# Assessing Your Modernisation Maturity

Under the High-level Group project on Implementing ModernStats Standards, a Modernisation Maturity Model (MMM) has been developed. The maturity self-assessment would ideally be performed by a cross-cutting group involving members of the Business, Information, Methods, Applications and Technology functions within statistical organisations.

There are multiple aspects of Maturity in the context of Modernisation, and as such the model that has been developed has a number of distinct ***dimensions***. Within each dimension, different organisations may have different ***levels*** of maturity.

These ***dimensions*** and ***levels*** are described in the tables below in general terms. However, to be more specific, a set of self-assessment criteria has been formulated that is specific to each ***dimension*** x ***level*** combination, as well as being specific to each of the following *HLG-MOS standards*:

* [GAMSO](http://www1.unece.org/stat/platform/display/GAMSO/Generic+Activity+Model+for+Statistical+Organizations)
* [GSBPM](http://www1.unece.org/stat/platform/display/GSBPM/Generic+Statistical+Business+Process+Model)
* [GSIM](http://www1.unece.org/stat/platform/display/gsim/Generic+Statistical+Information+Model)
* [CSPA](http://www1.unece.org/stat/platform/display/CSPA/Common+Statistical+Production+Architecture)

Those undertaking a self-assessment are encouraged to assess their maturity in this way at the ***current time***, as well as the ***target level*** of maturity that they are seeking to achieve in 5 years’ time. The self-assessment should assess statistical organisations maturity at the ***current time***, as well as the ***target level*** of maturity they strive to achieve in 5 years’ time. Additionally, statistical organisations are invited to list the first major 1-3 steps they expect their organisation to move its maturity level toward the target for each dimension. (These could be steps the organisation would undertake on its own or these might be steps based on enablers from HLG.)

Organisation: **Italian National Institute of Statistics - Istat**

For each **Tester** please fill out

Name**: Giulio Barcaroli**; **Nadia Mignolli**; **Laura Peci**.

Email address: [barcarol@istat.it](mailto:barcarol@istat.it); [mignolli@istat.it](mailto:mignolli@istat.it); [lapeci@istat.it](mailto:lapeci@istat.it).

Main area(s) of expertise: Business, Methods, Information.

HLG-MOS standard(s) **tested**: **GAMSO** (and GSBPM).

Name: **Giovanna Brancato**; **Giorgia Simeoni**.

Email address: [brancato@istat.it](mailto:brancato@istat.it); [simeoni@istat.it](mailto:simeoni@istat.it).

Main area(s) of expertise: Methods.

HLG-MOS standard(s**) tested**: **GSBPM**.

Name: **Amedea Ambrosetti**; **Cecilia Casagrande**; **Mauro Scanu**.

Email address: [ambroset@istat.it](mailto:ambroset@istat.it); [casagran@istat.it](mailto:casagran@istat.it); [scanu@istat.it](mailto:scanu@istat.it).

Main area(s) of expertise: Methods, Information.

HLG-MOS standard(s) **tested**: **GSIM**.

Name: **Mauro Bruno**; **Monica Scannapieco**.

Email address: [mbruno@istat.it](mailto:mbruno@istat.it); [scannapi@istat.it](mailto:scannapi@istat.it).

Main area(s) of expertise: Applications and Technology.

HLG-MOS standard(s) **tested**: **CSPA**.

## Description of Maturity Levels

| **Number** | **Level Name** | **Level Description** |
| --- | --- | --- |
| 1 | Initial implementation | A few individuals are becoming interested in the potential value of the standard.  The organisation as a whole is unaware of the standard. |
| 2 | Pre-implementation | Use of the standard is basic and limited to a few individuals.  Parts of the organisation are becoming interested in the potential value of the standard. |
| 3 | Early implementation | Use of the standard is spreading, but it is used in an inconsistent manner by individuals and single business units.  A corporate-wide programme/strategy for use of the standard is in being prepared. |
| 4 | Corporate implementation | A corporate-wide programme/strategy for use of the standard exists.  There is a widespread awareness of the standard and it is used in a consistent way across the organisation. |
| 5 | Mature implementation | The standard is perceived as an important part of business operations/management, delivering value across the organisation.  The standard is well understood, integrated into business processes & practices and used in a consistent manner across the organisation. |

**Questions for Testers on the Level names and descriptions:**

**Are the descriptions easy to understand?**

Yes.

