

**15<sup>TH</sup> MEETING OF THE  
EUROPEAN STATISTICAL SYSTEM COMMITTEE**

**LUXEMBOURG, 15<sup>TH</sup> NOVEMBER 2012**

**Item 6 of the agenda**

*ESS VIP Programme*

## **EXECUTIVE SUMMARY**

### **1. RECOMMENDATION FOR ACTION BY THE ESSC**

The ESSC is invited to express its opinion on the:

- goal and the strategic direction of the Programme;
- content (set of concrete projects) and proposed prioritisation and approach to their implementation;
- governance mechanism;
- next steps for The Programme elaboration;
- ESS nets for 2013 as provided in Annex III.

### **2. BACKGROUND AND BRIEF HISTORY**

The ESS VIP programme aims at developing a common ESS infrastructure and appropriate legal framework and new administrative mechanisms that will allow for sharing of information, services and costs among ESS partners, based on better integrated processes. It covers a 5 years period starting from 2013.

The ESS VIP Programme will consist of concrete projects which will move the ESS towards a more efficient system in a coordinated way. The projects will be organised in two main strands:

- Technical cross cutting projects that focus on building a common ESS infrastructure for sharing data and services;
- Business (domain oriented) projects that realize the sharing of information, services and costs in individual statistical domains;

The successful implementation of the ESS VIP Programme depends also on a set of frameworks (legal, financial, human resources). Therefore, in parallel to the domain-oriented and technical cross cutting projects work on the development of appropriate legal framework and administrative mechanisms allowing for sharing services and costs should be launched.

The Programme builds upon the results from the internal Eurostat Vision Implementing Projects (VIPs) and ESSnet projects, launched after the adoption of the Communication on "The new production method of EU Statistics: a vision for the next decade" in 2009. The term "ESS-VIPs" was introduced to emphasize that the Programme combines those two streams of projects conducted so far.

The need for streamlining Vision implementation was discussed and supported by the MS at the last DIME meeting in March 2012. In May 2012 Eurostat presented to the ESSC annual report on the activities of ESSnet projects and the proposal for the ESSnet actions to be carried out in 2013 (the concrete actions, in line with the ESS VIP programme, are presented in Annex III). ESSC welcomed the idea to move from a bottom-up approach leading to the proliferation of projects and piecemeal results towards a more consistent approach based on a shared conceptual framework (Enterprise Architecture). Further on, at the back to back ESSC seminar in May 2012, Eurostat presented for discussion four strategic directions for the implementation of the Joint Strategy and listed a set of potential projects for building up a common ESS infrastructure and more common solutions in different statistical domains.

Following the goal of streamlining and concentrating the efforts on the building up of a common ESS infrastructure, Eurostat decided to concentrate on a few projects that will bring high value added to the Vision implementation and deliver in a reasonable period of time. The short listed projects were organised in a Programme in order to ensure the accomplishment of the final common goal.

In September 2012, at the High Level Group and at a dedicated DIME Steering Group meeting including ITDG and the members of Sponsorship on Standardization, Eurostat presented the state of play of the preparation of the ESS-VIPs Programme, underlining the continuity with on-going initiatives (ESSnets and VIPs). The first reaction was positive and it was agreed that the Programme has the potential to help the ESS to work more efficiently, with a more specialisation and integration. However some important issues around budget, governance and monitoring still need to be clarified and the Program should not be overambitious considering short term resource constraints. One of the main issues to be resolved is to elaborate a framework allowing sharing of costs.

Elements of the ESS VIP program have been discussed extensively at various meetings. The two of the ESS VIP projects, namely the SIMSTAT project for exchange of micro data in the international trade in goods and the Common Validation Policy project were discussed and endorsed by the ESSC in May 2012. Others, i.e. Administrative Data Sources that are in preparatory phase have involved the MS in the preliminary discussions on the potential scope and goals of the project through their corresponding Subject Matter Directors and Working Groups.

### **3. POLICY CONTEXT**

The proposed ESS VIP Programme is a response to the challenges that the European Statistical System is currently facing. The ever-increasing demand for statistics combined with a simultaneous request for reduction in the burden posed by data collection, substantial cuts on the financial and human resources in the ESS accompanied with rising needs for measuring cross-cutting and complex phenomena, are among those challenges that are well known but must not be underestimated.

The ESS VIP programme contributes to the achievement of the overall goal of the Commission Communication (COM (2009) 404) on the Production method of EU statistics: A Vision for the next decade. It is an indispensable part of the European Statistical Programme 2013-2017 and contributes to the objective of putting in place a more integrated production system of European statistics aimed at efficiency gains. The ESS VIP Programme has also a direct link with the work within HLG-BAS Group.

The Programme is a continuation of the efforts made so far to modernise the production and dissemination of European statistics. It seeks to realise economies of scale and productivity gains through moving towards more common solutions and shared services and environment including sharing costs as appropriate. Only in this way will the ESS partners be able to meet growing challenges under budgetary constraints.

### **4. CONSEQUENCES FOR NSIs**

The expected overall benefits of the ESS VIP Programme are productivity gains and improvements in quality across the whole ESS. When fully implemented, the Programme will bring better

allocation of tasks across the vertical production chain through avoiding duplications and redundancies.

The realisation of the technical cross-cutting projects will lead to the development of key elements of common ESS infrastructure, such as adoption of common data standards, catalogue and platform of shared services, network for exchange of data that in turn will produce efficiency gains and will facilitate quality improvements. In addition to the overall benefits of the Programme each of the constituting projects will bring a set of concrete benefits.

Certainly a cost-benefit analysis should be applied to each of the projects proposed to be components of ESS VIP Programme. At this stage of the preparation of the Programme a number of actions in the individual projects are by necessity exploratory in character. Therefore, the estimations of concrete costs and benefits that each of the project will bring will be possible as soon as the business cases are well elaborated.

