



The other standards besides CSPA: GSBPM, GSIM e GAMS0

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GSBPM background

Defining and mapping business processes in statistical organisations started at least 10 years ago

- Many terms used:
- “Statistical value chain”
- “Survey life-cycle”
- “Statistical process cycle”
- “Business process model”

Now: **Generic Statistical Business Process Model**

Why did we need a model?

- To define, describe and map statistical processes in a coherent way
- To standardize process terminology
- To compare / benchmark processes within and between organizations
- To identify synergies between processes
- To make informed decisions on systems architectures and organization of resources

Applicability

All activities undertaken by producers of official statistics which result in data outputs

National and international statistical organizations

Independent of data source, can be used for:

- Surveys / censuses
- Administrative sources / register-based statistics
- Mixed sources
- Big Data?

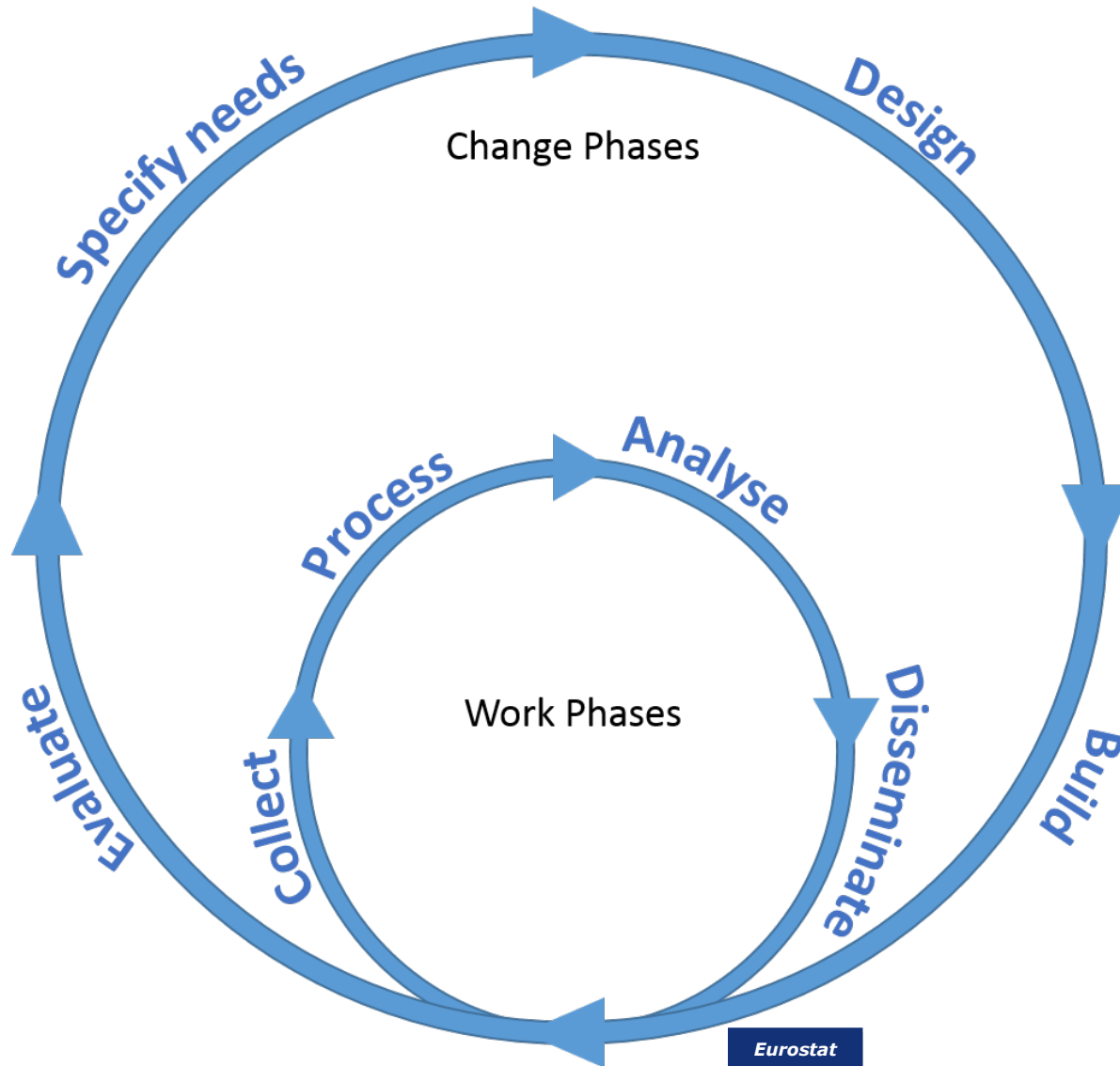




Imagine GSBPM is a library and the sub processes are the books. You only read the books you are interested in and you can come back and read a book as many times as you like.

In GSBPM, there are some phases which are undertaken quickly and frequently – the Work Phases.

There are other phases which are undertaken less often - the Change Phases.



Quality Management / Metadata Management

Specify Needs	Design	Build	Collect	Process	Analyse	Disseminate	Evaluate
1.1 Identify needs	2.1 Design outputs	3.1 Build collection instrument	4.1 Create frame & select sample	5.1 Integrate data	6.1 Prepare draft outputs	7.1 Update output systems	8.1 Gather evaluation inputs