**Are the Levels sufficiently distinct?**

Yes.

## Description of Dimensions

**Dimensions** (Architecture is implicit)

|  |  |  |
| --- | --- | --- |
| **Number** | **Name** | **Description** |
| 1 | Business | This dimension focuses on the business activity domain i.e. the organisation's core business practices and policies. |
| 2 | Methods | This dimension focuses on the management of methods i.e. how methods are designed, structured, implemented and executed.  It includes statistical methodology, quality management, IT methods, process methods e.g. data collection methods and any other methods needed to support the business. |
| 3 | Information | This dimension focuses on how information and/or metadata are structured, integrated and modelled, the method of access to data, abstraction of the data access from the functional aspects, data characteristics, data transformation capabilities, service and process definitions, handling of identifiers and the information model. |
| 4 | Applications | This dimension focuses on the structure and interaction of applications[[1]](#footnote-1) to provide business functionality using the information/data assets needed to deliver this functionality. |
| 5 | Technology | This dimension focuses on the logical software and hardware capabilities that are required to support the deployment of business, information, and application services. This includes IT infrastructure, middleware, networks, etc. |

**Questions for Testers on the Dimension names and descriptions:**

**Are the descriptions easy to understand?**

Yes.

**Are the Dimensions sufficiently distinct?**

The Dimensions correspond to the Enterprise Architecture layers, with the only exception of Methods.Moreover, the nature of Methods is particularly cross sectional and not so easy to be separated from the other Dimensions.

In addition, the connection between each dimension and the different standards proposed seems not to be always feasible.

