functionalities are running efficiently and the tool affords nice charts, diagrams and pies representations. An export function as .csv file of each query is also available. The high amounts of parameters used to filter the information increase unfortunately the delay of processing. Even if we optimise the Solr index and the Mysql database structure to improve the query process, it is inherent to the tool to afford complex query combinations and therefore increase the processing delay. These facts should have been deeply analysed during the conception phase of the project to identify optimised solutions. The high amount of filter combination increases the segmentation of the data which consequently increases the risk to do not display results. As an empty result is often considered as an error instead of an empirical empty result, a high amount of filter combination increase the disappointment of the user.

The tool has been tested in every modern browser and operating system. Regarding the amount of filtering possibility and the end user requirements, it is not directly optimized for mobile content but is still running on modern smartphone and tablet browsers which resolution are higher or equal to 1280*1024px. A mobile version would have been a nice feature but had required to rethink the different functionalities and components of the current tools.

For the future, we are confident that the software is robust enough to keep running until the end of the project and beyond. Many well-established development techniques were applied in order to make the tool stable, or easy to fix if need be. The same techniques also make the software adaptable to future requirements, be it for dealing with the problems illustrated in the previous section, or extending UniteEurope to other policy fields.

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7 Usability and user experience

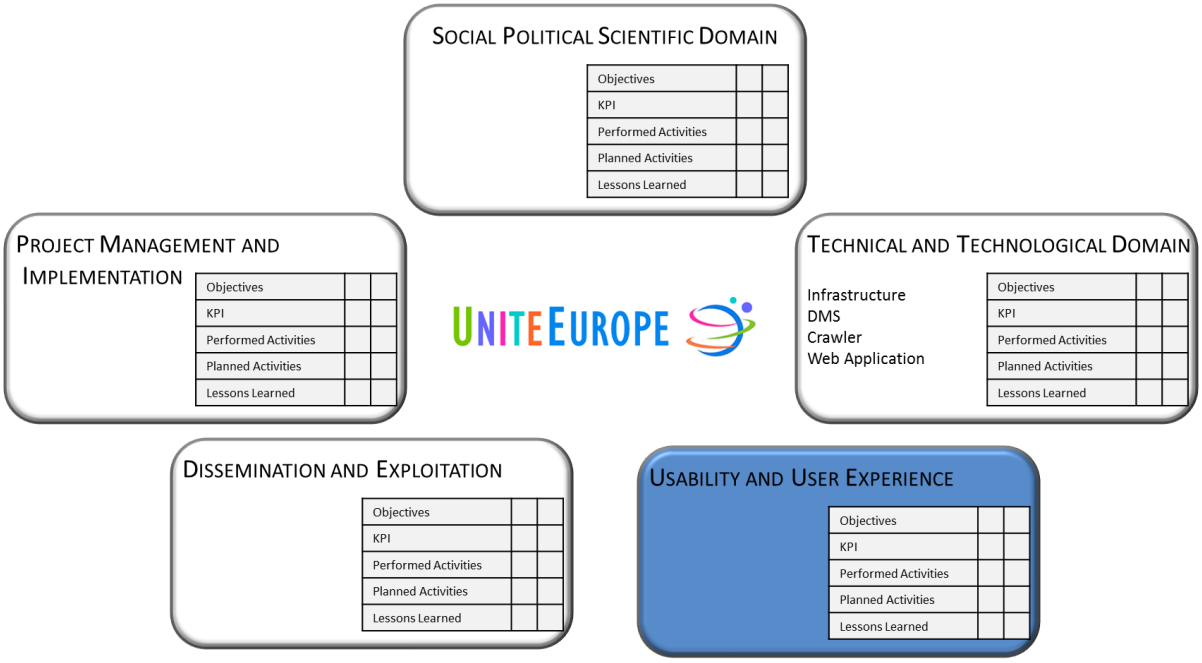

Figure 5: UniteEurope evaluation framework – Usability and user experience

7.1 Goals

The general goals of the usability and user experience domain in the UniteEurope project were:

- Citizen generated content will be filtered and aggregated under consideration of the grid model logic patterns to be easily monitored by the public administration (Project proposal, p. 11).
- Providing the policy makers an information dashboard displaying relevant integration issue data and supporting the decision making process in the cities (Project proposal, p. 11).
- Dashboards for local policy makers in city governments will provide specific statistics (such as rankings, key figures and aggregated data) based on defined integration issues (Project proposal, p. 11).
- Dashboards for pan-European target groups will be designed with more aggregated (and less detailed) key figures and visualisations to compare different cities. That means all cities using the UniteEurope tool are consolidated in a meta dashboard to

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identify common trends and learn about efficient measures for each of the main integration issues based on the grid model (Project proposal, p. 11).

- All provided information on the dashboards has to be very easy to understand by its users and must be presented in a highly intuitive way (Project proposal, p. 11).
- The information gathered through the monitoring of social media and participation platform should already be a good basis to decide integration policies and measures in cities. The visualisations will support policy makers' operational or strategic initiatives (Project proposal, p. 12).
- Using the defined grid model with multi-layer logic patters the tool will additionally support possible actions or measures related to each significant integration issue in a city. The developed tool will act as a decision support and guiding system (Project proposal, p. 12).
- To determine the impact of integration measures or policies the tool will have a feature to save and track specific cases (Project proposal, p. 12).
- Defined parameters will secure the optimal filtering of integration issues and automatically generated alerts will inform policy makers or administration staff cities about urgent issues (Project proposal, p. 16).
- Data, key figures and visualisations have to be provided in a standardized form to be comparable on a pan-European level. This will ensure the identification of good practices in cities and the know-how transfer between policy makers and city administrations (Project proposal, p. 21).

Thus, extensive usability and user tests during the development process and the demonstration phase are essential to deliver an attractive and usable tool.

7.2 Background information

The whole tool development followed the idea of user-centered-design (UCD). This means that potential end-users of the tool are continuously integrated in the development process right from the start. In iterative cycles requirements are analysed. The analysis results run into the further concept design which builds the basis for the implementation. In the following, tests with users are performed (even the development is at an early stage) to identify if the platform meets the initial requirements. The test results deliver important results for the next iteration which again follows the process steps "analyse", "design", "code" and "test". The ongoing tests were structured in four phases. While in the first phase the general handling and interface was tested in the following phases the provided functionalities were given more

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attention. In the final test phase the full functional tool is tested in detail with the end-users. Details on the tests will be found in D5.9 User survey, usability study and performance reports 2 and D6.3 End user usability studies and bug reports.

