**Fostering Interoperability in Official Statistics:**

**Common Statistical Production Architecture**

**I. Background**

1. At the Workshop on Strategic Developments in Business Architecture in Statistics, held in Geneva in November 2012, the High-Level Group for the Modernisation of Statistical Production and Services (HLG) and representatives of over 20 expert groups identified two key priorities for work related to statistical modernisation for 2013. One of these priorities is to create a common statistical production architecture for the world's official statistical industry. This is often referred to as a “plug and play” architecture, as the aim is to make it easier for each country to combine the components of statistical production, regardless of where the components were developed, based on common standards.

2. This project is important for the official statistics community because many organisations have modernisation projects in progress or planned. They are all facing the same issues, so there is a strong risk of duplication of effort. If resources are pooled, not only will this work be done more efficiently, but it will deliver a major step forward in international harmonisation, making future collaboration initiatives easier, thus providing both short-term and long-term benefits. The more the project can be aligned with the plans and requirements of individual organisations, the greater the benefits will be. The project therefore deliberately aims to integrate as far as possible with existing modernisation initiatives within participating organisations.

3. To deliver the required results will require a combination of theory and practice. The proposed project therefore comprises two important strands. The first strand concerns the development of the necessary architecture frameworks, whilst the second is concerned with practical implementation and pilot applications, which will serve as a proof of concept. The two strands will be complementary, helping to validate each other. A project management strand will ensure the necessary coordination and reporting activities.

4. This paper outlines the objectives, scope and content of this project, as well as some practical project management issues. It was approved by the HLG on 5 February 2013.

**II. Project objectives**

5. The project has three main objectives:

* To create a standardised architecture for statistical production solutions, including processes, information and systems, coherent with the Generic Statistical Business Process Model (GSBPM) and the Generic Statistical Information Model (GSIM), and to allow specifications and ultimately applications to be re-used easily within and between statistical organisations.
* To enable and advance the sharing of production processes or components, thus reducing costs.
* To provide the basis for a central inventory or repository with life cycle management of sharable production processes and components.

**III. Scope**

6. This project is limited to creating an architectural framework for the enabling of statistical production with the use of a common platform, and testing this in a real life situation. A platform is a base of technologies on which an organisation's applications and processes are built.

7. Work already being done in this area by individual organisations or consortia will be used as inputs, to avoid duplication of effort. In particular, the work of the Statistical Network and the CORA/CORE projects will provide a good starting point for several work packages.

**IV. Contents**

8. This project comprises the following work packages.

## Strand 1: Architecture

***Work Package 1: High-level architecture***

9. This work package delivers the architectural blueprint to build an interoperable statistical industry platform. This includes the requirements for the statistical production chain to make effective use of a common platform, and the changes needed to statistical process designs to incorporate more reuse. It will take into account existing business architectures, and will define the levels and depths of architecture necessary to meet the project objectives. This work package requires a “sprint” session (Ottawa, Canada, 8-12 April), to ensure agreement on key principles at an early stage in the project. The participants will need sufficient authority to make decisions on behalf of their organisations.

***Work Package 2: Platform specifications***

10. For the technical platform definition to succeed, a number of decisions are needed, to guide the specification of the platform. For example, the types of software platforms that will be supported, connectivity and data transfer standards, and storage capabilities among other things. A common minimum set of requirements will be decided in line with the agreed high-level architecture. This work package determines the requirements for the platform.

***Work Package 3: Theoretical platform definition***

11. This work package produces a design of the platform. The focus will be on modelling needed for the interface design and will be tested against use cases which include the current and future statistical production scenarios.

## Strand 2: Proof of concept

***Work Package 4: Technical platform definition***

12. This work package delivers the technical definition of the platform based on the theoretical platform definition from Work Package 3, and conforming to the specifications from Work Package 2. The platform definition will be independent of the actual content of the future processing that is to be done on the platform. Workflow and orchestration are to be dealt with. Make, adapt or buy has to be considered in so far as this affects the design. The result will be a blueprint that can be used as input for Work Package 5.

***Work Package 5: Proof of concept***

13. While the architectural framework is being developed, this work package will produce the first implementations of interoperable components. The work will be iterative going hand in hand with the progress being made in the theoretical work packages, testing in real life the concepts being developed, and providing the feedback needed to refine the architecture.  The Proof of Concept will initially focus on creating a small number of components relating to collection and/or dissemination activities. If resources permit, the scope of the Proof of Concept will be extended to include additional components relating to processing that could be joined together to create a rudimentary end to end system.