## GAMSO Self-Assessment Criteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Levels**  **Dimensions** | **Initial**  **implementation** | **Pre-**  **implementation** | **Early**  **implementation** | **Corporate**  **implementation** | **Mature**  **implementation** |
| Business | A few individuals are becoming interested in the potential business value of using GAMSO.  The organisation as a whole is unaware of GAMSO. | Use of GAMSO is basic and limited to a few individuals.  Parts of the organisation are becoming interested in the potential business value of GAMSO. | Use of GAMSO is spreading, but practice varies between individuals and across business units.  Some individuals and business units are referring to the overarching phases in GSBPM. | A corporate-wide programme/strategy for use of GAMSO is in place.  There is a widespread awareness of GAMSO and a consistent approach to its use across the organisation. | GAMSO is perceived as an important part of business operations/management, delivering business value.  GAMSO is well understood, integrated into business processes and practices and used in a consistent manner across the organisation. |
| Methods | Methods are developed on an “as needed” basis for a particular activity area / product/ process.  A few individuals are becoming interested in the potential value of planning, developing, monitoring and supporting methods for more than one activity area/ product/ process.  The organisation as a whole is unaware of this potential.  There is little corporate support for managing methods. | Individuals are developing methods to be used in several activity areas/ products/ processes.  Some business units are becoming interested in the potential value of managing methods as corporate capability elements.  There is some corporate support for managing methods. | Methods (e.g. statistical methodology and quality) are being developed and used in more than one activity area/product/process, but consistent implementation is lacking.  There is corporate support for managing methods. | There is a corporate strategy for managing Methods (e.g. statistical methodology and quality, IT methods, process methods e.g. data collection methods and any other methods) as corporate capability elements. | Management of methods  is an integral part of the corporate policy and is performed efficiently and effectively, regularly assessed and improved. |
| Information | Information is created on an "as needed" basis for a particular activity area / product/ process.  A few individuals are becoming interested in the potential value of planning, developing. monitoring and supporting information for more than one activity area, product or process.  The organisation as a whole is unaware of this potential. | Individuals are developing information resources to be shared and used in several activity areas/products /phases.  Some business units are becoming interested in the potential value of managing product/process information as corporate capability elements.  There is some corporate support for managing product/process. information. | Information resources are being developed and used in more than one product/ process/ activity, but practice varies across the   organisation.  There is corporate support for standardised management of information across activity areas/ products /phases. | There is a corporate strategy for managing information as corporate capability elements.  GSIM is used to describe and manage information objects in statistical processes. | Management of information is performed efficiently and effectively, regularly assessed and improved. |
| **Levels Dimensions** | **Initial**  **implementation** | **Pre-**  **implementation** | **Early**  **implementation** | **Corporate**  **implementation** | **Mature**  **implementation** |
| Applications | A few individuals are becoming interested in the potential value of planning, developing, monitoring and supporting applications to be used in more than one activity area, product or process.  There is little corporate support for managing the use of applications. | Some business units are becoming interested in the  potential value of managing applications as corporate capability elements.  There is some corporate support for managing the use of applications | Common and shared applications are being developed and used in more than one product/ process/ activity, but in an inconsistent manner across the organisation.  There is corporate support for the management of applications. | There is a corporate strategy for  managing the use of applications as corporate capability elements. | Management of applications is performed  efficiently and effectively, regularly assessed and improved according to the corporate strategy. |
| Technology | A few individuals are becoming interested in the potential value of managing technology as a corporate capability element.  There is little corporate support for managing technology. | Some business units are becoming interested in the potential value of managing technology as a corporate capability element.  There is some corporate support for managing technology. | Technology is being used in more than one product/ process/ activity, but practise varies across the organisation.  There is corporate support for managing technology. | There is a corporate strategy for managing technology as a corporate capability element. | Technology, as a corporate capability element, is seen as an important part of business operations/ management, delivering value across the organisation.  Technology, as a corporate capability element, is well integrated into business processes & practices. |

## GAMSO Maturity Assessment

The current version of GAMSO is version 1.0.

Version Assessed: **1.0**

|  |  |  |  |
| --- | --- | --- | --- |
| **Dimension** | **Current Maturity** | **Target Maturity** | **Key Steps/**  **Requirements** |
| Business | Between Early and Corporate Implementation (since there is a corporate programme strategy for the use of GAMSO, but there is not yet a widespread awareness of GAMSO and a consistent approach to its use across the organisation) | Mature Implementation | 1. At European and international level, Istat contributed actively to the development of a generic Business Architecture (BA) model, considered as a reference instrument for optimising the working processes within a statistical Organisation and making them more efficient, both about statistical activities and organisational and strategic functions, and as far as capabilities are concerned. The BA model, on which Istat’s Modernisation Programme is founded, was produced within the Statistical Network: GAMSO was later derived from it. While its implementation has already started, there is a strong commitment to increase the awareness of the meaning and operability of GAMSO with specific training and dissemination initiatives. |
| Methods | Corporate implementation | Mature Implementation | 1. One of the achievements of Istat’s Modernisation Programme is the centralisation of both all the capabilities (including methods) and the other corporate services. Consequently, Istat is developing supply and demand mechanisms to better meet the production needs and to allocate resources properly. |
| Information | Between Early and Corporate implementation | Mature Implementation | 1. Implementing Istat’s corporate strategy concerning information. 2. Promoting and disseminating the use of GSIM through specific training initiatives. |
| Applications | Corporate  Implementation | Mature  Implementation | In alignment with CSPA:   1. Adoption of service orchestration approach to implement processes. 2. Building of a corporate level catalogue of services. |
| Technology | Pre  Implementation | Corporate  Implementation | In alignment with CSPA:   1. Selection of an Enterprise Service Bus to deploy services. 2. Selection of a Master Data Management/ Enterprise Architecture platforms for data and metadata governance. |

**For Testers**

**Were there any self-assessment criteria that were particularly difficult to understand?**

Yes, some difficulties related to the content descriptions of some Dimensions.