7.2.1 Objectives

Objectives for the usability and user experience were:

- Good overall usability
- Easy navigation on platform and iintuitive tool handling
- Supportive visualisations (diagrams, charts etc.)
- Easy completion of typical tasks
- High task completion
- Good overall user experience
- Quick understanding of platform modules
- Supportive online help
- Platform useful for institutions
- Platform supports decision makers

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7.2.2 KPIs per objective

KPI ID	Target Group	Objectives*	Key Performance Indicator (KPI)	Quan. KPI**	Qual. KPI***	Nominal Value	Actual Value
P01	End-User	Good overall usability	SUS Points	x		>68	70.13
P02	End-User	Easy navigation on platform	End-user usability test rating	x		>65% positive ratings	72.0 %
P03	End-User	Intuitive tool handling	End-user usability test rating	x		>65% positive ratings	69.5%
P04	End-User	Supportive visualisations (diagrams, charts etc.)	End-user usability test rating	x		>65% positive ratings	79.2%
P05	End-User	Easy completion of typical tasks	End-user usability test rating	x		>80% rate easy or very easy	79.9%
P06	End-User	High task completion	End-user usability test rating	x		>80% of all tasks completed	88.0%
P07	End-User	Good overall user experience	End-user usability test rating	x		>75% positive ratings	80.0%
P08	End-User	Quick understanding of platform modules	End-user usability test rating	x		>65% positive ratings	80.0%
P09	End-User	Supportive Online-Help	End-user usability test rating	x		>65% positive ratings	50.0%
P10	End-User	Platform useful for institutions	End-user usability test rating	x		>65% positive ratings	95.8%
P11	End-User	Platform supports decision makers	End-user usability test rating	x		>65% positive ratings	85.7%

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 8: KPIs per objective – Usability and user experience

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For a better understanding of the actual values the KPIs and the connected results will be described in detail.

P01 Good overall usability: Overall the system is rated in a very positive way concerning the usability. The popular SUS questionnaire was chosen to build an overall score to understand how good the usability of the whole system is. Finally, a SUS score of 70.13 points was achieved which means the system would be ranked with B- if a letter grade would be used. Users that know the platform already from previous tests achieved a little bit higher SUS score of 73.33. For a complex tool that allows sophisticated analysis for users that are hardly familiar with such systems the rating the SUS score delivers can be seen as very good.

P02 Easy navigation on platform: The predominant part of the users seems to have no problem with the navigation on the platform. 72.0% indicate that the navigation is easy.

P03 Intuitive tool handling: Intuition in contrast to usability aims at the cognitive performance that is needed to use a tool. If a lot cognitive performance is needed to successfully use a tool end-users get frustrated and tired. Thereby an intuitive tool shall be easy to navigate, self-explanatory, supportive and allow the user to make mistakes. The respective categories were rated on average from 69.5% of the users with positive ratings.

P04 Supportive visualisations: Visualisations as supportive elements play an important role on the platform. 79.2% of the participants agreed (strongly/somewhat) to the statement “The visualisations (e.g. pie-charts, bar charts, diagrams) support me in analysing the given results”.

P05 Easy completion of typical tasks: From all the test participants that successfully completed the task 79.9% correctly rated the task as “very easy” or “easy”.

P06 High task completion: Finally on average 88% of the users were able to complete the tasks without additional support. Taking also the users into account who needed minor advice the rate goes up to 94%.

P07 Good overall user experience: Finally the users had to indicate their overall impression of the platform. 80.0% of the participants rate the platform as highly or slightly positive. For 16.0% the platform is at least on an average level.

P08 Quick understanding of platform modules: During the final end-user tests the participants had about 2-3 minutes time to browse through each tool module to get to know the platform. When clicking the first time on a module a short introduction text was shown describing the main functionality of the module. 80.0% strongly or somewhat agreed on the statement that they got a good understanding how to use the platform after this short introduction phase.

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P09 Supportive online help: During the end-user tests it shows that 50.0% of the users stated the help section provides relevant information and support. As the support materials were used and tested by end-users for the first time it got clear that it had to be improved in the final project phase. Several insights of the end-user tests provided relevant insights how to improve the online help materials and also contributed to the elaboration of the final instruction and training materials.

P10 Platform useful for institutions: The user ratings indicate that the platform fulfils its main purposes. The majority of 95.8% of the participants agrees (strongly/somewhat) that the platform can be very useful in their organisation.

P11 Platform supports decision makers: In addition 85.7% of the decision makers among the participants agree to the statement that the platform is able to support their institutions in making decisions on integration related issues.

7.2.3 Performed activities

According the user-centered design process during the whole project lifetime usability and user experience aspects were considered. The created test methodology focused on ongoing integration of test users during the project duration. This approach allowed optimally gathering end users insights right from the start, instead of confronting them with a finished tool at the project end and probably finding out that they expected something different. The whole user-centered design approach as well as the used methodology is described in detail in the deliverables D5.9 User survey, usability study and performance test reports 2 and D6.3 End user usability studies and bug reports.

7.2.4 Lessons learned

As shown above almost all target values for the KPIs were reached or overmatched. In general this indicates that the chosen UCD approach which included user insights through the whole platform design and development was quite successful. Within the project it was important to run comprehensive user tests that focused on individuals to ensure that the requirements of the main target groups are identified and fulfilled by the platform. The chosen test methodology was adequate to reveal even minor problems that users (and especially first time platform users) faced when working with the tool. When the platform will be established for the mass market after the project duration additional short feedback surveys directly on the platform could be conducted with hundreds of users to get a better understanding how to sustainable update the platform to include further target groups.

The overall usability as well as the user experience is very satisfying with regards to a platform that allows conducting social media monitoring in a complex area especially for end users that are hardly familiar with social media analytics tools. Nevertheless final user evalua-

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tions in Phase 4 (which are the basis for the KPIs of this section) reveal one short coming. The online help section was only rated by 50.0% of the users as supportive. Due to the fact that the support materials were tested for the first time in the last usability test it was expected that there probably would be the need for improvements. In general it would have made sense to include the materials already in previous test sessions. The problem is that producing the support materials is very time intensive because every feature descriptions as well as wordings have to be consistently with the end product. This means that if minor changes are made in the last development stage also the whole support materials have to be comprehensively revised. This is rather inefficient regarding limited time and personal resources. That's why within the UniteEurope project the approach was chosen to create the help materials in a final stage when the platform development is almost finished. After the final user tests the online materials were comprehensively updated to better support the users. This will also positively affect the whole usability and user experience.

The integration of selected end-users to the bug tracking procedure was helpful to reveal all minor issues that had to be addressed during the last development stage. Only a few really problematic bugs were found such as error messages under specific circumstances. Most of the bug reports contained user feedback for smaller adjustments that were easily fixed in the final stage. While external users could be successfully integrated to the usability tests, only a few bugs were reported back by them. This may have several causes. Some users may have not faced problems that seemed severe enough to report them. For some users entering the bug-tracking site may have been too inconvenient even if all potential participants for the bug tracking got a detailed guideline where and how bugs can be reported easily. However the received reports focused more on suggestions for minor improvements. Thereby the chosen user-centered design process that steadily provided feedback for ongoing improvements proved itself as successful.

