BIG DATA FOR PUBLIC ADMINISTRATIONS (2016.03)

IDENTIFICATION OF THE ACTION

Type of Activity	Study and reusable generic tools
Service in charge	DIGIT B4
Associated Services	DIGIT.B2, DIGIT.B6, DG RTD.E2, DG CNECT.R3, DG CNECT.F4, CNECT.02, ESTAT

EXECUTIVE SUMMARY

The amount of data generated worldwide increases at an astounding pace - by 40% annually and will increase 30 fold between 2010-2020. Due to the segmentation of public services and due to using non-interoperable means to describe data, most of the data generated in the public sector is not available for re-use.

This action, titled 'Big Data for Public Administrations', aims at addressing the use of big data within public administrations' as a means for enabling wiser decision making. With recent technologies such as big data, data mining, social media, cloud etc. organisations have greater potentials in generating, creating and storing data, information and knowledge thus providing greater opportunities for wisdom.

Consequently, the main objectives of this action are to identify concrete big data opportunities and requirements in public administrations and in specific policy contexts through which a number of kick-off pilots are to be undertaken as a means for creating or compiling tool sets that can be generalised and further extended in order to be used in different contexts. Finally, the action will continuously work towards launching new cooperation with policy DGs and the MSs through the execution of new pilots in order to accelerate the data driven transformation.

Phase 1 of this action was funded by the ISA programme and was executed in 2015. It aimed at carrying out a landscape analysis in order to identify (i) the requirements and challenges of public administrations in Europe and the Commission in the context of big data (ii) on-going initiatives and best practices in these areas including an assessment of the tools and solutions that these initiatives have implemented (iii) synergies and areas of cooperation with the policy DGs and the MSs in this domain. Furthermore, phase 1 also intends to execute some pilots that showcase the usefulness and policy benefit that big data can bring.

This action will continue to build upon the results of phase 1, focusing on the following activities:
- Track 1: continue with the identification of further opportunities and areas of interest whereby the use of big data could help improve working methods as well as ensure better policy making for policy DGs as well as Member States' public administrations.

- Track 2: continue the implementation of already identified pilots through generalising the developed functionalities and thus extending its use to policy agnostic contexts in order to maximise the benefit and return on investment of the proposed solution. As an example, the National Statistics Office of the Netherlands has already shown great interest in collaborating on one of the identified pilots, with a good potential of reuse of the generated outputs (more information in the Technical Approach section).

- Track 3: launch a new wave of pilots in specific domains which hold a potential of later being generalised and scaled-up to be made available to different services agnostic of their specific policy area.

OBJECTIVES

- To further identify concrete big data opportunities and requirements in public administrations and in specific policy contexts. The action shall explore the requirements in at least 3 specific areas that shall be chosen based on the best practices identified through phase 1.

- To generalise and extend further the solutions produced through the already launched pilots, thus ensuring that they can be used by different policy areas and offer at least 25% of new functionality.

- To launch new co-operations with policy DGs and the MSs through the execution of at least 3 new pilots in order to accelerate the data driven transformation.

SCOPE

The details of the activities to be performed through this action are provided in the "Technical approach" section of this proposal. The following is a brief overview detailing the scope of the main activities to be performed:

- To **analyse the impact of big data on the policy making life-cycle**;

- To **identify best practices and lessons learnt** in the area of public administrations, more specifically in the areas of policy life-cycle and big data, including an assessment of the **benefits, risks and impacts** of these initiatives;

- To analyse the technical **tools and solutions** that these initiatives have implemented;

- To **identify the requirements and challenges** of public administrations in Europe and the Commission in the context of big data;

- To **identify synergies** and **areas of cooperation** with the **policy DGs** and the **MSs** in the this domain;

- To **execute pilot projects** that showcase the usefulness and policy benefit that big data can bring;

- To **identify areas of interests for the ISA[2] program** to lead and fund future **initiatives** that will allow **practical implementations** that will answer the requirements of the public administrations in Europe**.**

ACTION PRIORITY

Contribution to the interoperability landscape

The contribution of the action to the interoperability landscape, measured by the importance and necessity of the action to complete the interoperability landscape across the Union