**If yes, please provide the Dimension and Level for those self-assessment criteria:**

Due to the fact that GAMSO is explicitly mentioned only in the Business description, the assessment for the other dimensions implies careful reasoning, in order to find a sensible evaluation of the maturity level reached, especially concerning Applications and Technology.

**Were the Levels sufficiently distinct per Dimension?** Yes.

**If not, please provide the Dimension(s) and Level(s) where you experienced difficulties**

## GSBPM Self-Assessment Criteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Levels**  **Dimensions** | **Initial**  **implementation** | **Pre-**  **implementation** | **Early**  **implementation** | **Corporate implementation** | **Mature**  **implementation** |
| Business | No standard business process descriptions/ definitions are in use across the organisation’s statistical domains.  Different business processes are followed by different individuals undertaking the same tasks.  Projects/statistical programmes exist in isolation, there is little or no business process coordination.  A few individuals are becoming interested in the potential business value of the GSBPM, but the organisation as a whole is unaware of the GSBPM. | Use of the GSBPM is basic and limited to a few individuals.  Some business units are becoming interested in the potential business value of GSBPM and investigate how to adopt the GSBPM as a reference standard could assist standardisation activities.  Dissemination/ communication activities are carried out in some statistical domains to demonstrate the benefits of using the model. | Use of GSBPM is spreading, but practice varies between  individuals and between business units.  Some business units are documenting/ defining existing statistical production processes using the GSBPM phases/sub-processes.  GSBPM phases/ sub-processes are being used for generic project/ statistical programme scoping and planning. | A corporate-wide programme/strategy for use of GSBPM for managing statistical production processes is in place.  Management uses GSBPM as a framework for all planning of statistical production.  The organisation standardises and describes procedures for all GSBPM phases and sub-processes in a consistent manner. | Management uses GSBPM systematically and regularly for managing and improving business capabilities and services.  Organisation has widespread expertise and familiarity with the use and application of the GSBPM. It is the reference framework for all statistical production.  GSBPM based responsibilities are shared between job positions and are described in job descriptions. |
| Methods | No common approaches regarding the development and use of methods.  Methods are identified and defined with no reference to GSBPM.  A few individuals are becoming interested in the potential value of mapping/documenting methods per GSPBM phase. | A few individuals are  mapping/ documenting existing methods per GSPBM phase/sub-process.  Some business units are becoming interested in the potential value of mapping/ documenting existing methods per GSPBM phase in order to improve coherence and consistency of the statistical production processes.  New methods are developed with reference to GSBPM phases. | Individuals and business units are  mapping/ documenting new and existing methods per GSPBM phase/sub-process, but the practice varies.  A corporate wide strategy to use GSBPM to map/document methods per phase/sub-process is not in place. | A corporate-wide programme/strategy for use of GSBPM for managing statistical production processes is in place.  There is a widespread awareness of the use of GSBPM to map/ document new and existing methods per phase/sub-process and a consistent approach is adopted across the organisation to carry this out. | Methods are standardised and optimised within the GSBPM and extensively re-used.  This standardisation facilitates inter-institutional collaboration efforts.  The use of GSBPM to map/document methods per phase/process is an important part of methods management and delivers value by identifying duplication and potential for reuse.  Mapping/documenting methods to GSBPM phases/sub-processes is well understood and applied in a consistent manner. |
| **Levels Dimensions** | **Initial**  **implementation** | **Pre-**  **implementation** | **Early**  **implementation** | **Corporate**  **implementation** | **Mature**  **implementation** |
| Information | No standardised way of defining information objects (data and metadata) with reference to their use in GSBPM.  No integration of information. | Identification and classification of  information objects by GSBPM phase carried out for one or two statistical domains in order to improve consistency in information objects being used/referred to in the different sub-processes. | New projects adopt standard methods for classifying information object use and terminology by GSBPM phase and sub-process.  Existing applications have a varied practice regarding mapping of information objects by GSBPM phase and sub-process. | Information objects used within the organisation are mapped to the GSBPM sub-processes, and the changes to information objects through the sub-processes are well defined. | Information object usage and nomenclature is harmonised/standardised  across the organisation, with GSIM in routine use as the basis for describing and defining information objects.  The reuse of information objects is maximised wherever possible. |
| Applications | Applications are developed without reference to GSBPM.  Applications are developed stand-alone, at silo level, without reference to common statistical processes across the organisation.  Every statistical programme has its own production system, with little coordination between the programmes.  Common problems are solved in different ways. | Mapping of the existing applications to GSBPM phases, in order to facilitate a higher degree of standardisation.  Applications are mapped within one or more GSBPM phases. | Specifications for new application scope start to be defined by GSBPM phases or processes.  Adoption of plan for the implementation of GSBPM, setting the priorities for the improvement and development of activities.  Applications are mapped to GSBPM phases and sub-processes. | Using GSBPM to define statistical function and system development mapping for all existing applications, and as a basis for all new application development.  Monitoring and coordination of the implementation plan of GSBPM.  Use of a Service Catalogue to manage service components. | All the applications are mapped at component level to GSBPM sub-processes, or lower.  Service Catalogue is used across the piece to monitor/maintain all the components of the organisation's statistical production systems. |