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8 Dissemination and exploitation

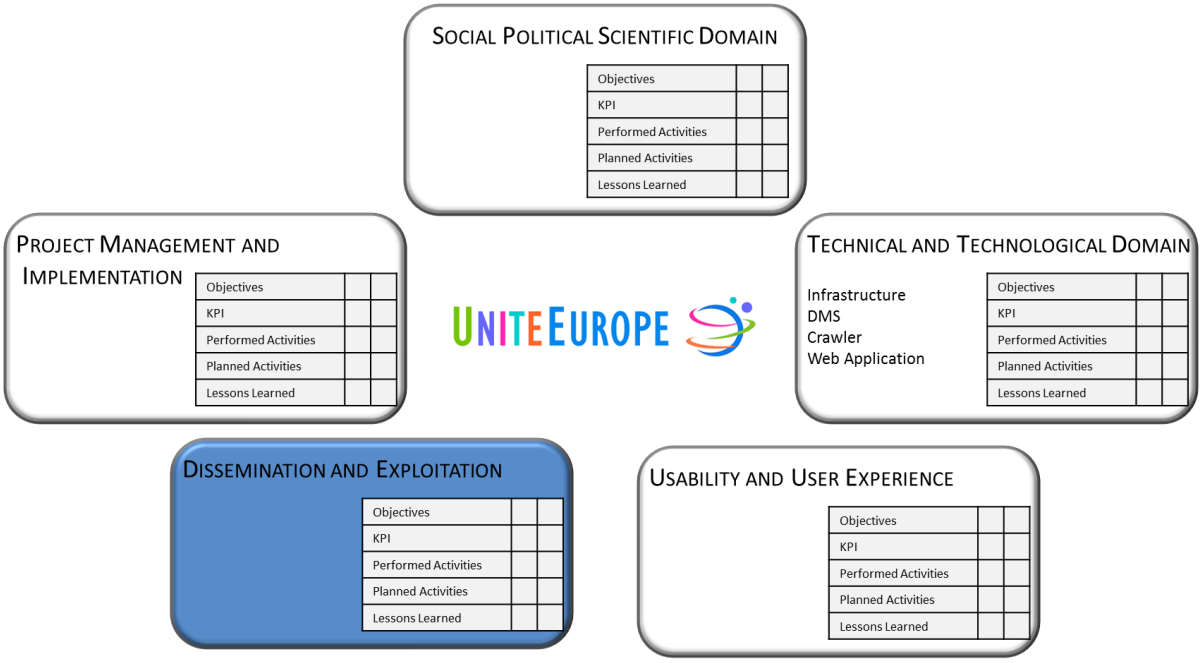

Figure 6: UniteEurope evaluation framework – Dissemination and exploitation

In this section the dissemination and exploitation of UniteEurope is discussed in more detail.

8.1 Goals

The general goals of the dissemination and exploitation in the UniteEurope project were:

- to communicate the project outcomes to the following target groups (Project proposal, p. 38):
    - Policy makers, such as local policy makers, national policy makers, European policy makers, and public administrations
    - Representatives of migration communities
    - NGO's in the field of integration, public policy and participation
    - Researchers in the field of integration, public administration, eGovernment, communication sciences and ICT.
- A multi-channel dissemination approach including:

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- During the project: Scientific publications, presentations at international conferences, info mailing, info folder, demonstration video clip, press conference, press releases, UniteEurope symposium, project website, and presenting UniteEurope in European good practice networks and libraries.
- After the project: Meeting series for UniteEurope cities, and the roadshow presentations.

Figure 7 gives an overview of the multi-channel dissemination approach as described in the UniteEurope project proposal.

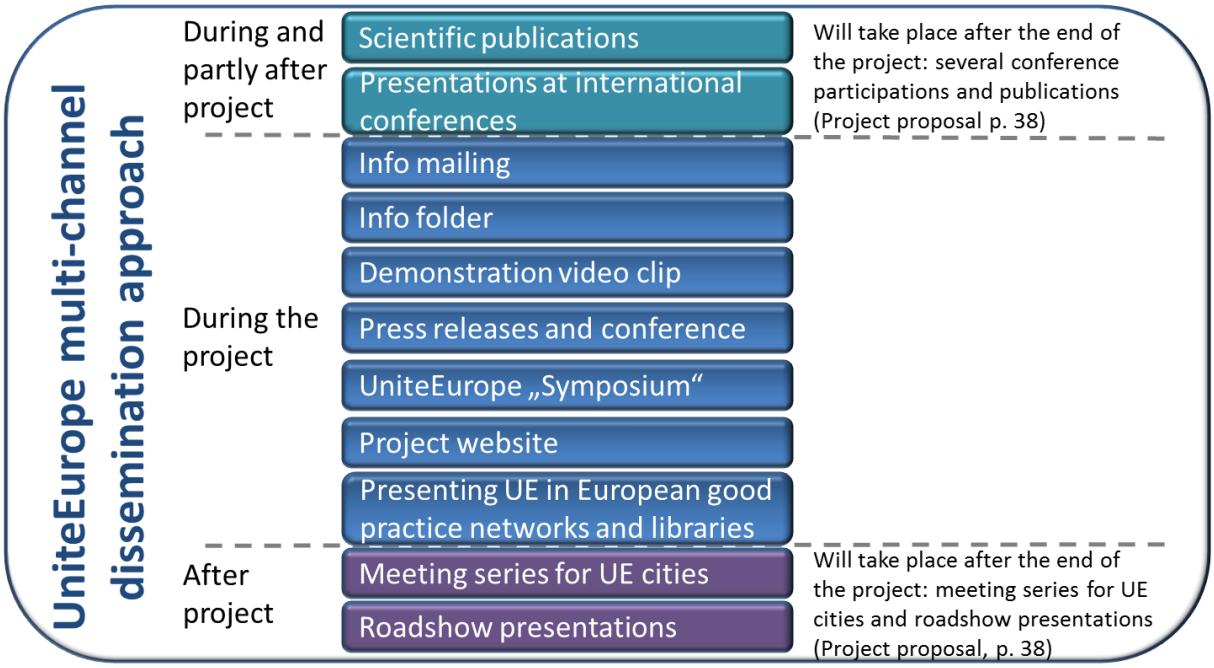

Figure 7: UniteEurope multi-channel dissemination approach

In the following, the dissemination and exploitation is described in more detail by addressing the objectives, the KPIs per objective, performed activities and lessons learned.

8.2 Objectives

The objectives for the dissemination and exploitation of UniteEurope are:

- Scientific publications
  - About 7-10 scientific publications will be authored to address the scientific community and to encourage them to build their research on the UniteEurope results (Project proposal, p. 71).