1.2 Consult & confirm needs	2.2 Design variable descriptions	3.2 Build or enhance process components	4.2 Set up collection	5.2 Classify & code	6.2 Validate outputs	7.2 Produce dissemination products	8.2 Conduct evaluation
1.3 Establish output objectives	2.3 Design collection	3.3 Build or enhance dissemination components	4.3 Run collection	5.3 Review & validate	6.3 Interpret & explain outputs	7.3 Manage release of dissemination products	8.3 Agree an action plan
1.4 Identify concepts	2.4 Design frame & sample	3.4 Configure workflows	4.4 Finalise collection	5.4 Edit & impute	6.4 Apply disclosure control	7.4 Promote dissemination products	
1.5 Check data availability	2.5 Design processing & analysis	3.5 Test production system		5.5 Derive new variables & units	6.5 Finalise outputs	7.5 Manage user support	
1.6 Prepare business case	2.6 Design production systems & workflow	3.6 Test statistical business process		5.6 Calculate weights			
		3.7 Finalise production system		5.7 Calculate aggregates			
				5.8 Finalise data files			

Structure of the model

Process

Phases

Sub-
processes

Quality Management / Metadata Management							
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Current version

April 2009: version 4.0

December 2013: version 5.0

Now taken over from HLG

2019 version 5.1 – main changes:

- A few sub-processes have been re-named to improve clarity
- Overarching processes now GAMS0 compliant
- Phases and sub-processes less survey-centric
- Activities related to non-statistical data providers added
- Descriptions to include tasks needed to use geospatial data
- Terminology consistent with the GAMS0 and the GSIM

Key features

Not a linear model !