***Work Package 6: User manual***

14. For successful deployment of these techniques, a user manual is needed that explains how developers should use the specifications when designing applications and processes intended to be shared. This manual will be elaborated taking account of the lessons learned during the project.

Strand 3: Project Management

***Work Package 7: Project management***

15. This work package comprises the necessary project management and coordination activities to ensure the successful delivery of the other six work packages.

**V.       Definition of Success**

16.      Success is defined for each strand as follows:

* Strand 1: A set of agreed specifications
* Strand 2: A practical demonstration of the benefits of a common architecture that is convincing and inspirational, resulting in investment in implementation
* Strand 3: The project delivers results that advance the modernisation of statistical production and provide good value for money for the official statistics community

**VI. Expected costs**

17. The following table shows an estimate of the minimum resources and other costs needed to deliver the different work packages. Each organisation involved in the project is expected to cover the costs of their participation (including wages and any travel expenses for participants).

|  |  |  |  |
| --- | --- | --- | --- |
| **Work Package** | **Estimated resources** | **Source of resources** | **Other costs(in US Dollars)** |
| 1: High-level architecture | 6 person months | Volunteer NSOs plus UNECE Secretariat plus volunteer external reviewers | Travel costs for a sprint session |
| 2: Platform specifications | 3 person months | Volunteer NSOs plus UNECE Secretariat  | None |
| 3: Theoretical platform definition | 3 person months | Volunteer NSOs plus UNECE Secretariat | None |
| 4: Technical platform definition | 3 person months | Volunteer NSOs plus UNECE Secretariat | None |
| 5: Proof of concept | 18 person months | Volunteer NSOs plus UNECE Secretariat and possible consultants | Up to $50,000 for technical consultants, if suitable NSO resources are not available. Possible travel costs for sprint session(s) |
| 6: User manual | 3 person months | Volunteer NSO(s) plus external reviewers | None |
| 7: Project management | 3 person months | A part-time project manager working in the UNECE Secretariat. Occasional input from project steering group members, and HLG members (in their role as project sponsors) | Up to $500 for telecommunications and other incidentals |
| **Total** | **39 person months** | **UNECE Secretariat (12 person months)****NSO / International organisation staff (27 person months)** | **$1000-1,500 for miscellaneous costs****Possible consultancy costs****Travel costs of experts** |

**VII. Timetable**

18. The project aims to complete the activities described by the end of 2013, however there are various unknowns which may affect the timetable:

* The availability of resources from national and international statistical organisations to support this project – if the necessary resources are not available, either the timetable will need to be extended, or the outputs will need to be re-defined (in terms of quality or quantity or both).
* The availability of project management and support resources in the UNECE Secretariat – To meet the resource requirements of this project (and the proposed project on standards) will require the continuation of the current extra-budgetary post in the UNECE secretariat. This is assured for the first half of 2013, but additional donor funding will be required for the remainder of the year. As above, if this is not forthcoming, either the timetable will need to be extended, or the outputs will need to be re-defined (in terms of quality or quantity or both).

19. The following approximate project timetable for the calendar year 2013 assumes the necessary resources will be available. The activities for work packages 1 to 4 in September and November represent reviews based on the feedback from Work Package 5.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| WP | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
| 1 |  |  |  |  |  |  |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |  |  |  |  |  |  |
| 7 |  |  |  |  |  |  |  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | = Peak period of activity |  | = Lower level of activity |

**VIII. Project governance**

20. The project sponsors are the HLG. This is the group that has ultimate responsibility for signing off the project deliverables. In practice, this responsibility may be delegated to a project steering group. The nature and composition of the project steering group will depend to some extent on the establishment of a new governance structure for HLG projects and expert groups, though the steering group can be expected to be:

* Composed of senior managers from national and international organisations and relevant standards bodies
* Geographically diverse
* Diverse in terms of the backgrounds and interests of its members, to ensure the project outputs are broadly applicable across statistical organisations

21. The project manager has day to day responsibility for the running of the project, providing regular updates and signalling any issues to the steering group and the HLG as necessary. The loading on this post is approximately half-time over the year, therefore the same person will manage the project on “Supporting frameworks and standards for statistical modernisation”, helping to ensure coherence between the two projects.