## **5. OUTSTANDING PROBLEMS**

The key challenge for the Programme is to ensure successful implementation of more common solutions in the individual statistical domains such as external trade in goods and national accounts, whilst ensuring that resulting technical solutions could be used in other domains and across the countries. The milestone in the implementation of the programme is to ensure timely deliveries from the technical cross-cutting projects that are the necessary inputs for the running business ESS VIPs. Given the diversity of national statistical environments and infrastructures, the programme will have to be implemented in a flexible way which will take on board the specificities of each country. Having in mind the current situation of limited resources for investment the planning of funds should be very precise allowing for using the appropriate mix of financial instruments for achieving the Programme goals.

## **6. RISK ASSESSMENT**

If the ESS VIP program is not launched and designed in a manner ensuring concrete results in individual statistical domains that are enough generic to be applicable in a broader context, the ESS will find difficulties to meet rising demands for information under severe budget constraints.

## **7. NEXT STEPS**

The preparation of a more concrete outline of the ESS VIP programme will continue in the next six months in close collaboration with all ESS partners. The elaborated outline of the Programme will be presented for opinion at ESS in May 2013.

## *ESS VIP Programme*

### **1. Introduction**

The ESS VIP programme is a response to the challenges that the European Statistical System is currently facing. The ever-increasing demand for statistics combined with a simultaneous request for reduction in the burden posed by data collection, substantial cuts on the financial and human resources in the ESS accompanied with rising need for measuring cross-cutting and complex phenomena, are among those challenges that are well known but must not be underestimated. Recent experience has shown that doing less, which means reducing or discontinuing the production of certain statistics, has brought limited results so far.

Today there is no other option than to search for synergies and common solutions, shared assets, services and tools, make maximum use of multiple data sources and existing interdependencies within the ESS. Improvements in the efficiency of current production system of European statistics are essential. Enhanced collaboration within ESS based on a sound distribution of roles and tasks between its members while ensuring the high quality of statistics is needed.

In the past couple of years, the European statistical community has greatly increased its efforts to make the system work better and to respond to the challenges. Already in 2006, the 92nd DGINS conference in Cracow discussed a series of proposals concerning the ESS and its way of working following the EU expansion from 15 to 27 Members states. The Cracow Action plan was adopted and it gave a new momentum to the further development of the ESS partnership and cooperation in most areas. As an outcome, new legal and governance frameworks of the ESS were put in place, the implementation of Code of Practice was accelerated, the process of compliance monitoring was elaborated and the resource management and programming was improved.

In 2009, the Commission adopted Communication "The Production method of EU statistics: a vision for the next decade" that envisages an ambitious reform of the ESS statistical production system that builds upon and is a natural consequence of the Cracow/Hague Action Plan. The Communication was successfully transformed into a Joint ESS Strategy in May 2010 and a number of actions and projects have been undertaken to implement it. New instruments of co-operation among the ESS partners were introduced, notably the ESSnets (cooperation networks at operational level) and Sponsorships (co-operation at management level) that allow for a group of member states to work together for the benefit of the whole ESS. In 2010, the priority setting approach to European statistics was renewed and periodical screening introduced. The aim was to identify legal acts to be repealed, data collections based on gentlemen's agreements to be stopped and areas to be simplified and to be reduced, without undermining users' needs and hampering the quality of statistics produced.

The proposed ESS VIP Programme is a continuation of the efforts made so far to modernise the production and dissemination of European statistics. It seeks to realise economies of scale and productivity gains through moving towards more common solutions and shared services and environment including sharing costs as appropriate. Only in this way will the ESS partners be able to meet growing challenges under budgetary constraints.

## 2. Background

The ESS VIP program implements the principles and ideas for a future European statistical system laid down in the Communication (COM (2009) 404) on the production method of EU statistics: a vision for the next decade. In the future, ESS should be able to continue to produce high quality statistics with fewer resources and to be responsive to the new statistical demands while not imposing additional burden to the respondents. To meet these requirements the ESS system should include opportunities to:

- exchange data, including micro data among NSIs and Eurostat and use them for compiling statistics (Data Schengen within ESS). The exchange of information will be conducted via secured network exchange following common data standards and protocols for sharing information;
- base the exchange of information inside the ESS on a network of data warehouses and common ESS data warehouses. The ESS data warehouses will comprise data collected from multiple sources and will allow for their combination in serving a multiplicity of users' needs. They will function at both production and dissemination levels and will be accessible by ESS producers, users, and other partners according to different level of accessibility;
- share services that cover the whole production chain of European statistics (e.g. validation, seasonal adjustments);
- use more coordinated and consistent set of business (including groups) registers that will be the backbone of the production of statistics on business, people and environment.
- to use common methodologies to access and combine data sources accompanied by common quality assurance framework;
- use an appropriate legal framework and administrative mechanisms for sharing costs on common solutions and for utilising the capacities of individual NSIs for the benefit of the whole ESS.

The system that provides the opportunities described above presents a more integrated ESS that allows for production efficiencies and improvements in the quality of European statistics. To identify where the ESS wants to go is a first critical step, but to define how the ESS will reach its goals is a second and not less important step. The ESS needs to set up a roadmap towards an "integrated" system for European Statistics and selected national purposes, founded on:

- subsidiarity;
- common infrastructure;
- minimum standards for using the shared elements of the system.

The roadmap towards a more integrated ESS should be based around two key elements: information and processes.

Information (data, metadata, classifications accounting standards) will be a shared asset and information flows should be optimally organized in the system. This requires developing protocols for sharing information, i.e. a common set of policies, procedures, and standards governing data management and access, including confidentiality issues and access to administrative data. The principle of data sharing will continually "bump up against" the principle of data security. Under no circumstances will the data sharing principle causes confidential data to be compromised and adequate solutions should be designed in this respect.

As regards processes, the future statistical production will consist of a set of standardized sub-processes/services such as data collection, data validation, seasonal adjustment which are based on modular tools which can be shared and re-used in different statistical domains within the ESS. The implementation of this principle will allow for the development of common IT solutions and for better reallocation of tasks and functions within the ESS. Annex I shows graphically both the current situation and the envisaged future of the ESS.