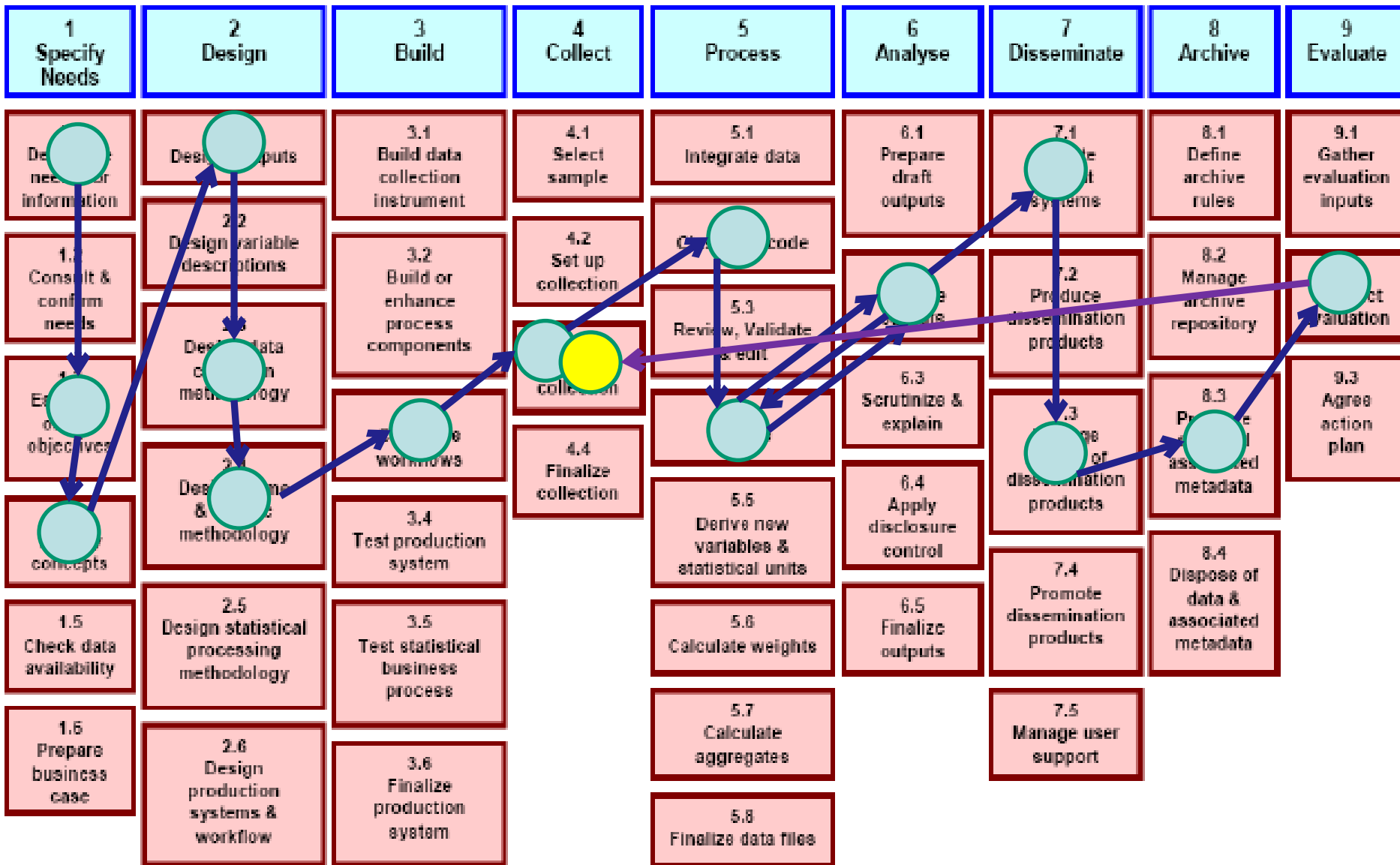
Sub-processes do not have to be followed in a strict order

It is a matrix, through which there are many possible paths, including iterative loops within and between phases

Some iterations of a regular process may skip certain sub-processes



Quality Management / Metadata Management



Mapping with other standards

Mapping with other standards:

- Mapping to the Fundamental Principles of Official Statistics
- Mapping with DDI
- Mapping with SDMX



National implementations

See in [the link](#) experiences from Armenia, Australia, Canada, Denmark, Eurostat, Ireland, Korea, Spain, Sweden, Turkey

Other [uses](#):

- Process-related metadata
- Managing Statistical programs
- Tool for Cooperation: [Software Inventory](#)



Relations with CSPA

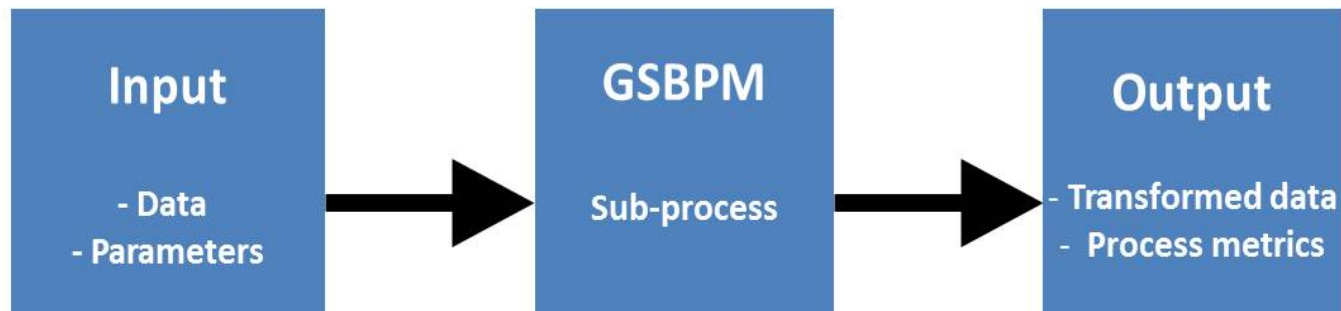
In the context of statistical modernisation, the aim is to align the enterprise architectures of different organisations, creating an “industry architecture” for the whole “official statistics industry”.