## GSBPM Maturity Assessment

The current version of GSBPM is version 5.0.

Version Assessed: **5.0**

|  |  |  |  |
| --- | --- | --- | --- |
| **Dimension** | **Current Maturity** | **Target Maturity** | **Key Steps/**  **Requirements** |
| Business | Corporate Implementation | Mature Implementation | 1. The expertise and familiarity with the use and application of the GSBPM should be further spread in the organisation. |
| Methods | Corporate Implementation | Mature Implementation | In alignment with GAMSO:   1. One of the achievements of Istat’s Modernisation Programme is the centralisation of both all the capabilities (including methods) and the other corporate services. Consequently, Istat is developing supply and demand mechanisms to better meet the production needs and to allocate resources properly. |
| Information | Between Early and Corporate implementation | Mature Implementation | 1. The Metadata Unified System (SUM) maps information objects to the GSBPM and uses GSIM as the basis for describing and defining information objects. The level of maturity is assessed as Corporate and not Mature because SUM should be completed for some phases of the statistical production process. |
| Applications |  |  |  |

**For Testers**

**Were there any self-assessment criteria that were particularly difficult to understand?**

Yes.

**If yes, please provide the Dimension and Level for those self-assessment criteria:**

The Information dimension seems to be more connected to GSIM than to GSBPM.

It is not feasible to assess the Applications dimension with regard to GSBPM.

**Were the Levels sufficiently distinct per Dimension?**

Yes.

**If not, please provide the Dimension(s) and Level(s) where you experienced difficulties**

**Do you think we should have had a Technology Dimension for GSBPM?**

No.