### **3. The ESS VIP Programme**

#### **3.1. The overall goal**

The ESS VIP programme aims at developing a common ESS infrastructure and appropriate legal framework and new administrative mechanisms that will allow for sharing of information, services and costs among ESS partners, based on better integrated processes. It covers a 5 years period starting from 2013.

When fully implemented the Programme has the potential to:

- streamline the processes associated with the processing and dissemination of European statistics.
- deliver productivity gains and improvements in quality of statistics;
- reduce administrative burden for both respondents and NSIs;
- increase transparency and accountability of European statistics.

The ESS VIP programme contributes to the achievement of the overall goal of the Commission Communication (COM (2009) 404) on the Production method of EU statistics: A Vision for the next decade. It is an indispensable part of the European Statistical Programme 2013-2017 and contributes to the objective of putting in place a more integrated production system of European statistics aimed at efficiency gains. The ESS VIP Programme has also a direct link with the work within HLG-BAS Group.

The Programme builds upon the results from the internal Eurostat Vision Implementing Projects (VIPs) and ESSnet projects, launched after the adoption of the Communication on "The new production method of EU Statistics: a vision for next decade" in 2009. The term "ESS-VIPs" was introduced to emphasize that the Programme combines those two streams of projects conducted so far.

#### **3.2. The content**

To achieve efficiency gains and improvements in quality through an enhanced collaboration, certain key enablers need to be put in place. These include the basic building blocks of common infrastructure that allows for exchange of information and sharing of services. For example, the network infrastructure is the backbone for data and metadata exchange as well as for the full deployment of ESS common services dealing with data. Agreed Data and metadata models and standards are prerequisites for the implementation of any project that contains information exchange. The definition of the future ESS data warehouse architecture is also a prerequisite for the implementation of projects that include data sharing activities. All these prerequisites and building blocks of a common ESS infrastructure for data exchange and sharing services have to be realised through an appropriate set of projects.

The ESS VIP program has rather medium-term to long-term focus. However some short-term results can be produced if a more gradual approach is implemented starting with individual

statistical domains. In the selection of the statistical domains in which to implement the enhanced collaboration based on sharing information, services and tools a priority should be given to the domains where there is already a background for common solutions and where the potential for achieving efficiency gains is high.

Consequently, The ESS VIP Programme will consist of concrete projects that will be organised in two main strands:

- Technical cross cutting projects that focus on building common ESS infrastructure for sharing data and services;
- Businesses (domain oriented) projects that pilot and realize the sharing of information, services and costs in individual statistical domains.

The successful implementation of the ESS VIP Programme depends on a set of frameworks (e.g. legal, financial). Therefore, in parallel to the domain oriented and technical cross-cutting projects, work on the development of appropriate legal framework and administrative mechanisms allowing for sharing services and costs will be launched. Without setting the general framework conditions for the programme, it will not be possible to secure its success. The question of how to organise the work devoted to developing frameworks is still under discussion.

The following five technical cross-cutting projects have been identified at this stage that will build the building blocks of a common ESS infrastructure:

- Information models and data standards;
- Network for information exchange;
- Data warehouses reference architecture;
- Platform for shared services.
- Architecture for data validation;

Table 1 in Annex II provides a more detailed description of the technical cross—cutting projects.

The ESS VIP programme suggests starting implementing the principles of sharing information, services and costs among ESS partners in seven concrete statistical domains and business processes:

- Administrative Data Sources;
- National Accounts (National Accounts Production-Service project);
- Price and Transport Statistics (PRIX and TRIX Data warehouses project);
- Business registers (European system of Interoperable Statistical Business Registers project-ESBRs);
- International trade in goods (SIMSTAT project);
- ICT statistics (statistical production and dissemination based on shared services);
- Common Data Validation Policy.

In two of the above mentioned individual areas – international trade in goods and data validation concrete projects were discussed and endorsed by the ESSC in May 2012. In the area of business registers substantial results have been obtained in the frame of ESS nets projects that produce good basis for searching more opportunities for sharing data among business registers and implementing shared e-services across the production chain. In other areas, i.e. Administrative Data Sources, national Accounts Production, Price and Transport Statistics the projects are in preparatory phase with the active involvement of the MS. Table 2 in Annex II provides a more detailed description of the business (domain oriented) ESS VIPs projects.

The key characteristic and value added of the ESS VIPs Programme is that it combines specific business cases in concrete statistical domains with the development of the common ESS infrastructure. At the same time, to integrate the proposed seven domain oriented ESS VIPs projects and the technical cross-cutting projects appear to be a key challenge for the Programme implementation. On the one hand the business ESS VIPs depend on the results from the technical cross-cutting projects and, on the other hand, they will define business requirements for the underlying infrastructure for exchange of data and sharing of services. Figure 3 in Annex I illustrates the dependencies of those two strands of projects.

### **3.3. The implementation**

The ESS VIP Programme can be implemented through the following scenario:

- To continue the three domain-oriented ESS VIPs that are the most mature and where there is high potential for achieving concrete results through more common solutions. These include (ESBRs, SIMSTAT, Common Data Validation Policy);
- To strengthen the business cases in collaboration with the MS for the remaining domain oriented ESS VIPs in the coming months;
- To start without delay the development of the technical cross cutting projects with a particular priority of those elements that appear inputs for the domain-oriented projects.

The proposed approach to the implementation of the Programme contains several advantages. It:

- produces short-term benefits;
- provides a smoother transition to future common solutions;
- ensures MS involvement in all dimensions;
- foresees a more gradual investment path.

The challenge in the implementation of the Programme is to ensure timely deliveries from the technical cross-cutting projects that are the necessary inputs for the running domain oriented ESS VIPs. At the same time, it is essential to ensure that the common solutions and supporting frameworks developed for individual statistical domains such as international trade in goods and national accounts are generic enough to be further deployed in other domains. To mitigate the risk of continuing work in silos, the ESS VIP projects have to be run with a constant monitoring of the

interdependencies among them and the necessary set actions to be undertaken to ensure their consistency with the overall Programme goal.