Question	Answer
Does the proposal directly contribute to implementing the European Interoperability Strategy, the European Interoperability Framework, or other EU policies with interoperability requirements, or needed cross-border or	The European Commission has presented a Communication to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions titled **'Towards a thriving data-driven economy'**[1]. This communication focuses on the need for framework conditions that enable a single

[1] https://ec.europa.eu/digital-agenda/en/news/communication-data-driven-economy

Question	Answer
cross-sector interoperability initiatives? If yes, please indicate the EU initiative / policy and the nature of contribution.	market for **big data and cloud computing**. The ability to handle and analyse big data is elementary in different areas particularly **scientific research, public sector and innovation**. The communication highlights the importance of open standards and data interoperability in this field, and of the mapping of existing relevant standards for a number of big data areas. This action will contribute, through the execution of proof of concepts and technical studies, to the definition and exploration of the most suitable standards and tools and to the gathering of best practices for implementing big data and analytics projects, both at technical and organisational level. Additionally, this action will make available open-source software solutions for data analytics, which can be shared and re-used by public administrations in the Member States.
Does the proposal fulfil an interoperability need for which no other alternative solution is available?	Multiple commercial and open-source products are available on the market to support (big) data analytics projects, and the market is rapidly evolving in this domain. However, the selection, set-up, configuration and implementation of such tools/products to cover specific policy needs require significant resources and highly qualified data scientists. These resources are rarely available in public administrations. This action will deliver methodologies and best practises, including recommendations on interoperability issues, as well as free open-source re-usable solutions, to facilitate the take-up of new technologies such as text mining or data analytics, in order to support the public administrations' policy-making lifecycle.

Cross-sector

The scope of the action, measured by its horizontal impact, once completed, across the sectors concerned

Question	Answer
*Will the proposal, **once completed** be useful, from the interoperability point of view, and utilised in two (2) or more EU policy areas? If yes, which are those?*	Potential areas of action, where big data could have a real and direct impact are: • **Foresight and agenda setting.** Making best use of available but unexploited data as a means for setting agendas and strategic foresight is possible through the use of big data technologies. The vast amount of data that is available to consider when developing a plan or taking an action is massive and in most instances, the

are they?	limited human resources available do not provide enough manpower to execute such resource intensive work.
	• **Improve evidence for evaluation assessments.** Current evidence data used in evaluation assessments are based on small data sources (desk research, surveys, interviews, expert groups, case studies etc.). These methods increase the risks of inaccurate estimations, inadequate extrapolations and false perceptions. The use of big data could bring more accuracy by detecting complex and subtle patterns in bigger, all-encompassing datasets and by increasing the capability to analyse short term patterns.
	• **Monitoring of legislative transpositions**. Whenever a new regulation or directive is adopted it is the obligation of Member States to ensure the correct transposition through appropriate implementation measures. The validation of the timely and correct transpositions into national legislation is a resource-intensive procedure for the European Commission and it is therefore foreseen that big data technologies, particularly text analytics, could considerably facilitate the monitoring process.
	• **Social inclusion.** A strategic objective of European administrations (national, regional and local) is to help to the social insertion of collectives at risk or poverty or social exclusion using several instruments and mechanisms. The public administrations need to better understand the different collectives of individuals and family units with homogenous issues that lead to exclusion and that therefore need particular policies and follow-up for inclusion. To measure the results of these policies on each collective and their chronological evolution is a critical issue, in order to better assess the potential social insertion of an individual or a family unit. Data analytics can help in this regard. A pilot project will be started with the Comunidad de Madrid (Spain) in Q4 2016 in this policy domain.
	The analysis of potential re-use of the outcome of this action in other policy areas will be explored during the course of the project.
For proposals or their parts ***already in operational phase***: *have they been utilised in two (2) or more EU policy areas? Which are they?*	- Pilots have been already launched in different policy areas in the previous phase of the action:
	• **Research and innovative medicine**. The objective of the pilot is to identify the main trends in innovative medicine by analysing the content of the scientific publications coming from internal (e.g. CORDIS) and external (e.g. PubMed) sources. This will help the EC orient its research funding