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- Presentation at international conferences (ICT, integration and public policy)
    - The project interim and final results will be presented at 5-8 relevant international conferences (Project proposal p. 70).
- Project website
    - A UniteEurope website will provide regular information updates and will be used as an additional communication channel (Project proposal p. 71).
    - The website will present information relevant to project partners and other interested stakeholders (Project proposal p. 71).
    - The website will also provide information for the general public and policy makers (Project proposal p. 71).
    - The website is understood as an interactive platform, so that questions and comments of people interested in the project will be dealt with in the project consortium (Project proposal p. 71).
- Press conferences and press releases
    - Press conferences will take place in the project partner cities Vienna, Rotterdam and Malmö in order to inform the general public about the project results and to encourage citizens to use the European monitor on urban integration (Project proposal p. 71).
    - Additionally, the symposium will be announced (Project proposal p. 71).
    - Press releases will accompany the press conferences and inform about the monitoring tool and this new channel of participation (Project proposal p. 71).
- UniteEurope symposium
    - A symposium will be held for representatives of European municipalities, national and European policy makers, representatives of migrant communities, NGOs in the field of integration, public policy or participation, researchers in the area of integration research, public administration and eGovernance, communication sciences and ICT and interested citizens (Project proposal p. 70).
    - The symposium will take place in Vienna (Project proposal p. 70).
    - The number of participants will amount to 50-70 (Project proposal p. 70).
    - The goal of the symposium is to present the aims and tools of UniteEurope as well as the benefits for both local, national and European policy makers and

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citizens, to receive feedback and to discuss the further development of the tool. The participants shall be encouraged to use the tool, spread the information about the tool and to provide information on related initiatives (Project proposal p. 70).

- Invitations will be sent to the mentioned institutions (Project proposal p. 70).
- Additionally, the symposium will be announced in the press release and the press conference and on the project website (Project proposal p. 70).

- Meeting series for UniteEurope cities
  - The first session will take place in the framework of the UniteEurope symposium (Project proposal p. 70).
  - The next meetings will be alternately organised by the UniteEurope cities in annual meetings which ideally will be combined with other city meetings (Project proposal p. 70).
- Presenting UniteEurope in European good practice networks and libraries
  - UniteEurope will be presented as good practice in all relevant European networks and libraries in the area of urban integration, public policy and eGovernance (Project proposal p. 70).
  - This will further increase the number of municipalities and citizens using the tool and will facilitate concerted European action in this field (Project proposal p. 70).
  - Related initiatives might be referred to or incorporated in the tool (Project proposal p. 70).
- Info mailing and info folder
  - An info-mailing in each respective language about the project background, established partnerships and use cases will be send out to policy makers in European cities with populations of more than 150 000 in form of a direct mailing (Project proposal p. 70).
  - An info folder about UniteEurope (about 5 pages) as well as the link to the demonstration video clip will be attached in electronic form (Project proposal p. 70).
  - The info folder will include recommendations to policy makers and public administrations on how to benefit from UniteEurope and will also be available on the project website (Project proposal p. 70).

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- National and EU policy makers responsible for integration policies, representatives of migrant communities and NGOs in the field of integration, public policy or participation well be sent adapted versions of the info material (Project proposal p. 70).

- Project video
  - A short demonstration video clip will be produced for all the target groups (Project proposal p. 71).
  - The video will show the benefits of UniteEurope and will support the attraction of citizens and policy makers (Project proposal p. 71).
  - It will be available on the project website and will be attached to e-mail correspondence with potential users (Project proposal p. 71).

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8.3 KPIs per objective

PUBLICATIONS							
KPI ID	**TARGET GROUP**	**OBJECTIVES***	**KEY PERFORMANCE INDICATOR (KPI)**	**QUAN. KPI****	**QUAL. KPI*****	**NOMINAL VALUE**	**ACTUAL VALUE**
E01	Scientific community	7-10 scientific publications (p.71)	Number of publications	x		7-10	7
E02	Scientific community	7-10 scientific publications (p.71)	Types of publications		x		Peer-reviewed journal articles: 3 accepted, 1 submitted Other publications: 3
E03	Scientific community	7-10 scientific publications (p.71)	Acceptance rate of publication outlets		x		**European Journal of Futures Research**: Double-blind peer review process Open access journal Publisher: Springer Acceptance rate: not available, journal no more than 1 year old **SWS – Sozialwissenschaftliche Rundschau**: Acceptance rate: not available **International Migration Review:** Impact Factor: 0.812 ISI Journal Citation Reports © Ranking: 2013: 17/24 Acceptance rate: not available **Comparative Migration Studies**: Peer-reviewed Publisher: Amsterdam University Press Available in Open Access Acceptance rate: not available **CeDEM13 – Conference for Edemocracy**: Acceptance rate: 49% **IADIS IHCI 2013**: Acceptance rate: 17%

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							IADIS DM 2013: Acceptance rate: 14%
E04	Scientific community	7-10 scientific publications (p.71)	Domain of publication outlets/research groups		x		**Field of foresight and futures studies, society, politics, economy and science and technology** • European Journal of Futures Research **Field of migration, integration and ethnic studies:** • International Migration Review • Comparative Migration Studies **Field of eDemocracy and open Government** • CeDEM13 **Field of Information society** • IADIS International Conference Interface and Human Computer Interaction • IADIS International Conference Data Mining **Social sciences** • SWS – Sozialwissen-schaftliche Rundschau

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 9: KPIs per objective - Publications

PRESENTATIONS AT INTERNATIONAL CONFERENCES							
KPI ID	**TARGET GROUP**	**OBJECTIVES***	**KEY PERFORMANCE INDICATOR (KPI)**	**QUAN. KPI****	**QUAL. KPI*****	**NOMINAL VALUE**	**ACTUAL VALUE**
E05	Scientific community	Results will be presented at 5-8 relevant international conferences (p. 70)	Number of presentations	x		5-8	10
E06	Scientific community	Results will be presented at 5-8 relevant international conferences (p. 70)	Types of conferences		x		**Presentations at:** • Conference for Democracy and Open Government • Conference for E-Democracy and Open Government • ADIS International Conference Interface and Human Computer Interaction 2013 • IADIS International Conference Data Mining

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							• EGPA conference • IMIS-COE workshop Theorizing 'the local turn' in immigrant policies • Graduate School of Governance, University of Maastricht (presentation at Youtube: http://www.youtube.com/watch?v=CXzZmxMu1yk) • Migration seminar at Malmö University, Sweden • Migration Seminar at Complutense University, Madrid

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 10: KPIs per objective – Presentation at international conferences

PROJECT WEBSITE							
KPI ID	**TARGET GROUP**	**OBJECTIVES***	**KEY PERFORMANCE INDICATOR (KPI)**	**QUAN. KPI****	**QUAL. KPI*****	**NOMINAL VALUE**	**ACTUAL VALUE**
E07	Public	The website will provide regular information updates (p. 71)	Number of website updates	x		Regular	Regular – if news and new deliverables were available
E08	Public	The website will provide information for the general public an policy makers (p. 71)	Type of information offered via the website		x		• Home • News • Project • Consortium • Deliverables • Symposium • Links • Contact
E09	Public	The website will provide information for the general public and policy makers (p. 71)	Number of information materials offered via the website	x		• 3 Newsletters • 2 Policy briefs • 1 Project flyer	• 3 Newsletter • 2 Policy briefs • 1 Project flyer • 1 Symposium flyer • 1 UniteEurope info folder • 2 UniteEurope info sheets (one addressing the project, one the tool) • 1 Project video