This approach is intended to facilitate collaboration, sharing and joint development of the components and services that are needed for the different parts of the statistical business process (defined in relation to the GSBPM).

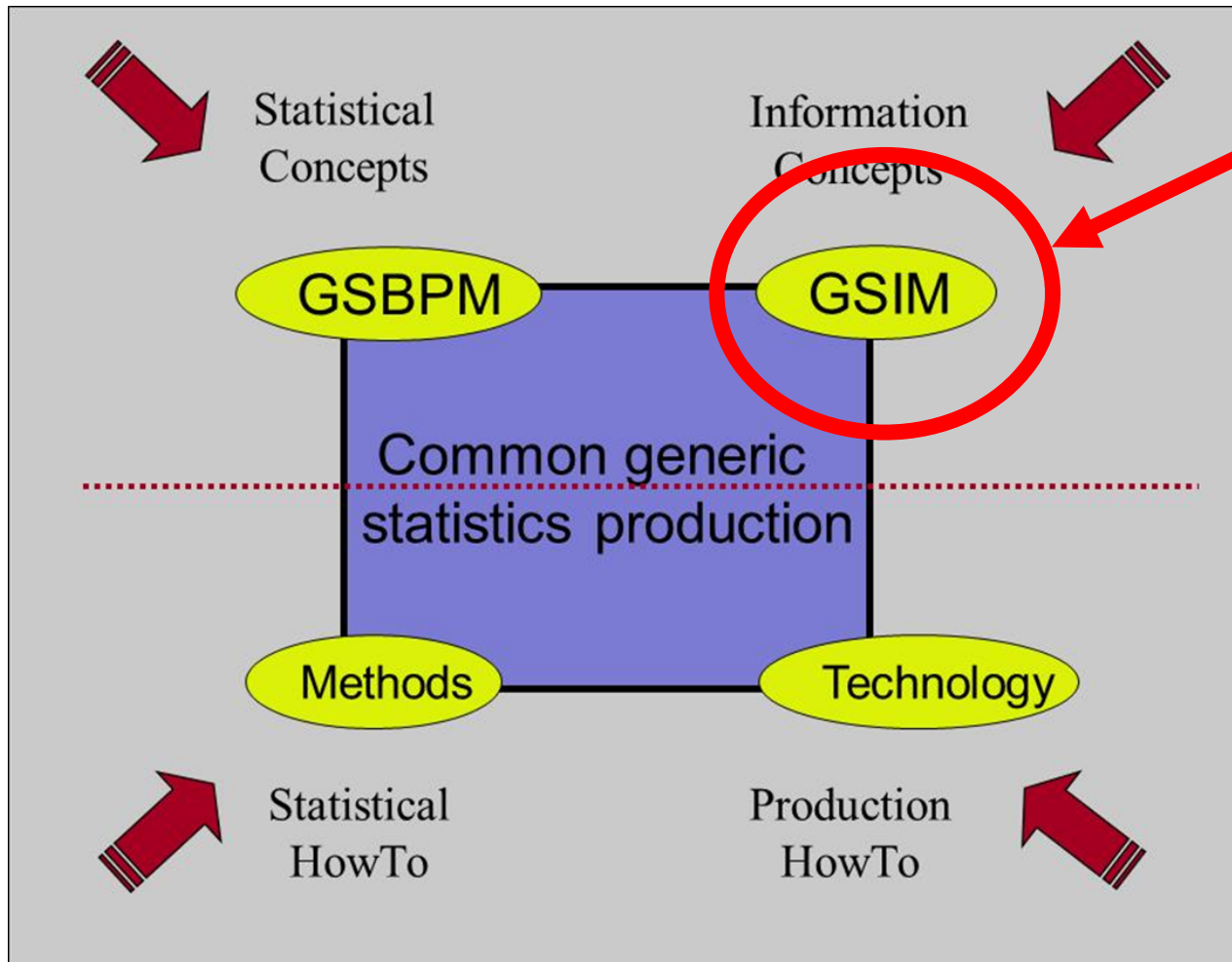
The result is the Common Statistical Production Architecture (CSPA), first released at the end of 2013.