	towards the most innovative areas of research. While the pilot projects focuses on innovative and personalised medicine, the intention is to extend it to other areas of research in the future.
	• **ICT JOB Market**. This pilot project is intended to analyse a large number of ICT job vacancies published on public websites of all MSs, in order to identify the most demanded job profiles and skills. The policy objective is to understand which skills are the most requested in the market, and fund trainings accordingly. The idea for the future is to extend this pilot to cover all job domains and not only ICT.
	• **Transposition of European Legislation**. This pilot project aims at supporting the manual checks performed by staff members who need to verify whether a European directive is correctly and completely transposed in national legislation (in all 28 countries). The pilot is being currently carried out with two directives of DG GROW, in order to prove the value of using such technologies to support complex manual work, and to extend its scope in the future.

Cross-border

The geographical reach of the action, measured by the number of Member States and of European public administrations involved.

Question	Answer
*Will the proposal, **once completed** be useful, from the interoperability point of view, and used by public administrations of three (3) or more EU Members States?*	- The results of the action, mainly studies and software solutions, are not linked to any Member State specificity. They can be reused by all EU public administrations. For example, the software developed of the pilot on Monitoring of legislative transpositions can be used to support the monitoring of the compliance of the legislation of all Member States' with EU directives. More information about the expected benefits for EU public administrations can be found in section 1.1.7.
*For proposals or their parts **already in operational phase**: have they been utilised by public administrations of three (3) or more EU Members States?*	- Public administrations in several Member States (Belgium, the Netherlands, Italy, UK, Denmark, Lithuania, Estonia) have been already contacted during the previous phase of the action, in order to collect best practices on big data implementation project and raise awareness about the action. A pilot will be started in Q4 2016 with a Spanish public administration.

Urgency

The urgency of the action, measured by its potential impact, taking into account the lack of other funding sources

Question	Answer
Is your action urgent? Is its implementation foreseen in an EU policy as priority, or in EU legislation?	- The above-mentioned Communication from the Commission titled 'Towards a thriving data-driven economy', highlights that the annual **growth of the big data sector is equivalent to 40%**, making it one of the strongest assets for economy growth, posing substantial opportunities that have so far not been reaped by the European market players. It identifies **a number of key actions for the EU** to help seize the opportunities of this sector amongst which is the **provision of the enabling technologies and underlying infrastructures and skills** as well as the **provisioning of public data resources and research data infrastructures**.
Does the ISA² scope and financial capacity better fit for the implementation of the proposal as opposed to other identified and currently available sources?	- The only additional funding source covering the activities in this proposal could potentially come from DGs interested in participating in one or more pilots or in re-using the outcomes of the action. However, such additional budget has not yet been identified for 2017. In any case, this additional budget will only cover the specific needs of the participating DGs and will not be used to support wider re-use.

Reusability of action outputs

The re-usability of the action, measured by the extent to which its results can be re-used

Can the results of the proposal be re-used by a critical part of their target user base, as identified by the proposal maker? For proposals or their parts already in operational phase: have they been re-used by a critical part of their target user base?

Name of reusable solution	- Big data analytics for policy making Study
Description	- The study investigates big data and data analytics initiatives launched by public authorities in Europe in order to provide insights. First, the study analyses the potential or added value of big data analytics to help public administrations at all levels of government and in different domains to reach their goals. Secondly, it captures valuable lessons learnt and best practices of mature public organisations to inspire peers and help them along the journey to use big data analytics and become more insight driven.
Reference	- Published on joinup: https://joinup.ec.europa.eu/asset/isa_bigdata/document/big-data-analytics-policy-making-report
Target release date / Status	- Published
Critical part of target user base	- All staff in MSs public administrations willing to launch big data / data analytics projects to support policy-

	making.
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	-

Name of reusable solution	- RTD Pilot Software Components
Description	- The software components that shall be developed or re-used as part of the RTD proof of concept implemented in phase 1 of this action will be referenced and/or made available for re-use by other actions.
Reference	- This output shall be made available through the Joinup platform.
Target release date / Status	- Q3 2016 / currently under testing
Critical part of target user base	- Scientific / research community
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	-