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							• 2 Press releases • UniteEurope logo • Overview of all scientific publications and presentations • UniteEurope deliverables (downloadable with dissemination level “public”)
E10	Public	The website will provide information for the general public an policy makers (p. 71)	Number of Newsletters	x		3	3
E11	Public	The website will provide information for the general public an policy makers (p. 71)	Number of eMail Addresses registered for the Newsletter	x			Registered for newsletter: 33 Communication of the newsletter via the UniteEurope website and the social media sites Facebook, Twitter, and LinkedIn, contact database with 600 entries; *Recipients of the newsletter via dissemination by partners:* Communication via MyNewsdesk (digital press room, everybody including media can access information without registration), partner newsletters with 3.300 recipients, eMail groups with 80 eMail addresses and their social media sites.
E12	Public	The website will provide information for the general public an policy makers (p. 71)	Number of policy briefs	x		2	2
E13	Public	The website is understood as an interactive platform (p. 71).	Types of interactions with the UniteEurope team		x		• Newsletter • Contact/eMail • Twitter • Facebook • LinkedIn

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 11: KPIs per objective – Project website

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PRESS CONFERENCES AND PRESS RELEASES							
KPI ID	**TARGET GROUP**	**OBJECTIVES***	**KEY PERFORMANCE INDICATOR (KPI)**	**QUAN. KPI****	**QUAL. KPI*****	**NOMINAL VALUE**	**ACTUAL VALUE**
E14	Public	Press conferences will take place in the project partner cities Vienna, Rotterdam and Malmö (p. 71).	Number of press conferences	x		3	0
E15	Public	The symposium will be announced (p. 71)	Type of UniteEurope content announced		x		The symposium was announced in: • Symposium press release (distributed to press representatives in Germany, Austria, the Netherlands, and Sweden, shared via website) • Postings in Facebook • Tweets on Twitter • Postings in LinkedIn • Article, Invitation and Symposium Flyer on Website • In different online calenders • Per eMail and telephone • See symposium report D7.9) Content announced: • Symposium title, subtitle • Date, time, location, city, country • Agenda and highlights (short description of UniteEurope, keynote speakers, user partners presenting real usage scenarios, hands-on session)
E16	Public	Press releases will accompany the press conferences (p. 71)	Number of press releases	x		2	2
E17	Public	Press releases will accompany the press conferences (p. 71)	Type of UniteEurope content announced		x		• Press release 1: UniteEurope tool and project • Press release 2: UniteEurope symposium, tool and project

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 12: KPIs per objective – Press releases and conferences

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UNITEEUROPE SYMPOSIUM							
KPI ID	**TARGET GROUP**	**OBJECTIVES***	**KEY PERFORMANCE INDICATOR (KPI)**	**QUAN. KPI****	**QUAL. KPI*****	**NOMINAL VALUE**	**ACTUAL VALUE**
E18	Key stake-holders	A symposium will be held for different target groups (p. 70)	Number of participants by stakeholder group	x			*Registrations:* Cities or municipalities: 5 Persons, 5 municipalities NGOs: 4 Persons, 3 organisations Research institutions/enterprises: 7 Persons, 6 institutions ICT enterprises: 6 Persons, 3 enterprise Not assignable: 5 Persons *Participants:* Cities or municipalities: 3 Persons, 3 municipalities NGOs: 3 Persons, 2 organisations Research institutions/enterprises: 5 Persons, 4 institutions ICT enterprises: 6 Persons, 3 enterprise Not assignable: 4 Persons
E19	Key stake-holders	The symposium will take place in Vienna (p. 70).	Pros and Cons of the event location		x		Event location: Berlin **Pros:** • Easy to reach (plane, train, bus) • Same location and time of the event as the Cities of Migration conference 2014 • One partner (UP) in the close surrounding area **Cons:** • No end-user partners in Berlin
E20	Key stake-holders	The number of participants will amount 50-70 (p. 70)	Number of participants	x		50-70	Registered for the symposium: 27 Participants at the symposium: 21

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E21	Key stake-holders	The goal of the symposium is to present the aims and tools of UniteEurope, receive feedback, encourage participants to use the tool (p. 70)	Type of content and concept of the UniteEurope symposi-um		x		Agenda of the symposium: 2 Keynote speeches 2 Demonstration scenarios 1 Hands-on session (participants could try out UniteEurope by their own and received support by UniteEurope consortium partners)
E22	Key stake-holders	Invitations will be sent to the mentioned institutions (p. 70)	Number of sent invitations	x			• Invitations per email: 1286 • Invitations per phone: 78 • Entries in event calendars: 12 • Postings in Facebook • Tweets on Twitter • Postings in LinkedIn • Article, Invitation and Symposium Flyer via mailing lists and on the UniteEurope website and on partner websites • Symposium press release
E23	Key stake-holders	Invitations will be sent to the mentioned institutions (p. 70)	Types of recipients of the invitation		x		Policy makers, cities, NGOs and associations, research institutions and universities, integra-tion communities, advisory board members, general public (via website and social media sites), press (press release addressing sym-posium)

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 13: KPIs per objective – UniteEurope symposium

MEETING SERIES FOR UNITEEUROPE CITIES							
KPI ID	**TARGET GROUP**	**OBJECTIVES***	**KEY PERFORMANCE INDICATOR (KPI)**	**QUAN. KPI****	**QUAL. KPI*****	**NOMINAL VALUE**	**ACTUAL VALUE**
E24	Key stakeholders	3-5 meetings with cities, first session will take place in the framework of the UniteEurope Symposium (p. 70)	Number of meetings	x		1	1 (Symposium)

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 14: KPIs per objective – Meeting series for UniteEurope cities

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PRESENTING UNITEEUROPE IN NETWORKS AND LIBRARIES							
KPI ID	**TARGET GROUP**	**OBJECTIVES***	**KEY PERFORMANCE INDICATOR (KPI)**	**QUAN. KPI****	**QUAL. KPI*****	**NOMINAL VALUE**	**ACTUAL VALUE**
E25	Key stakeholders	UniteEurope will be presented as good practice in relevant European networks and libraries (p. 70)	Number of networks and libraries in which UniteEurope is presented	x		1	3
E26	Key stakeholders	UniteEurope will be presented as good practice in relevant European networks and libraries (p. 70)	Type of networks and libraries in which UniteEurope is presented		x		INACH FRA platform meeting IMISCOE EUR – PhD platform presentation 12-03-2013 EUR – CPSI presentation 08-04-2013 ECREA summer school presentation 03-16 aug 2014
E27	Key stakeholders	This will further increase the number of municipalities and citizens using the tool (p. 70)	Number of municipalities and citizens using the tool	x			Access during the project duration for the project user partners including 2 cities and 1 NGO and particular advisory board members