An alternative approach is to give priority to all technical cross-cutting projects and to the work on supporting frameworks and administrative mechanisms and to postpone the domain-oriented ESS VIPs until the cross-cutting projects yield their results. This approach however is not recommended because it will result in the loss of business requirements, and in lack of tangible results in the next couple of years. It also requires substantial investment in the first years and involves high implementation risk.

The participation of the MS in the ESS VIP program will be supported by using the existing financial instruments. During the next six months, the future organisation, governance structure and the resources of the ESS VIP Programme will be set up.

#### **4. Benefits for the ESS**

The expected overall benefits of the ESS VIP Programme are productivity gains and improvements in quality across the whole ESS. When fully implemented, the programme will bring better allocation of tasks across the vertical production chain through avoiding duplications and redundancies.

The realisation of the technical cross-cutting projects will lead to the development of key elements a common ESS infrastructure, such as adoption of common data standards, catalogue and platform of shared services, network for exchange of data that in turn will produce efficiency gains and will facilitate quality improvements. The technical cross-cutting projects will gradually improve the efficiency and agility of the system regarding the exchange of information and the sharing of services reducing IT development and maintenance cost and realising economies of scale.

Certainly a cost-benefit analysis should be applied to each project proposed to be a component of the ESS VIP Programme. At this stage of the preparation of the Programme a number of actions in the individual projects are by necessity exploratory in character. Therefore, the estimations of concrete costs and benefits that each of the project will bring will be possible as soon as the business cases are well elaborated. The difficulties that will accompany the cost-benefit analysis should not be undermined. It is hard to assess the costs of production and dissemination of statistics due to different methodologies applied across the MS as well as to the problems of differentiating between European and national shares in the costs. Therefore a realistic and not overambitious approach to the costs benefit analysis should be applied.

In addition to the overall benefits of the Programme, each of the constituting projects will bring a set of concrete benefits. In particular:

- The definition of an agreed "minimum" data quality standard" in the Common Data Validation Policy ESS VIP will enhance transparency in quality assessment and lead to efficiency gains in the vertical production chain from MS to Eurostat.
- The Administrative Data Sources project involves a pilot component to get access to the administrative registers that when realised will reduce both the respondents and the NSIs burden in data collection. Similar set of benefits related to reducing response burden and optimising production costs will be provided by the SIMSTAT project on the exchange of micro-data on international trade on goods.

- The ESBRs project on a European system of interoperable statistical business registers will put business registers in the centre of European enterprise statistics, thus improving consistency and facilitating data integration across domains and countries.
- The project on ICT statistics which will elaborate on the Census HUB architecture will propose a new approach to the production and dissemination process in this domain based on service architecture with a potential for generalising the developed solutions to other similar processes of statistical data production. In this way the Information society statistics project has a medium and long-term perspective in which the long-term gains will outweigh short-term investments. The infrastructure based on services that will be created where the data will be stored, managed and accessed at the most appropriate level within the ESS will minimise redundancies and will create synergies throughout the production and dissemination chain.

## 5. ESS VIP Programme Governance

The success of the ESS VIPs Programme highly depends on the commitment of the ESS as a whole as well as on the way the related collaborative work is going to be organised in the ESS. The governance issue for such a broad range of initiative is challenging. Different actors will play different roles in the Program governance that are compatible with their position in the ESS governance structure, at both the programme and project level. These arrangements will have to duly take into account the complexity of the programme components to ensure meaningful set of rules for efficient governance, building as much as possible on already existing governance mechanisms in place in the ESS. Furthermore, it is also essential to ensure the overall co-ordination of the programme and to avoid the re-building of statistical production in silos.

A preliminary analysis suggests the following ESS VIP governance levels and functions:

### At Programme level

The overall ESS VIPs Programme coordination at ESS level has to be ensured at the Directors General level. Their decisions will be based on the input from the DIME and ITDG. The ESS Committee will be the ultimate decision maker on the ESS VIPs Programme. It will be in charge to define and enforce the strategic goals and to monitor the overall progress.

It is essential to use the full potential of the NSIs to elaborate further the Programme and to oversee during its implementation the consistency of the various projects developments with the overall Programme goal. At the level of DGs, the sponsorship group mechanism has proven to be a successful form of co-operation in identifying strategic directions for ESS development. The idea for establishing a Sponsorship group on ESS VIP Programme that will take in duly consideration the outcome of the Sponsorship on Standardisation needs to be discussed.

### At Project level

To take due stock of their intrinsic complexity, the guidance of the projects will be based on three pillars:

- domain(s) specific contribution by the Groups of Directors concerned;
- insight on the technical cross-cutting projects by DIME and/or ITDG in the most appropriate configuration;

- advice and/or recommendations by an Enterprise Architecture mechanism relevant at this level.

#### At Operational level: Project Teams

At technical level, dedicated task forces with Member States and the relevant working group(s) will be the reference actors. The composition of these project teams enables them addressing project specific work packages while at the same time corporately dealing with the relevant horizontal cross-cutting issues.