Name of reusable solution	- DG GROW Pilot Software Components
Description	- The software components developed under the pilot carried on with DG GROW will be made available for re-use. This will include the text mining algorithms used for the implementation of the pilot and the data visualisation module, as well as the supporting documentation.
Reference	- This output shall be made available through the Joinup platform.
Target release date / Status	- Q1 2017 / first prototype under testing
Critical part of target user base	- EC staff / Public administrations staff working dealing with implementation of EU legislation
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	-

Name of reusable solution	- VICTORY Pilot Software Components
Description	- The software components that shall be developed or re-used as part of the VICTORY pilot to be implemented in phases 2 and 3 of this action shall be referenced and/or made available for re-use by other actions.
Reference	- This output shall be made available through the Joinup platform.

Target release date / Status	- 2017 / currently under development
Critical part of target user base	- Public administrations working in the job market policy area / citizens
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	-

Name of reusable solution	- Social inclusion pilot software components
Description	- The software components developed under the social insertion pilot, which will be carried out in collaboration with the Comunidad de Madrid, will be made available for re-use through Joinup. This will include the data analytics algorithms used for the implementation of the pilot and the data visualisation module, as well as the supporting documentation.
Reference	- This output shall be made available through the Joinup platform.
Target release date / Status	- Q2 2017
Critical part of target user base	- EC staff / Public administrations staff working dealing with implementation of EU legislation
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	-

Name of reusable solution	- DG CNECT Data Analytics Service (DORIS)
Description	- The SW modules developed under the pilot carried on with DG CNECT, DIGIT and SecGen will be made available for re-use. This will include the text mining algorithms, a customisable dashboard, as well as the supporting documentation.
Reference	- This output shall be made available through the Joinup platform.
Target release date / Status	- Q3 2017/Generalisation of data analytics components ongoing
Critical part of target user base	- EC staff / Public administrations staff dealing with stakeholder engagement and consultations as well as large call for proposals and tenders
For solutions already in operational phase - actual reuse level (as compared to the defined critical part)	-

Level of reuse by the proposal

The re-use by the action of existing common frameworks and elements of interoperability solutions.

Question	Answer
Does the proposal intend to make use of any ISA[2], ISA or other relevant interoperability solution(s)? Which ones?	**Action 2016.36 - Sharing and re-use** The reusable practices and guidelines as well as the reusable software solutions delivered through this proposed action can adopt the strategy defined in Action 2016.36 in order to ensure that the outputs are shared and re-used with public administrations in Europe. **Action 2016.20 – Joinup – European Collaborative Platform And Catalogue** The Joinup collaborative platform shall be used as a means for sharing the experiences as well as the deliverables of this action with the Member States' public administrations. **Action 2016.07 – SEMIC** Reusable interoperability solutions, core vocabularies, the linked data pilots, studies (e.g. on the business value of linked data) and other resources made available through Joinup and which might be relevant to this action shall be explored and reused as much as possible in order to ensure interoperability as well as continuation of existing efforts.
For proposals or their parts already in operational phase: has the action reused existing interoperability solutions? If yes, which ones?	- To date, the Joinup platform has already been used to promote the action and publish some of its outputs.

Interlinked

The link of the action with Union initiatives to be measured by the collaboration and contribution level of the action to Union initiatives such as the DSM.

Question	Answer
Does the proposal directly contribute to at least one of the Union's high political priorities such as the DSM? If	- This action is linked to the following EU actions/policies: - - **Digital Agenda** • Pillar I: Digital Single Market pillar. Within this pillar there is an

yes, which ones? What is the level of contribution?	action that promotes government bodies at all levels: local, regional, national, European and international, to open up and disseminate the vast amounts of information that is collected as part of their tasks in order to allow for the reuse of such information as well as a means for improving transparency of organisations.
	• Pillar II: Interoperability & Standards. This pillar addresses the need for interoperability and standards as a means for allowing for data originating from different sources to be interoperable.
	-
	- This action contributes to both pillars by providing methodologies, best practises, and solutions that allow processing and visualising of vast amounts of information, thus supporting re-usability of information and interoperability.
	-
	- **COM(2014) 442:** Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. This action addresses the need to provide the right framework conditions for a single market for big data and cloud computing as a means for helping accelerate the transition towards a data-driven economy.