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 15: KPIs per objective – Presenting UniteEurope in networks and libraries

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INFO MAILING AND INFO FOLDER							
KPI ID	**TARGET GROUP**	**OBJECTIVES***	**KEY PERFORMANCE INDICATOR (KPI)**	**QUAN. KPI****	**QUAL. KPI*****	**NOMINAL VALUE**	**ACTUAL VALUE**
E28	Key stakeholders	An info mailing in each respective language about UniteEurope will be send out to policy makers in European cities with populations of more than 150 000 in form of a direct mailing (p. 70).	Number of languages into which the info mailing is translated	x		4	English versions of: • 3 Newsletters • 2 Policy briefs • 1 Info folder Dutch, English, German, Swedish versions of: • 2 Press releases • 1 Info sheet “Project” • 1 Info sheet “Tool” • 1 Project flyer (also in French)
E29	Key stakeholders	An info mailing in each respective language about UniteEurope will be send out to policy makers in European cities with populations of more than 150 000 in form of a direct mailing (p. 70).	Number of recipients of the info mailing	x			Communication of the dissemination material via the UniteEurope website and the social media sites Facebook, Twitter, and LinkedIn; Contact database with 600 entries; Registrations for UE newsletter: 33; *Recipients via dissemination by partners:* Communication via MyNewsdesk (digital press room, everybody including media can access information without registration), partner newsletters with 3.300 recipients, eMail groups with 80 eMail addresses and their social media sites.
E30	Key stakeholders	An info mailing in each respective language about UniteEurope will be send out to policy makers in European cities with populations of more than 150 000 in form of a direct mailing (p. 70).	Type of recipients of the info mailing		x		The contact database included cities, NGOs, migrant integration communities, scientific institutions, universities and representatives of the press in Austria, Germany, The Netherlands, Sweden
E31	Key stakeholders	An info folder about UniteEurope and the link to the demonstration video clip will be attached (p. 70).	Type of content of the info mailing		x		In the dissemination outputs the link to the UniteEurope website was included on which further information and downloads of further information material was available.

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 16: KPIs per objective – Info mailing and info folder

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PROJECT VIDEO							
KPI ID	**TARGET GROUP**	**OBJECTIVES***	**KEY PERFORMANCE INDICATOR (KPI)**	**QUAN. KPI****	**QUAL. KPI*****	**NOMINAL VALUE**	**ACTUAL VALUE**
E32	Key stake-holders	A short video will be produced for all the target groups (p. 71)	Number of demonstration video clips	x		1	1
E33	Key stake-holders	The video will show the benefits of UniteEu-rope and will support the attraction of citizens and policy makers (p. 71).	Type of content in the demonstra-tion video clip		x		Video content: • Purpose of the tool • USP of the tool (uniqueness) • About the project • Target groups • Call for usage • Project partners • Link to website
E34	Key stake-holders	It will be available on the project website and will be attached to e-mail correspondence with potential users (p. 71).	Types of publication channels		x		Online publication via UniteEurope website

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 17: KPIs per objective – Project video

DEMONSTRATION WORKSHOPS UNITEEUROPE TRIAL VERSION							
KPI ID	**TARGET GROUP**	**OBJECTIVES***	**KEY PERFORMANCE INDICATOR (KPI)**	**QUAN. KPI****	**QUAL. KPI*****	**NOMINAL VALUE**	**ACTUAL VALUE**
E35	Key stake-holders	7 cities or NGOs (D 7.12, p. 22)	Trial versions in use	x			12 accounts are currently in use for 55 users and 66 test users.

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 18: KPIs per objective – Demonstration workshops UniteEurope trial version

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8.4 Performed activities

According to the deliverable schedule described in the “Description of Work” (DoW) document and illustrated in Figure 8, the following activities, particularly in the work package (WP) 7 Dissemination, were performed throughout the whole project.