GSIM is complementary to GSBPM

Another model is needed to describe information objects and flows within the statistical business process



GSIM



You
are
here

GSIM

GSIM is a reference framework of internationally agreed definitions, attributes and relationships that describe the pieces of information that are used in the production of official statistics (information objects)

This framework enables descriptions of the definition, management and use of data and metadata throughout the statistical information process



GSIM

Purposes of GSIM

- Improve communication
- Generate economies of scale
- Enable greater automation
- Provide a basis for flexibility and innovation
- Build staff capability by using GSIM as a teaching aid
- Validate existing information systems



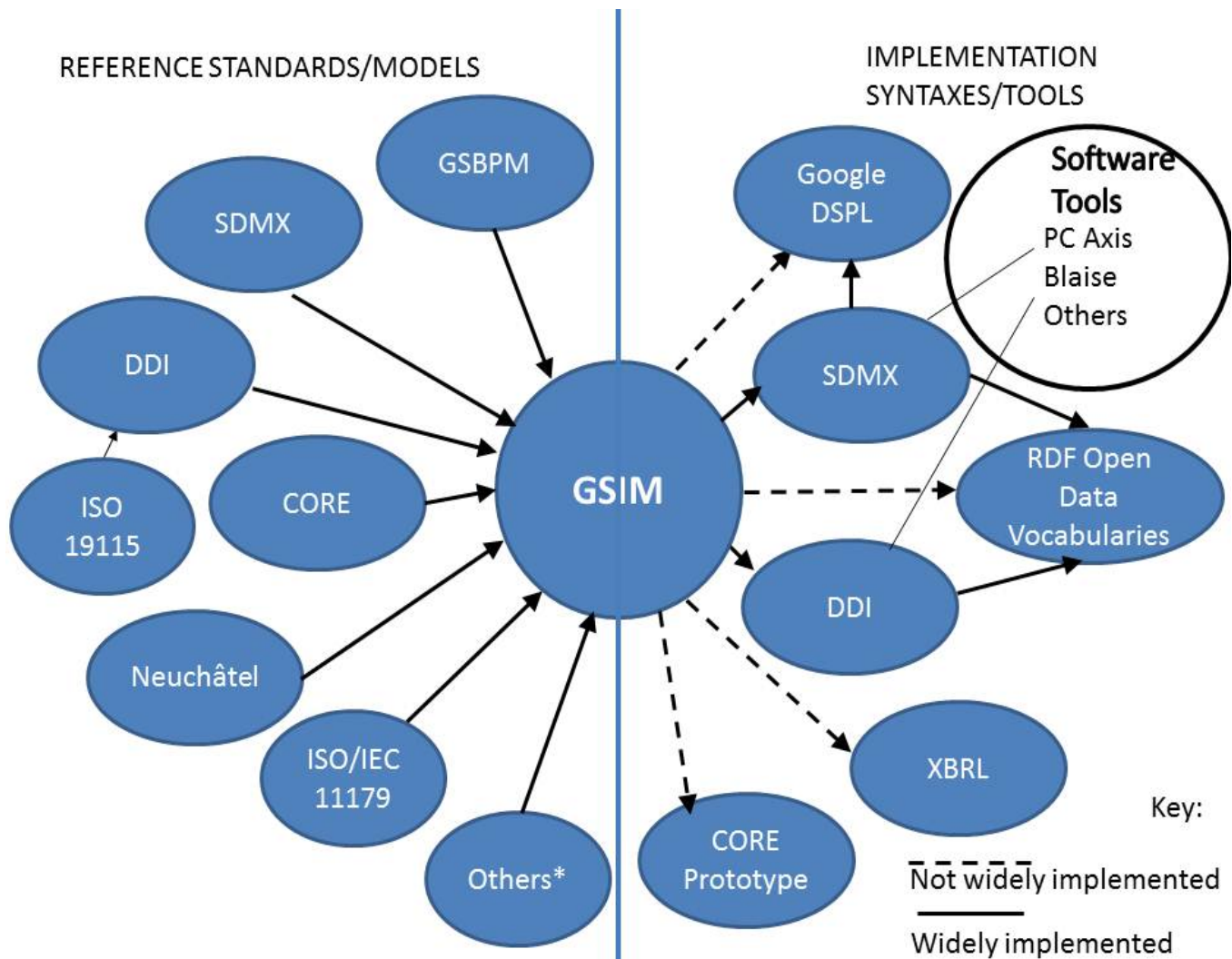
GSIM

... standards ...

HOW STANDARDS PROLIFERATE:
(SEE: A/C CHARGERS, CHARACTER ENCODINGS, INSTANT MESSAGING, ETC)



... standards ...



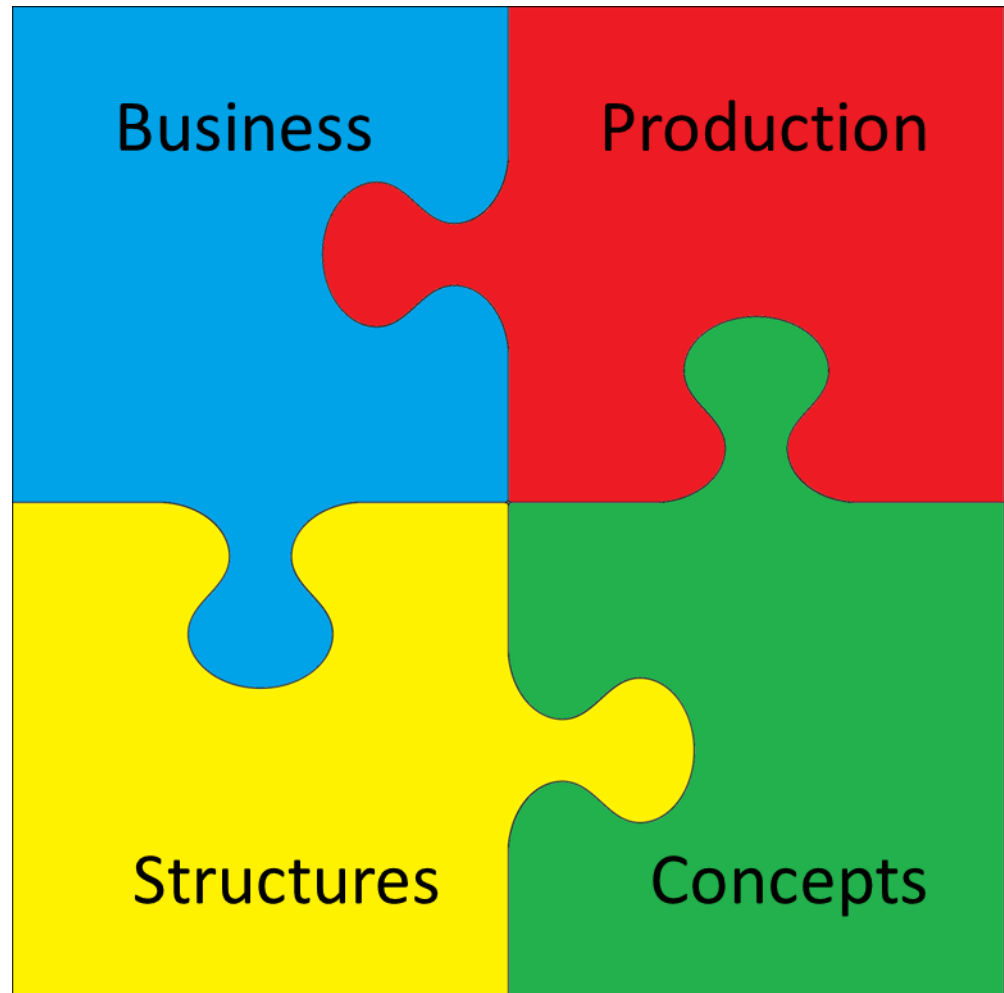


... standards ...