PROBLEM STATEMENT

The **opportunity for public service transformation is real**. Big data analytics can be an immensely powerful tool for helping organizations to learn about how they work. Traditionally, managers and public sector leaders have looked at a relatively small set of key performance indicators to assess the health and efficiency of their organisations. Digitisation has massively increased the quantity of management information available, the resolution and frequency at which it is captured, and the speed at which it can be processed. However, so far, most organisations, including EU public administrations, have been unable to consume such large data sets, despite being at their disposal either because consuming the data without the appropriate tools is too time consuming or in certain instances even not possible.

EXPECTED BENEFICIARIES AND ANTICIPATED BENEFITS

Beneficiaries	Anticipated benefits
- EU institutions - Member States public administrations (national, regional, local levels)	The development of an action which will give a background basis for the development of open-government initiatives in a coherent way will provide Member States public administrations, DGs at the European Commission, EU institutions, and European agencies at all levels with the following benefits: • A harmonised ways to manage big data resulting in more effective and informed actions by public administrations. • Support public administrations to become more modern, adaptive, responsive, dynamic, flexible organisations and meet better the expectations of their stakeholders.

	• Reach out to citizens through consideration of opinions and data sources beyond the traditional means. This will ensure a more effective process for open government activities.
	 • An increase of the efficiency, e.g. by:
	   ○ Reducing time to make the right decisions;
	   ○ Getting the right knowledge at the right time; and
	   ○ Making use of tacit knowledge to support policy making.
	 • Building cost-efficient solutions implementing the actions based on "lessons learnt" and "risks to avoid" highlighted on the framework, thus reducing the "time to market".

- - Citizens and business in Europe	• Innovate through the reuse of open source software for knowledge discovery.

ORGANISATIONAL APPROACH

Expected stakeholders and their representatives

Stakeholders	Representatives
- Interoperability solutions for European public administrations (ISA)	The ISA^2 Committee will oversee the project, with the assistance of the ISA^2 Coordination Group. The ISA unit (DIGIT.B6) is an associated service of this project, participates in the definition of requirements and guarantees continuation and exploitation of work conducted in other ISA Action and particularly Action 1.1 on semantic interoperability.
DIGIT.B4 - - Digital Business Solutions – Corporate Financial Procurement & Policy Solutions Unit -	This unit is the service in charge of this action. It will coordinate the interaction between the different stakeholders within the European Commission and MSs which may express an interest for a more active involvement in the work. -
DIGIT.B2 - Corporate knowledge and decision making solutions Unit -	This unit is the service in charge of Information System development supporting document management and corporate decision making processes. This unit an associated service of this project in the context of the execution of the pilot for briefing preparations, taking part in the definition of requirements, the development and deployment of the solution.
- DG RTD.E2	- This unit is an associated service of this project and will take part in the definition of the requirements, the performance and the guidance of the proof of concept planned to be executed in the context of research paper analysis through text mining within phase 1 of this action. -
- DG CNECT.R3 -	- This unit is an associated service of this project and will take part in the definition of the requirements, the performance and the guidance of this

- Support Systems and Tools Unit	action. This unit will liaise with other relevant units within DG CNECT. -
- DG CNECT.02 - - Knowledge Sharing Unit -	- This unit is an associated service of this project and will take part in the definition of the requirements, the performance and the guidance of this action.
- DG CNECT.F4 - - European Semester and Knowledge Base -	- This unit is an associated service of this project and will take part in the definition of the requirements, the performance and the guidance of the job vacancies pilot project (VICTORY) planned for phases 2 and 3 of this action.