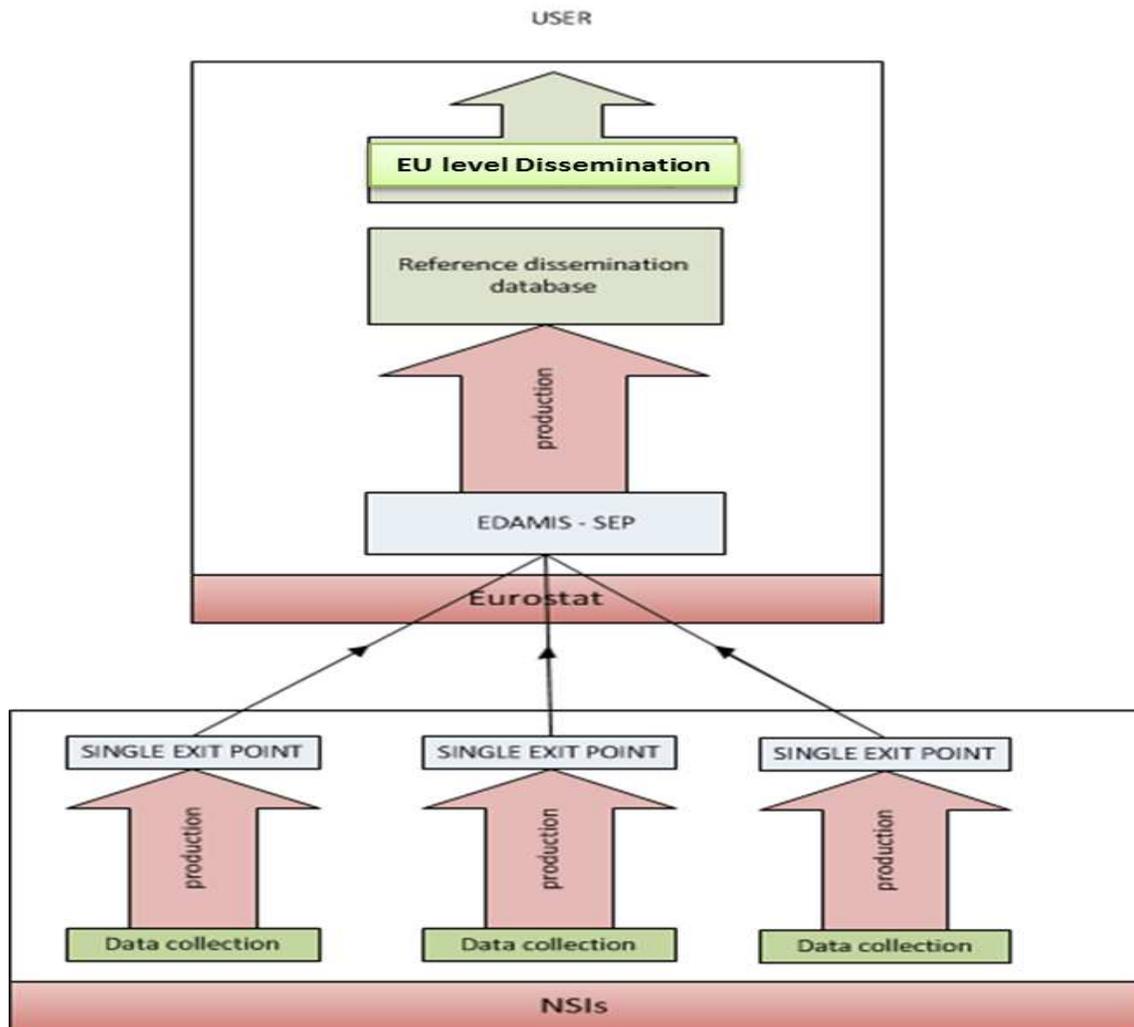
## **6. Conclusion**

The proposed outline of the ESS VIPs programme as a set of business case projects and technical cross-cutting projects should be taken as a basis for discussion and decision on the priorities within the programme together with reasonable estimates of resources needed. The ESSC is invited to provide feedback and to have a first discussion on:

- the goal and the strategic direction of the Programme,
- content (set of concrete projects) and proposed prioritisation and approach to their implementation;
- the governance mechanism
- next steps for The Programme elaboration.

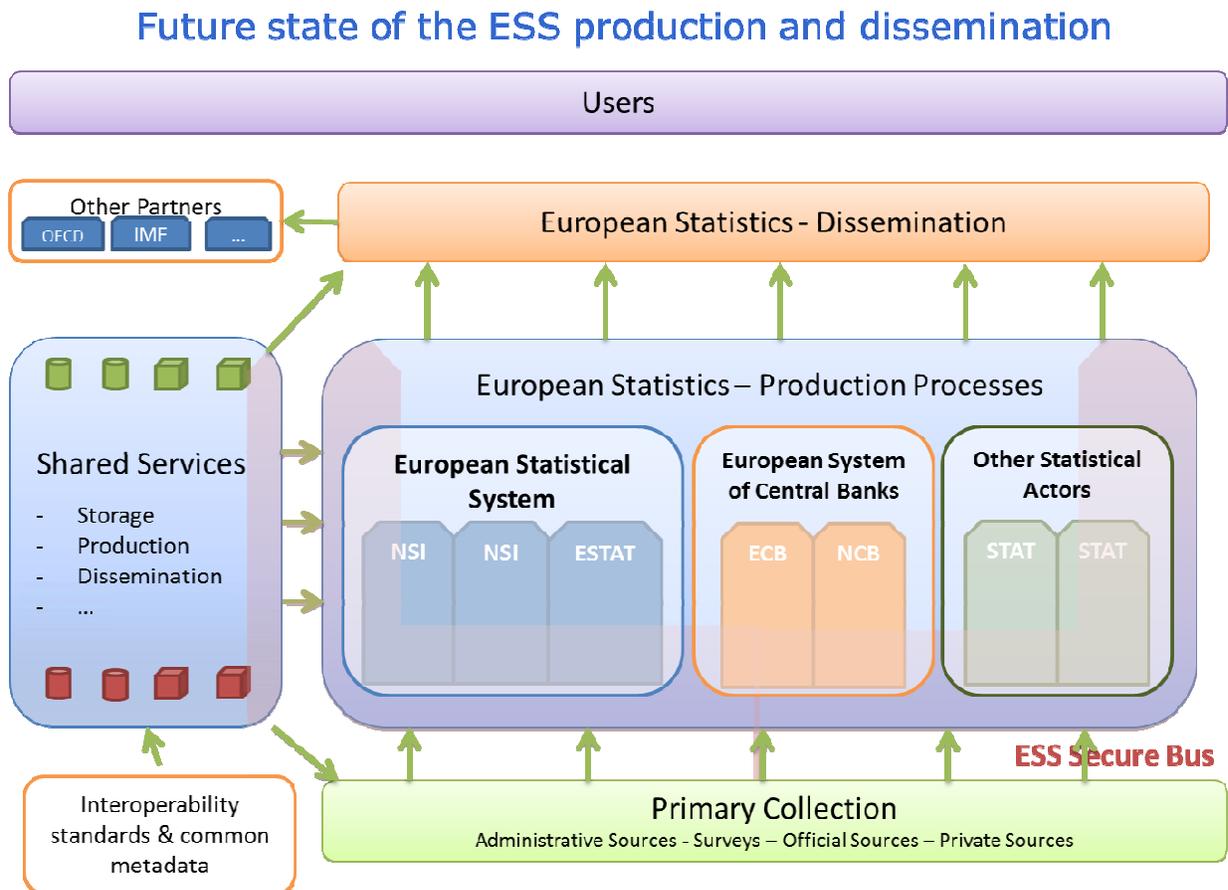
## ANNEX I

**Figure 1: ESS Architecture, current situation**



In order to produce European statistics, Eurostat compiles the data coming from individual NSIs and this is organised domain by domain. The data are sent by the Member States in 'push' mode to the single entry point in Eurostat (using EDAMIS). The data are then processed (validated, aggregated, etc.) and disseminated via a reference and dissemination database.