## GSIM Self-Assessment Criteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Levels**  **Dimensions** | **Initial**  **implementation** | **Pre-**  **implementation** | **Early**  **implementation** | **Corporate implementation** | **Mature**  **implementation** |
| Business | Business drivers for the implementation of GSIM are being identified and discussed by experts and subject-matter people.  Management are largely unaware of or uninterested in GSIM. | The organisation is becoming aware of GSIM and recognising its potential usefulness. The organisation might be involved in international development projects using GSIM as a conceptual model. Still limited definition and documentation of the organisation’s business drivers and processes in which GSIM will be involved. Strong need for guidance from other organisations implementing GSIM. | GSIM is used to describe some information objects mainly in the description of business processes in individual development projects.  Some serious efforts are being made to develop skills to learn GSIM, including its role to help to describe GSBPM sub-processes by defining the information objects that flow between them, that are created in them, and that are used by them to produce official statistics.  Corporate-wide strategy for the use of GSIM is being prepared. | GSIM is used by the organisation to describe information objects in its own business processes and to compare them inside the organisation as well as with other organisations. GSIM has become a common every-day language for requirements analysts, architects and system developers.  Corporate-wide strategy to use GSIM is in place. | GSIM has been fully adopted by the organisation to describe the information used in its business processes and their improvements. |
| Methods | A few individuals are becoming interested in the potential value of using GSIM to support the design, specification and implementation of harmonised methods. | A few individuals are using GSIM to support the design, specification and implementation of harmonised methods.  Some business units are becoming interested in the potential value of using GSIM to support the design, specification and implementation of harmonised methods. | Individuals and business units are using GSIM to support the design, specification and implementation of harmonised methods, but practice varies. | There is a widespread awareness of the use of GSIM to support the design, specification and implementation of harmonised methods and this is used in a consistent way across the organisation.  A corporate wide strategy to use GSIM to support the design, specification and implementation of harmonised methods is in place. | The use of GSIM to support the design, specification and implementation of harmonised methods is an important part of method management and delivers value. |
| **Levels Dimensions** | **Initial**  **implementation** | **Pre-**  **implementation** | **Early**  **implementation** | **Corporate**  **implementation** | **Mature**  **implementation** |
| Information | Some information experts are aware of GSIM and interested in its use related to organising data and metadata. | Several information experts know the model. GSIM has been tried out occasionally in specific areas which are often related to international cooperation efforts. | GSIM is recognised as a conceptual model for sharing ideas and determining common concepts inside organisation. Some case-specific models are introduced. The GSIM information objects might be used a bit differently in different parts of the organisation. | Organisation has officially adopted GSIM to describe its information assets.  The information architecture of the organisation is described in terms of GSIM information objects. There exist common repositories of instances of GSIM information objects that can be reused in the whole organisation. | GSIM-based information architecture is a reality and implemented throughout the organisation consistently. Optimised GSIM-based information management is a reality.  There exists a catalogue of GSIM information objects, e.g. unit type, that has been agreed on at the international level and the organisation is using this catalogue. |
| Applications | Some experts are aware of GSIM and also interested in using it. | Some physical data models or CSPA services are created and tested using GSIM as the conceptual model in the planning phase. | GSIM-based physical data models are implemented in separate applications or some CSPA services are described in terms of GSIM information objects. | GSIM is used to describe at the conceptual level all applications related to the statistical processes that are developed by the organisation.  The organisation has an internal CSPA Service Catalogue including coherent Statistical Service Descriptions describing input and output objects of the services as GSIM information objects. | There is a whole platform of CSPA-compliant applications for all domains described in terms of GSIM information objects. The organisation has adopted GSIM as part of the set of standards to describe its applications. |

## GSIM Maturity Assessment

The current version of GSIM is version 1.1.

Version Assessed: **1.1**

|  |  |  |  |
| --- | --- | --- | --- |
| **Dimension** | **Current Maturity** | **Target Maturity** | **Key Steps/**  **Requirements** |
| Business | Early  implementation | Mature implementation | 1. Adopt GSIM and GSBPM into the organisation governance. |
| Methods | Initial implementation | Mature implementation | 1. Develop skills to manage GSIM specifications for the design, collection and dissemination process. 2. Focus on a wide strategy to use GSIM within all statistical processes. |
| Information | Early  implementation | Corporate implementation | 1. Adopt GSIM to describe information assets. 2. Share and use repositories of instances of GSIM information objects built up to now. |
| Applications | Pre  Implementation | Corporate Implementation | 1. Design physical data models of CSPA services using GSIM concepts. 2. Describe input and output objects of the services as GSIM information objects according to GSBPM processes. 3. Perform a whole platform of CSPA-compliant application for all statistical domains described in terms of GSIM information objects. |

**For Testers**

**Were there any self-assessment criteria that were particularly difficult to understand?**

No.