Identified user groups

This action targets management and staff members of the European Union Institutions and Member States public administrations needing to leverage internal and external data to support decision-making. This includes both IT and non-technical users.
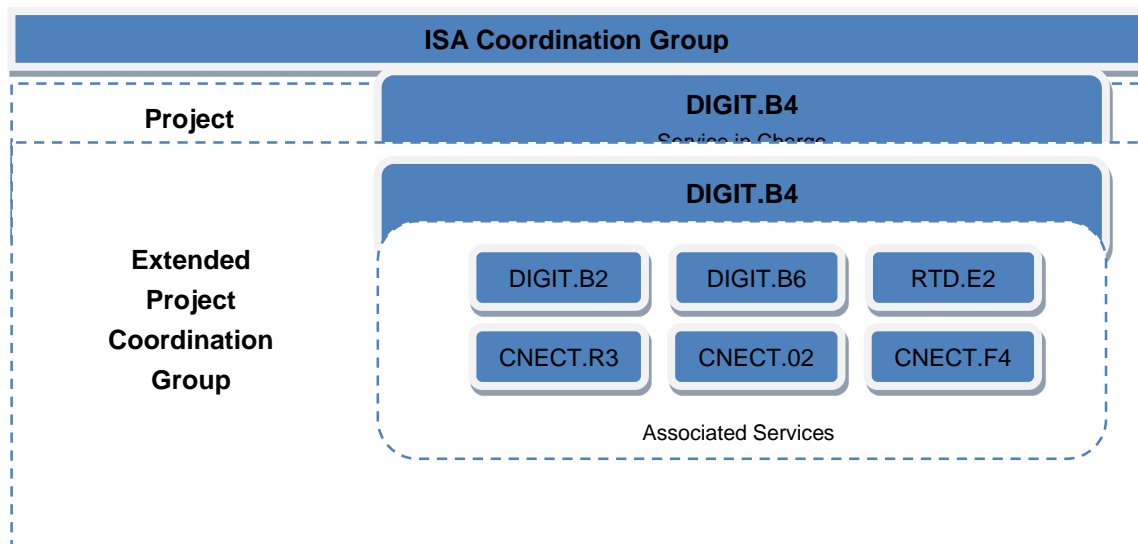
Communication plan

Event	Representatives	Frequency of meetings / absolute dates of meetings?
- Bilateral meeting with Member States	- DIGIT.B4 representatives, Member States representatives	- These are arranged by DIGIT B4 on ad hoc basis.
- Bilateral meetings with Policy DGs	- DIGIT.B4 representatives, Policy DGs representatives -	- These are arranged by DIGIT B4 on ad hoc basis. -
- Relevant conferences and events	- DIGIT.B4 representatives with any other project stakeholder	- On occasions whereby DIGIT is invited to participate in meetings organised by Member States, policy DGs etc.
- ISA Trusted - Information - Exchange Cluster	- DIGIT.B4 team members, - Stakeholder's - representatives, ISA unit	- These meetings are arranged by the - ISA unit.
Joinup	(online)	-

Governance approach

This action is part of the ISA programme and therefore it follows the ISA governance structure with the action reporting back to the Member States' representatives pertaining to the ISA working groups.

This action will actively involve all associated services at each of the different stages. The governance structure for this action is depicted in the diagram below.

In order to achieve its objectives this project will work closely together with primarily identified associated DGs to better define the business needs and challenges, bearing in mind the need of potentially other services in order to come up with generic and extendable software solutions.

Particular attention will be given to the coordination activities in order to ensure a successful undertaking of the different activities.

TECHNICAL APPROACH AND CURRENT STATUS

During 2015 this action focused on the execution of a **landscape analysis** in Europe, in the areas of big data. The analysis assesses current good practices including an assessment of tools and solutions used as well as the identification of future plans in Member States and EU institutions and their relations to policy actions.

The purpose of the analysis, which has been defined as **Phase 1** of the action, is to:

- identify the **requirements and challenges** public administrations in Europe are confronted with in the area of big data and identify opportunities;

- identify **best practices** by public administrations and/or organisations which could be used as **lessons learnt** including an assessment of the **tools and solutions** that these best practices have implemented;

- identify **synergies** and **areas of cooperation** with the **policy DGs** and the **MSs** in the big data domain;

- execute a **proof of concept** that showcases the use of big data in the EC research domain, in cooperation with DG RTD, in order to prove the usefulness and policy benefit that big data can bring. This proof of concept shall demonstrate the use of text mining techniques used on large amounts of unstructured research papers as a means of identifying areas of interest overlap that a particular research area should consider prior to launching calls for grants;