**Figure 2: Future state of the ESS production and dissemination**



**Figure 3: Dependencies between domain oriented ESS VIPs and technical cross projects**

ESS VIP vs Cross cuttings	Information models	Network	Data warehouses	Shared services	Validation architecture
SIMSTAT					
ESBRs					
ICT					
DW PRIX & TRANS					
NAPS_S					
ADMIN					
Validation policy					

Contribute & Use     
 use     
 Contribute

## ANNEX II

**Table 1: Technical cross-cutting projects**

Project	Description
INFORMATION MODELS	<p>Interoperability of processes and information systems requires that the structure and the status of the information produced and transferred is described. Common information models need to be agreed among stakeholders. The information models are also necessary for all the other technical cross cutting projects (NETWORK), storage of shared data (DATA WAREHOUSE) and sharing as well as development of service (SHARED SERVICES).</p> <p>The current data and metadata model standard (SDMX) provides a limited solution mostly focusing on tabular data exchange. There is no commonly agreed standard supporting other information flows like frequent exchanges of a small amount transaction data (SIMSTAT, EGR), periodical high volume like micro data files data exchanges and sharing (Validation, ICT), interconnection and automation of services (Service architecture). The status and the role of standards like DDI or the 'Bank of Italy's CUBE in the future ESS architecture need to be clarified. The GSIM, under development at UNECE level, will provide a framework to describe information elements involved in the various ESS VIPs and facilitate their standardisation.</p>
NETWORK FOR INFORMATION EXCHANGE	<p>The current STATEL/EDAMIS network infrastructure conceived in the 80ties will have to be upgraded to support new business requirements of the domain oriented ESS VIPs. It has to be uplifted to provide facilities for sharing and reuse of (existing) components and services. Opportunities of to reuse a European secured network that exists or is under development should be studied carefully and tested with MS. Migration path should provide a solution for a more intense multi-directional data flows for a remote access to confidential data for research purposes and finally for a full integration of the shared services and data warehouses of different ESS partners in the network.</p>
DATA WAREHOUSES REFERENCE ARCHITECTURE	<p>An ESS strategy for data &amp; metadata management needs to be set up. It includes a high level model describing the way the information will be stored and organized at ESS/Eurostat/Partner level in view of its dissemination to users and reuse across different processes and stakeholders. A staged development of the data/metadata management architecture balancing development in Member States and in Eurostat as well as on different architectural layers needs to be designed.</p> <p>Activities will aim at improving and extending the current infrastructure for EU data and metadata storage and access and provide functionalities and infrastructure for storing and sharing data and metadata during production process. The common dissemination infrastructure will be upgraded to integrate a new mode of dissemination based on the HUB/Pull approach</p>
PLATFORM FOR SHARED SERVICES	<p>A Service Oriented Architecture (SOA) and related governance allowing for sharing of services across processes in a secure network/bus infrastructure. SOA provides a technological solution for industrialisation and integration of processes and the rationalisation of information systems. SOA platforms provide facilities to register common services and orchestrate them. WEB services provide a solution for sharing of services on the public network (internet) for non-confidential data. In combination with the Eurostat SICON infrastructure, they will enable remote processing of confidential data. A prerequisite for a service oriented approach is to model business processes at the right level to enhance the reusability of services.</p>
VALIDATION ARCHITECTURE	<p>The cross cutting activities aim at designing and maintaining the validation architecture and a complete set of building blocks to provide complete solution to business requirements. Validation services are to be provided for the basic validation of statistical data linked to the current file transfer architecture. Other type of validation services are to be developed for EGR, ICT, SIMSTAT, NAPS, ADMIN. The whole validation architecture should be coherent and solutions adapted to the business requirements of domain oriented ESS VIPs.</p>