**If yes, please provide the Dimension and Level for those self-assessment criteria:**

**Were the Levels sufficiently distinct per Dimension?**

Yes.

**If not, please provide the Dimension(s) and Level(s) where you experienced difficulties**

**Do you think we should have had a Technology Dimension for GSIM?**

No because GSIM is a descriptive standard.

## CSPA Self-Assessment Criteria

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Levels**  **Dimensions** | **Initial**  **implementation** | **Pre-**  **implementation** | **Early**  **implementation** | **Corporate implementation** | **Mature**  **implementation** |
| Business | Each area designs and develops its own solutions. Budget and staff is allocated at each area. | Although each area continues designing its own solution there is an attempt to try and make them modular and share the code.  The IT budget and staff are still allocated at each area but central coordination creating some general guidelines is in place. | Business processes are analysed. GAMSO and GSBPM are applied as a basis to identify each statistical service and business function.  Some of the roles defined by CSPA start being recognised and informally adopted by the IT areas. | A unique services environment running on a common IT platform to attend all organisational needs is part of the organisation’s long term plans.  All services are defined following an agreed granularity level. IT resources (people, budget, skills, etc.) are mainly oriented to build and maintain the common platform. CSPA roles and responsibilities are clearly defined and mapped to areas in the organisation. | Statisticians are able to make specific orchestrations of services to cover their projects and new user’s requests. A specialised IT cross-organisation group is in charge of the maintenance and expansion of the services platform. There is a planned evolution of the IT services based in long term institutional goals, historic performance indicators and external changes. |
| Methods | Methods are not standardised. | There are some attempts to use some common methodologies, mainly related to codification standards and APIs definition but under the interpretation of each area. | CSPA and other standards starts to be implemented as a concern of the whole organisation, but the implementation is partial and obeying to internal needs. First attempts to develop SOA/CSPA based services. | CSPA has been implemented, and all IT staff in the organisation follows it. Reuse and sharing of services developed by other NSOs is a common practice.  Service virtualisation is a “must” characteristic in order to make the instantiation of the services easier in different environments. | A basic set of skills shared by all NSOs is defined making it easier to find trained people able to participate on inter-institutional collaboration efforts. |
| Information | Information is duplicated and each application uses its own structure. | Separated information structures in separated systems are common. Some applications share information but in the form of views or other similar mechanisms. Separation of development and production databases starts to being made. | Integrated databases covering several domains are in place and services use these shared information sources. Early attempts to apply GSIM and CSPA LIM are carried out. There are separated instances of the databases for development, testing and production, each one following specific rules. Production and dissemination databases are clearly separated. | The common services platform accesses an integrated information environment. The information environment follows the CSPA LIM, so shared services can be configured by each organisation to cover its own needs. | Information databases can incorporate new sources of information without affecting the services environment applying an internationally agreed set of models and standards. Information is independent of the environment, so internal, public and hybrid facilities can be used in a transparent way. |
| **Levels Dimensions** | **Initial**  **implementation** | **Pre-**  **implementation** | **Early**  **implementation** | **Corporate**  **implementation** | **Mature**  **implementation** |
| Applications | Applications run as separated instances. It’s very difficult to make them interoperable, manual work is inevitably required. | Some common component libraries start to appear. The components are difficult to integrate in practice and therefore often rejected.  Some commercial components start to be integrated. | Some early service-oriented systems making use of services attending certain common activities start to appear.  Services orchestration is still an issue that is mainly carried out for each system. | All applications are developed as an orchestration of services following the CSPA guidelines. Services are developed to be independent of specific IT configurations.  An international service catalogue is used to complement the organisation's own one. | Some (or all) services are shared by several statistical organisations.  There is a shared catalogue that is used by the institutions as a first level place to find existent services.  Local catalogues are still being used for very specific services. |
| Technology | Technological implementations are carried out on demand satisfying individual, isolated, requirements and generating heterogeneity of hardware, software, languages, protocols, etc.  Management and support of technology goes from absent to very basic. | There is a definition of a set of core technologies supported by the organisation which is mostly used as a guideline, but each area is still deciding how to fulfil the needs of each project, so integration, reuse and support of technologies is very limited. | There is a standardised IT platform which is supported by the organisation.  Interaction of IT solutions is a common practice because all areas share the same set of technologies.  Reutilisation of solutions on different projects is the common rule.  Resources are dynamically managed to optimise its distribution. | IT platform fully supports the SLAs of the services platform, and includes all the needed components to virtualise the services.  IT solutions are customised for the needs of the projects. Hardware and software are optimised dynamically to attend changes in requirements and demands of the statistical business processes. | There is a consolidated corporate IT platform and parts of it are used by several subscribed organisations sharing costs, responsibilities and management supporting commonly agreed SLAs. |