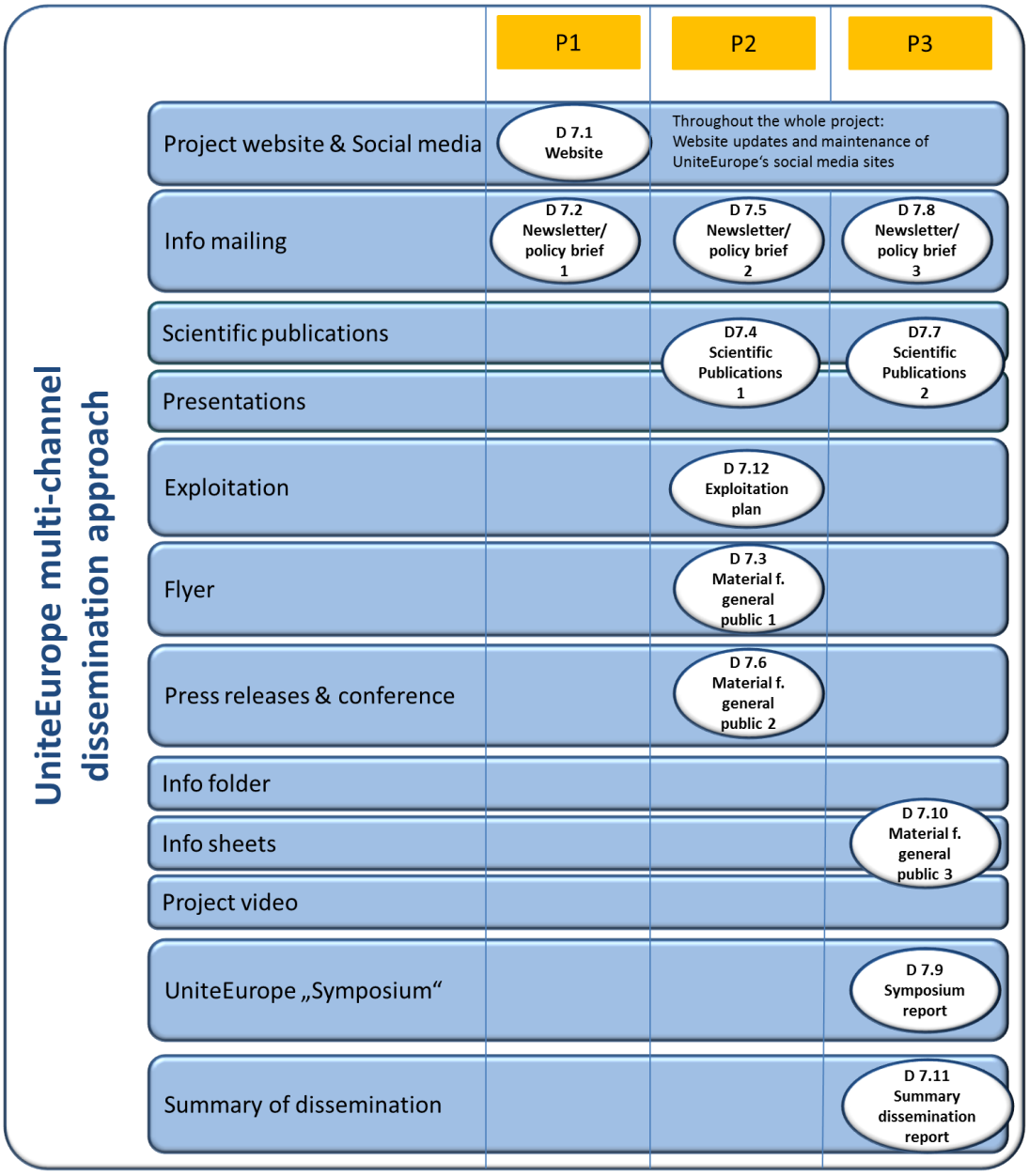

Figure 8: Dissemination activities and deliverables overview P1-P3

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The UniteEurope **project website** was elaborated and updated from the very beginning of the project (D7.1). In addition to the UniteEurope website, and following the recommendations of the second review meeting in Brussels, UniteEurope **social media sites** in Facebook, Twitter and LinkedIn were elaborated. Prepared content for the social media channels was published twice a week in order to keep the sites lively. The links to the website and to the social media sites of UniteEurope are available in Table 19.

Table 19: UniteEurope online

Online source	Link
UniteEurope website	http://www.uniteeurope.org/
UniteEurope Facebook	https://www.facebook.com/pages/UniteEurope/197169400492223
UniteEurope Twitter	https://twitter.com/Unite_Europe
UniteEurope LinkedIn	http://www.linkedin.com/groups/UniteEurope-7467362

A detailed description of the **newsletters and the policy briefs** can be found in D7.2, D7.5, D7.8 Newsletters / policy briefs 1-3. The **scientific publications and presentations** were summarised in D7.4 and D7.7. Activities performed in the context of **exploitation** are summarized in D7.12. Performed activities for the elaboration of the **material for the general public** (such as the flyer, press releases, info folder, info sheets and project video) are described in D7.3, D7.6 and D7.10. A summary of the **UniteEurope symposium** which was held on the 4th June 2014 in Berlin, Germany is provided in D7.9 Symposium report. All dissemination activities and outputs (including all deliverables, scientific publications and presentations, and other dissemination outputs produced in WP7) were summarized in one document D7.11 Dissemination report.

8.5 Lessons learned

Two main lessons were learned in the context of dissemination of international research projects.

First, **intensive dissemination of the project and project results is important**: Dissemination is an important element of projects. The project idea, achievements and results are of little benefit unless this information is shared among project stakeholders. We learned that dissemination methods should be as effective as possible to facilitate spreading, sharing, accessing and using the information. The greater the diversity of the target groups the greater is the range of dissemination activities, tools and channels required to disseminate in an effective way. We followed a multi-channel dissemination approach in order to address the different target groups of UniteEurope and considered thereby electronic and non-electronic dissemination methods. We recognized that social media helps us to get in contact, to con-

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nect and to communicate with persons and networks representing our target groups and that personal networks are of great benefit to spread project information effectively.

Second, **the selection of appropriate dissemination channels during the design the project (phase of writing the project proposal) is a crucial issue**: Already in the design phase of the project the dissemination message, target groups and the adequate dissemination channels need to be determined. Special attention needs to be given to strengths and weaknesses of the diverse dissemination channels during the selection stage. We experienced, for example, that although press conferences are an excellent dissemination channel to reach representatives of media, politicians, cities, municipalities, experts and the general public per se, the initiation of press conferences is highly sophisticated: Press conferences cannot be held by every representative of the institution or organisation and the press conference topics are determined by rigorous selection procedures performed by internal dissemination departments. Furthermore, we collected experiences in the context of newsletters, in particular in their distribution: Newsletters can be an effective dissemination channel to keep interested persons updated about developments in the project on a regular basis. However, we learned that the acquisition of registrations for the newsletter is a challenging task as legal regulations addressing direct mailings and spam needs to be taken into consideration. Finally, we learned that scientific publications are important throughout the whole project duration; however the most profound scientific contributions can be elaborated after the project results are available.

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9 Project management and implementation

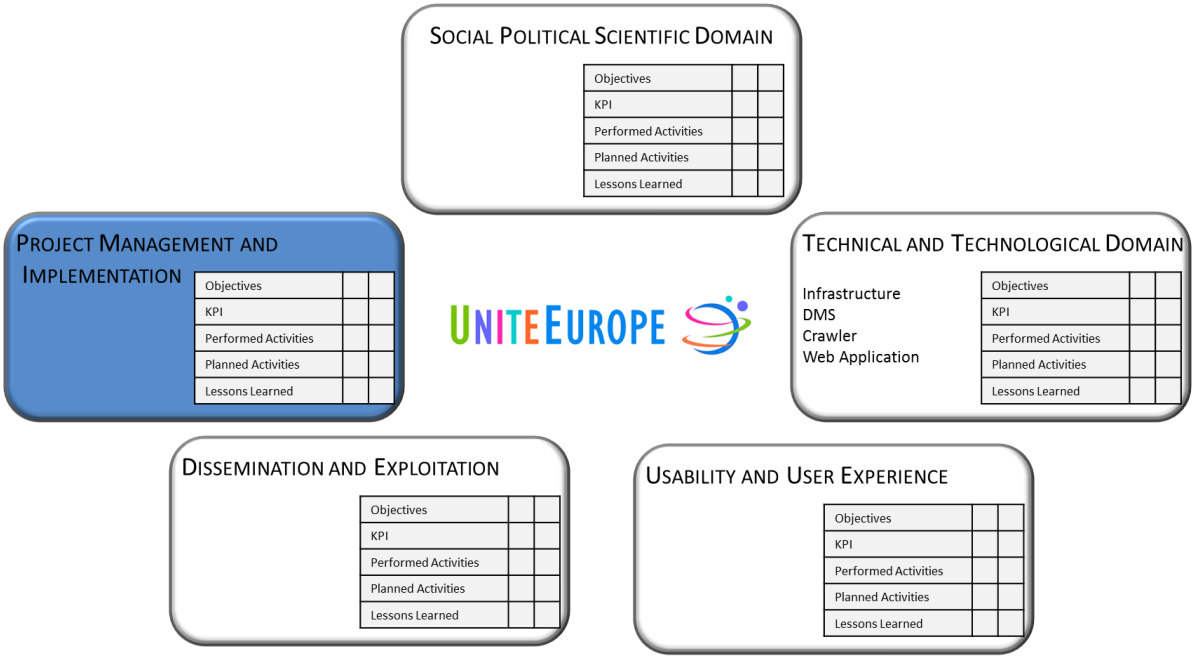

Figure 9: UniteEurope evaluation framework – Project management and implementation

9.1 Goals

The general goal of the project management and implementation the UniteEurope project is the coordination and management of the consortium partners. The scientific work is assisted and monitored and administrative tasks are performed (Project Proposal, p. 31).