**Table 2: Business (domain oriented) ESS VIPs**

Business ESS-VIPs	Description
ADMIN	<p><b>Administrative Data Sources</b></p> <p>The project aims at supporting Member States to realise the known benefits of an increased use of administrative data sources and at providing common approaches to combat the known deficiencies inherent in an increased use of administrative data sources. Consequently, the project would foster common processes and common quality standards. In order to ensure delivery of results, only data from administrative sources in the strict sense are considered in the scope of this project. An expansion to commercial data, electronic footprints or other non-statistical sources can be envisaged at a later point in time. It is the aim, however, to arrive at solutions that can be applied to all transformations of administrative data to statistics, regardless of the respective domain of statistics (social, business, agriculture, etc.). In order to achieve this, the specificities of all statistical areas need to be taken into account. The project also includes a pilot initiative in order to get access to administrative data already collected by the Commission services. Eurostat and MS could benefit a great deal of this initiative, which could be exported to other domains.</p>
NAPS-S	<p><b>National Accounts Production System – Services</b></p> <p>The objectives of the project are firstly to deliver an industrialised National Accounts (NA) production system for Eurostat that is built in line with the principles of service oriented architecture and can serve as a general pilot for production systems in a time series context. Secondly, the project shall deliver a framework for sharing tools and methods in the ESS and to subsequently use this framework for the development of a new generation of Information Systems in Eurostat and in the MS. Technical developments of standards to date have reached a good stage for exchanging (more or less final) data between organisations and countries (SDMX). The second objective of this project is about communication between components of production systems in order to enable the ESS to use resources and services of other partners. With other words, modules developed in Eurostat (e.g. validation of NA data or seasonal adjustment and temporary disaggregation), by Member States (or other partners) are made available via the web and “wrapped” in a way that they can securely be used in the ESS without having to change legacy system of the using party and by keeping the initial adaptation effort to a minimum.</p>
ESS DW	<p><b>ESS Data Warehouses – PRIX (price statistics), TRIS (transport statistics)</b></p> <p>The Common ESS data warehouse project aims to provide the framework for the establishment of a data warehouse infrastructure for the compilation of European Statistics. The project relies on the existing advancements and studies in this area and on the practical test implementation in two statistical domains: price and transport statistics. The concept of data warehouse is at the very heart of the Vision: each statistical collection of data is not done for its own specific purpose but to provide basic statistical information to be used and re-used for different purposes (basic information is combined and packaged according to users' needs). In addition, an extended data warehouse approach, covering the relevant statistical domains, is the cornerstone for a fully integrated system of European Statistics capable to exploit the synergies between different areas and to offer cross-domains views of economic/social phenomena.</p> <p>The concrete application to two specific domains (price – PRIX - and transport statistics - TRISDW) will allow for a real assessment of the potential and of the limits of a general data warehouse approach (common data warehouse, a network of interconnected data warehouses) to European Statistics based on a common agreed architecture and will contribute to define the underlying infrastructure model for the common system of ESS data warehouses.</p>
ESBRs	<p><b>European System of Interoperable Statistical Business Registers</b></p> <p>The purpose of the project is to develop statistical business registers in the EU + EFTA into a European system of interoperable statistical business registers which serve as backbones for the production of micro based statistics on business in Europe, both at country and European level. This backbone will be suitable to function as a tool for horizontal and vertical integration of statistical data, as foreseen in the draft Framework Regulation Integrating Business Statistics (FRIBS). The Euro Groups Register (EGR) will be at the heart of this system. The EGR will offer access to integrated, consistent and up-to-date register data on those enterprise groups which have statistically relevant transnational operations in at least one of the European countries.</p> <p>This project entails also implementation of the data quality management strategy for the EGR to</p>

	meet the requirements of statistics on globalisation and the development of tools (web services) supporting the daily operations. The EGR part of the project builds a catalyst for achieving the overall purpose too.
SIMSTAT	<p><b>Single Market STATistics</b></p> <p>SIMSTAT is the Eurostat proposal for a new way to organise the production of Intra-EU trade statistics in order to reduce drastically the burden imposed on enterprises and statistical authorities. The basic idea of SIMStat is the exchange of micro-data on Intra-EU trade among Member States on the base of the concept that data collected once within the ESS shall not be collected a second time.</p>
ICT	<p><b>ICT – statistical production and dissemination based on shared services</b></p> <p>The purpose of the project is to build up a prototype and prepare methodology for generalising the approach of the future EES infrastructure for data and metadata exchange according to the principles defined in the Vision Document and based on first views of a European Enterprise Architecture. The project will contribute to the implementation of this enterprise architecture in Eurostat and in the Member States. It will focus on the network aspect of the Information pillar in creating the conditions for exchanging information within the future ESS architecture.</p>
COMMON DATA VALIDATION POLICY	<p>The purpose of the project is threefold:</p> <ul style="list-style-type: none"> <li>• Deploy a coherent validation policy in the different statistical domains, in cooperation with MS, and achieve its sustainability and flexibility in time. This policy will include in particular a distribution of validation tasks along the MS-Eurostat production chain.</li> <li>• Cooperation of business and IT functions to deploy a standardised validation language to be shared internally, used in discussions with MS and to be offered internally and externally.</li> <li>• Envisage solutions for more sophisticated validation actions ensuring the coherence between data files, between Member States and the integrity of the data held in the ESS.</li> </ul>

**Table 3: General cross-cutting issues**

<b>General cross-cutting issues</b>	<b>Description</b>
<b>GOVERNANCE</b>	The programme can be successful only if supported by appropriate governance. Roles and responsibilities, as well as coordination, have to be distributed among the different actors in Eurostat and in the ESS in order to provide an efficient and adequate response to the challenges faced by the ESS. Moreover the experience has shown that positive changes were introduced to the ESS as a result of active involvement of the partners at top management level in a brain-storming type of discussions and groups (i.e. Task Forces reemerging from the Cracow Action Plan).
<b>LEGAL FRAMEWORK</b>	An appropriate legal framework has to be developed to serve the purposes of the system. General framework regulations on horizontal aspects will be combined with framework regulations in in statistical domains and dedicated implementing and delegated acts. Most of the domain-oriented ESS VIPs depend on the timely introducing of the appropriate legal framework.
<b>HUMAN RESOURCES</b>	Among the key enablers for the Programme is to develop a mechanism for utilising the ESS human resources and allocating them to priority tasks and activities. Coordination of these resources is paramount. The idea for establishing Centres of excellence or HUBs that will allow for the better use of the capacity and specialisation of one NSI in a particular domain/function for the benefit of the whole ESS need to be explored further, taking into account the results of the CENEX ESS net project.
<b>FINANCIAL RESOURCES AND COST-SHARING</b>	One key factor for the Programme is to define priority tasks and activities as a precondition for planning financial resources for the Programme. The wider use of shared services and common IT solutions generate the need for finding an appropriate model for compensating the partners that will develop and put in production solutions for the benefit of the rest of the system.
<b>COMMUNICATION</b>	The road to the target system will represent a change in paradigm but also in the way of working of the ESS. Stakeholders have to be informed about the proposed change itself and the consequences on the way of producing statistics as well as of the benefits arising from the new system. An appropriate communication strategy has to be set up towards the different categories of stakeholders inside and outside the ESS. This will require expert knowledge in communication, presentation and public relations regarding change management.