## CSPA Maturity Assessment

The current version of CSPA is version 1.5.

Version Assessed: **1.5**

|  |  |  |  |
| --- | --- | --- | --- |
| **Dimension** | **Current Maturity** | **Target Maturity** | **Key Steps/**  **Requirements** |
| Business | Pre Implementation | Mature  Implementation | 1. Business processes redesigned according to SOA principles. 2. Business processes with clearly identified CSPA roles. |
| Methods | Corporate  Implementation | Mature Implementation | 1. IT processes to be made progressively aware of SOA/CSPA standards. 2. Adoption of the Enterprise Architecture as a means to foster service reuse and sharing. |
| Information | Corporate  Implementation | Mature  Implementation | 1. Implementation of the integrated System of registers (i.e. persons and households, economic units, geographical/territorial units, activities). 2. Adoption of GSIM as a statistical ontology and development of business ontologies to support register metadata management. |
| Applications | Corporate  Implementation | Mature  Implementation | 1. Adoption of service orchestration approach to implement processes. 2. Building of a corporate level catalogue of services. |
| Technology | Pre  Implementation | Corporate  Implementation | 1. Selection of an Enterprise Service Bus to deploy services. 2. Selection of a Master Data Management/ Enterprise Architecture platforms for data and metadata governance. |

**For Testers**

**Were there any self-assessment criteria that were particularly difficult to understand? No**

**If yes, please provide the Dimension and Level for those self-assessment criteria:**

**Were the Levels sufficiently distinct per Dimension? Yes**

**If not, please provide the Dimension(s) and Level(s) where you experienced difficulties**

**FINALLY (across all standards)**

**Do you have any general feedback/suggestions to help us make the filling out of this maturity assessment easier?**

The Dimensions are not always really suitable for assessing the Maturity implementation level of each standard. Particularly, Applications dimension was difficult to assess for GAMSO (where we took reference from CSPA) and for GSBPM.

## Definitions

**Capability:**

An ability that an organisation, person, or system possesses. Capabilities are typically expressed in general and high-level terms and typically require a combination of organisation, people, processes, and technology to achieve. Source The Open Group Architecture Framework (TOGAF).  
**Capability element:**

Capabilities provide the agency with the ability to undertake a specific activity. A capability is only achieved through the integration of all relevant capability elements (e.g. methods, processes, standards and frameworks, IT systems and people skills).

**Corporate capability element:**

A corporate capability element is a capability element that is managed at the corporate level for use across the entire organisation.

## Abbreviations

## IT – Information Technology

* CSPA – Common Statistical Production Architecture
* GAMSO – Generic Activity Model for Statistical Organisations
* GSBPM – Generic Statistical Business Process Model
* GSIM – Generic Statistical Information Model
* HLG-MOS – High-level Group for the Modernisation of Official Statistics
* SLA - Service Level Agreement
* API- Application program interface
* SOA – Service Oriented Architecture

1. Applications are software components or programmes which provide specific functionality for end users. Web browsers, email programmes, and word processors are examples of generic desktop applications, but the term 'applications' also encompasses enterprise-level components providing functionality specific to the business. [↑](#footnote-ref-1)