- identify **areas of interests** whereby the ISA^2 programme and its proposed successor could have an **active role in launching initiatives** for enabling **practical concrete implementations** that will answer the requirements of the public administrations in Europe**.**

- The work performed during 2015 shall be continued in 2016 and 2017, through phases 2 and 3, in order to ensure that the benefits of using big data in different policy areas are continued and further explored. The following are the planned phases and the respective planned activities:

- **Phases 2 and 3** shall be composed of **3 tracks** each:

- **Track 1**: continue with the identification of **further opportunities and areas of interest** whereby the use of big data could help **improve working methods** as well as ensure **better policy making**. These efforts shall be done in close **cooperation** with both policy DGs as well as with Member States' public administrations and shall cover the further **assessment of not only tools and solutions but also standards and vocabularies** that are identified to be mature enough to be considered as potential enablers to be reused by either MSs or Commission Services;

- **Track 2**: continue the implementation of already identified pilots through **generalising the developed functionalities** and thus **extending** its use to **policy agnostic contexts** in order to maximise the benefit and return on investment of the proposed solution. This track shall also ensure that further analysis of the needs derived from these pilots is performed and that further functionality is provided whereby future potential of generalisation and re-use is identified.

- **Track 3**: launch a **new wave of pilots** in specific domains which hold a **potential** of later being **generalised** and **scaled-up** to be made available to different services **agnostic of their specific policy area**. The following are a number of potential areas of interest that could be explored:

  o Business cases identified through the work executed by DG CNECT.02 titled 'Big data and other innovative data-driven approaches for evidence-informed policy making'.

  o Monitoring of legislative transpositions

  o Support preparation of briefings by providing the appropriate references to related material and documentation. This activity shall be done in cooperation with DIGIT.B2.

  o Analysis of open procurement data using data analytics tools for the early detection of actual or prospective anomalies.

COSTS AND MILESTONES

Breakdown of anticipated costs and related milestones

Phase: Initiation Planning Execution Closing/Final evaluation	Description of milestones reached or to be reached	Anticipated Allocations (KEUR)	Budget line ISA/ others (specify)	Start date (QX/YYYY)	End date (QX/YYYY)
Execution	Phase 2.1 D.1.- MS and EC requirements assessment D.2.- Inventory of tools and solutions, standards and vocabularies available for reuse	100	ISA^2	Q2/2016	Q1/2017
	Phase 2.2 D.3.- Specification definition D.4.- Generalisation of core platform and	250	ISA^2	Q2/2016	Q1/2017

	modular components D.5.- Extension of core and modular components in the context of the pilots				
	Phase 2.3 D.6.- Pilot requirements assessment D.7.- Specification definition D.8.- Implementation of core and modular components in the context of the pilots	250	ISA[2]	Q3/2016	Q1/2017
Execution	Phase 3.1 D.1.- MS and EC requirements assessment D.2.- Inventory of tools and solutions, standards and vocabularies available for reuse	100	ISA[2]	Q2/2017	Q1/2018
	Phase 3.2 D.3.- Specification definition D.4.- Generalisation of core platform and modular components D.5.- Extension of core and modular components in the context of the pilots	241	ISA[2]	Q2/2017	Q1/2018
	Phase 3.3 D.6.- Pilot requirements assessment D.7.- Specification definition D.8.- Implementation of core and modular components in the context of the pilots	250	ISA[2]	Q3/2017	Q1/2018
-	- **Total**	- 1191	-	-	-

Breakdown of ISA funding per budget year

Budget Year	Phase	Anticipated allocations (in KEUR)	Executed budget (in KEUR)
- 2016	- Execution	- 600	-
- 2017	- Execution	- 591	-
- 2018	-	-	-
- 2019	-	-	-
- 2020	-	-	-

ANNEX AND REFERENCES

Description	Reference link	Attached document
- A vision for Public Services	- http://ec.europa.eu/digital-agenda/en/news/vision-public-services	-
- Data for Policy - A Study for big data and other innovative data-driven approaches for evidence-informed policy making	- http://www.data4policy.eu/	-