## Proposed 2013 ESSnet programme

### 1. INTRODUCTION

The new ESSnet strategy<sup>1</sup> adopted by the ESSC

- (1) introduces a new category of ESSnet projects:  
**top-down (“Vision Implementation stream”) ESSnet projects.**
- (2) states that setting up of **Centres of Excellence** for “architectural” ESSnet projects will also be explored.

However, in contrast to previous years, the ESSC meeting of 23-24 May 2012 did not establish a definitive list of ESSnet projects to be launched in 2013. Instead, the strategy implies a commitment of Eurostat to start preparing the implementation of the top down “Vision Implementation stream”, which is centrepiece of the new strategy for ESSnet projects.

This preparatory work is now well underway, and the proposed list of ESSnet activities to be launched in 2013 has now been defined (see Table 1 below).

**Table 1. ESSnet activities proposed for launch in 2013**

Topic	Type	Tentative launch month
ESS VIP project <b>Validation</b>	(1) Top-down ESSnet project	April 2013
ESS VIP project <b>SIMSTAT</b>	(1) Top-down ESSnet project	February 2013
ESSnet <b>Data Warehouses</b> project	(2) Centre of Excellence	April 2013

Note: The ESSnets (such as *Statistical Disclosure Control and Standardisation or EGR*) already decided upon prior to the 23-24 May 2012 ESSC meeting are not listed here (these projects are already listed in Annex I of the ESSnet strategy<sup>1</sup>).

Additional details on the proposed ESSnet top-down projects are provided in Section 2, while the proposed Centre of Excellence is presented in Section 3.

### 2. VISION IMPLEMENTATION STREAM (“TOP-DOWN”) ESSNET PROJECTS FOR 2013

#### 2.1. General approach

As set out in the strategy, the Vision implementation stream ESSnets should be oriented toward the development the agreed common architectures supporting the implementation of the ESS Joint Strategy.

Following the establishment of the ESS VIP programme, it is proposed that **each “top-down” ESSnet project should support an ESS VIP project.**

<sup>1</sup> *ESSnet Activity Report and 2013 planning* (document ESSC 2012/13/2/EN of the 23-24 May 2012 ESSC meeting)  
[http://s-douceur.eurostat.cec/d3f/EN/2012/PDF/16060\\_25327\\_2012\\_EN\\_1.pdf](http://s-douceur.eurostat.cec/d3f/EN/2012/PDF/16060_25327_2012_EN_1.pdf).

In other words, the “top-down” part of the ESSnet programme would be the principal means of coordinating the technical efforts of Member States within the ESS VIP programme.

## 2.2. Objectives of the ESSnet to support the Validation ESS VIP project

- Standard process documentation with specific focus on “checking rules”;
- Methodological analysis of all possible relevant validation rules and selection of those ensuring a “minimum data quality standard”;
- A model for the attribution of responsibility in the vertical production chain (Eurostat versus MSs) for each quality check, to be adapted and agreed at WG level.

The development of a “taxonomy of validation rules” is planned as well as other standardisation efforts: of major importance is the planned development of a “common language” to formulate and document validation rules (a standardised and formalised syntax understandable by business users) as well as preparatory work for the development of a corresponding “meta-language”<sup>2</sup> to be used for the automatic generation of validation rules in the language of existing validation software both in Eurostat and in the MSs.

## 2.3. Objectives of the ESSnet to support the SIMSTAT ESS VIP project (*ESSnet on preparation for micro-data exchange on Intra-EU trade in goods*)

- Elaboration of basic rules for micro data validation;
- Elaboration of basic rules on how to proceed in case of error correction and revision of data;
- Elaboration of a timetable through which the micro-data exchange can be integrated into the production of Intra-EU statistics or be used for quality purposes;
- Dissemination of the ESSnet results to all ESS countries.

## 3. ESSNET CENTRES OF EXCELLENCE FOR 2013

### 3.1. General approach

The modalities for *governance and financial support* of the Centres of Excellence are still under study by Eurostat, and various possible options will be presented to the ESS in due course.

Leaving the overall governance aside, Eurostat proposes that a pilot Centre of Excellence is set up through which the *actual operational activities* of a Centre of Excellence will be tried out in practice.

For reasons laid out in Section 3.2.1, the Data Warehousing domain has been selected to serve as a pilot ESS Centre of Excellence.

---

<sup>2</sup> The word “**meta-language**” is systematically used to mean a language to express validation rules that can be used to automatically translate the validation rules in different possible scripting languages (machine languages), existing in Eurostat and MSs’ implemented validation solutions and building blocks. It is possible that, after analysis, the common syntax and the meta-language could be identical.

### 3.2. ESSnet Centre of Excellence for Data Warehousing

*(ESSnet Data Warehousing – Centre of knowledge and expertise)*

#### 3.2.1. Rationale for selecting the Data Warehousing domain for a pilot

Creating a Data Warehouse is a large and complex project, and many ESS countries are still at an early stage in terms of national Data Warehouse structures. As NSI resources are limited, the development must take place in a stepwise manner over a long time span.

The need for active and dynamic knowledge and expertise will thus exceed the duration of the MEETS programme of which the ESSnet Data Warehousing formed part. Therefore, a mechanism is needed to assure the sustainability of the Data Warehousing ESSnet past the lifespan of the MEETS programme.

#### 3.2.2. Activities of the Centre of knowledge and expertise

By continuing the work of the Centre of knowledge and expertise created under the current ESSnet on Data Warehousing sustainability of the work and results of the project will be ensured after the project is completed. The tasks of this Centre of knowledge and expertise consist in providing

- ad-hoc support
- consultancy
- expert reports

at the request of ESS members. Moreover, the Centre of knowledge and expertise will

- set up and maintain a knowledge repository in the Data Warehousing domain of the CROS<sup>3</sup> portal.

#### 3.2.3. Evaluation

This pilot Centre of Excellence would serve as the template for Centres of Excellence in other domains. Therefore, the evaluation of its activities should include aspects of a **general** nature (going beyond the Data Warehousing domain), so that lessons could be learned and future centres could be set up in the best possible way.

---

<sup>3</sup> Collaboration in Research and Methodology for Official Statistics ([www.cros-portal.eu](http://www.cros-portal.eu)).