9.2 Objectives

The objectives for project management and implementation are:

- Kick-off meeting
    - To carry out a kick-off meeting (Project proposal, p. 31)
    - There will be a summarised overview of the meeting for interested external experts and the external advisory board provided by the project coordinator (Project proposal, p. 31)
- Information and coordination

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- To provide information and overview of the work progress and next steps (Project proposal, p. 31)

- Publication of information
  - Selected information will be put on the project website to serve the consortium partners, the EU and the wider public (Project proposal, p. 31)
- Reports and deliverables
  - More detailed technical and management information will be delivered in the form of reports to the EU, including final project documentation at the end of the project (Project proposal, p. 31)
- Overall project progress
  - To oversee and assist the project's advancement (Project proposal, p.31)
  - To second and monitor the achievements in the other WPs (Project proposal, p. 31)

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9.3 KPIs per objective

KPI ID	Target Group	Objectives*	Key Performance Indicator (KPI)	Quan. KPI**	Qual. KPI***	Nominal Value	Actual Value
PM01	Project partners and stakeholders	To carry out a kick-off meeting (p. 31)	Implementation of the kick-off meeting	x		1	1
PM02	Project partners and stakeholders	There will be a summarised overview of the meeting for interested experts and the external advisory board provided by the project coordinator (p. 31)	Availability of kick-off meeting summary	x		1	1
PM03	Project partners and stakeholders	To provide information and overview of the work progress and next steps (p. 31)	Number of meetings within the consortium	x			P1: • 1 Kick-off Meeting (Oct 11, Vienna) • Several work package related meetings P2: • Mid-term status update meeting (Oct 12, Berlin) • Evaluation meeting 1 (Nov 12) • Consortium meeting “Exploitation” (Feb 13, Malmö) P3: • Consortium meeting “2nd Review” (Oct 13, Rotterdam) • Consortium meeting “Evaluation Framework” (Feb 14) • Consortium meeting “Symposium” (Jun 14) • Close-out meeting (Sep 14) In addition to the face-to-face meetings, weekly conference calls per Skype took place throughout the whole project.
PM04	Project partners and stakeholders	Selected information will be put on the project website to serve the consortium part-	Type of information on the website (compare		x		Information on the website: • Home

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		ners, the EU and the wider public (p. 31)	with KPIs of Dissemination and Exploitation)				• News • Project • Consortium • Deliverables • Dissemination • Symposium • Links • Contact
PM05	Project partners and stakeholders	More detailed technical and management information will be delivered in the form of reports to the EU, including final project documentation at the end of the project (p. 31)	Number of UniteEurope deliverables in time	x		64 (all)	63 (extended deadline for D6.4)
PM06	Project partners and stakeholders	More detailed technical and management information will be delivered in the form of reports to the EU, including final project documentation at the end of the project (p. 31)	Number of rejected UniteEurope deliverables by EC	x		0	Deliverables P1: • Submitted: 27 • Rejected: 0 P2: • Submitted: 18 • Rejected: 0 P3: • Submitted: 19
PM07	Project partners and stakeholders	More detailed technical and management information will be delivered in the form of reports to the EU, including final project documentation at the end of the project (p. 31)	Quality assurance of deliverables (content)		x		Determination of internal reviewers (project partners, min. 2 partners per deliverable, one technical and one social science reviewer) of deliverables before the deliverables were submitted to the EU
PM08	Project partners and stakeholders	To oversee and assist the project's advancement (p.31) To second and monitor the achievements in the other WPs (p. 31)	Number of defaulting partners	x		0	0

* *Page numbers were included from the UniteEurope Project Proposal where applicable*
** *Quantitative measure*
** *Qualitative measure*

Table 20: KPIs per objective – Project management and implementation

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9.4 Performed activities

To achieve the goals and objectives mentioned above, the project management activities were performed and summarized in the deliverables D1.1 Kick-off meeting report, D1.3 Status meeting report, D1.2 and D1.4 Annual status report 1-2, D1.5 Monitoring and evaluation plan in which the evaluation framework was elaborated and used for the final project evaluation, and D1.6 Final project documentation in which the whole project management and implementation is summarized. For the preparation of the deliverables, so called outlines were elaborated in which an overview of the content, the participating partners and the planned effort was given. The elaboration on the deliverables was supported by regular conference calls and meetings. To increase the quality of the deliverables and due to the second review of the project, internal reviewers were determined who offered feedback and improvement suggestions on the deliverables which were considered in the final versions.

9.5 Lessons learned

In the context of project management, we learned five lessons which will be summarized in the following.

First, **regular meetings supported the continuous update of all project partners about the current status of the project and deliverables**: Throughout the whole project duration of three years, the consortium met in weekly conference calls to report on the status of the deliverables that were at that time in elaboration, to take decisions, and to discuss and determine next steps. The regular meetings ensured not only the information flow to all project partners but also increased the team spirit among the partners.

Second, **internal deadlines, a rigorous time management and the clear assignment of tasks to responsible partners supported the submissions of deliverables in time**: Before the elaboration on a deliverable started, an outline was prepared in written form in which an overview of content of the deliverable, the participating partners and the planned effort and internal deadlines were provided. The outlines and the rigorous controlling of the implementation supported the submissions of the deliverables in time.

Third, **internal reviews of deliverables provided an internal quality check by the consortium partners**: Following the recommendations of the second project review, internal reviewers of the consortium from the social scientific and technical stream were selected to provide feedback to the final versions of the deliverables before they were submitted. These feedbacks provided an internal quality check by the partners who were, if possible, not involved in the elaboration of the deliverable. If recommended in the feedbacks, changes and adaptations were performed in order to increase the quality of the deliverables before they were submitted.

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Fourth, **dependencies between work packages of different streams (social scientific and technical streams) supported learning from each other**: The content-related correlation between work packages, tasks and deliverables (such as the design and implementation of the UniteEurope tool guided by and based on social scientific research results) supported the exchange between experts from different disciplines, required a 'mutual understanding' of goals and objectives as well as the definition and consistent use of terms, and fostered the learning from each other.

Fifth and finally, **an appropriate amount of deliverables considered during the design of the project facilitates the focus on project achievements rather than on the delivery of reports**: Our last lesson learned is that too many deliverables planned in a short period of time could lead to increased effort spent on the elaboration of written reports with less new information about project achievements. Thus we learn that 'less is more' – also in the context of deliverables – less deliverables support reports rich in new information about project achievements and high in quality.

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