**Using common standards, statistics can
be produced
in a more efficient way**

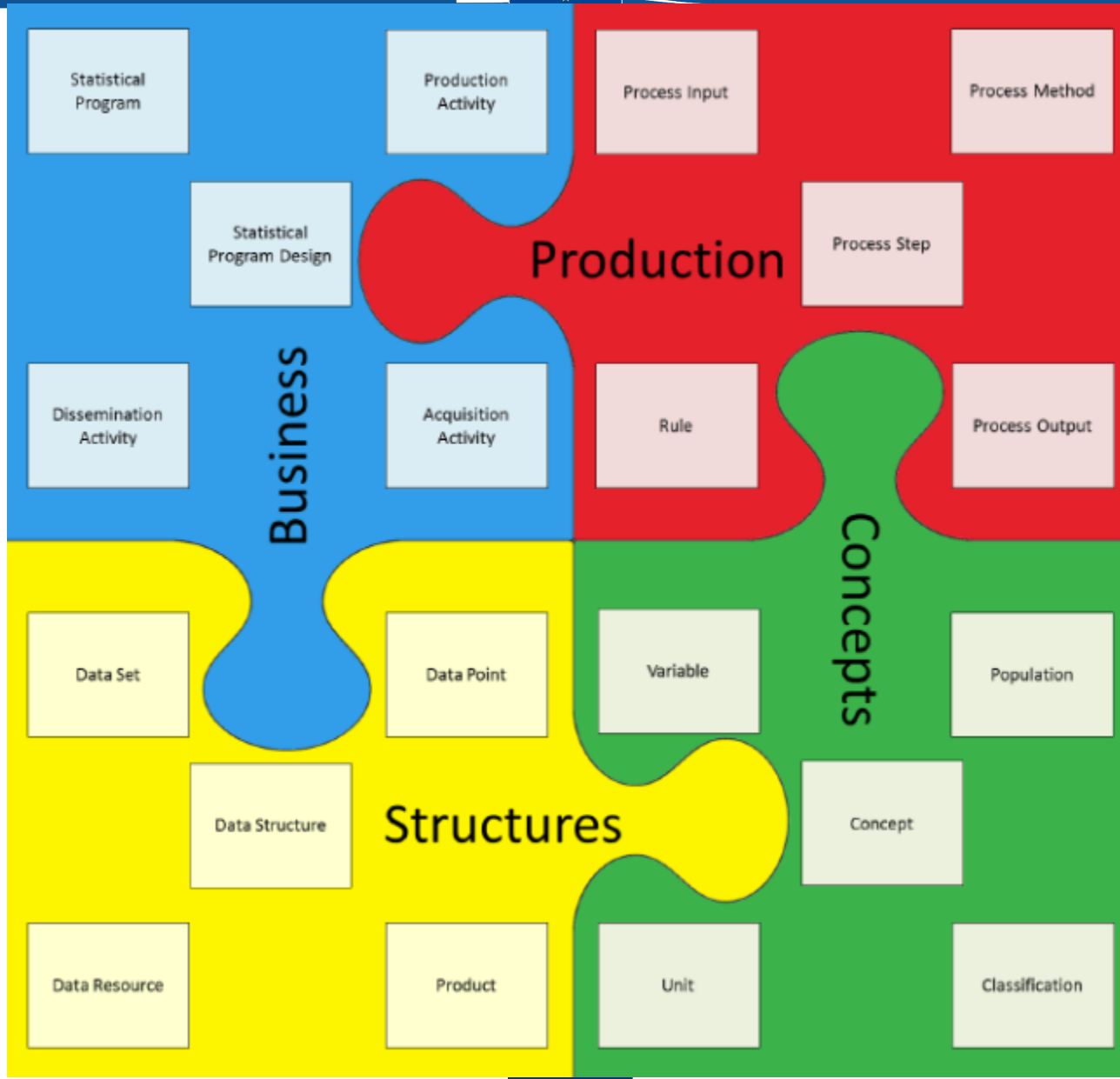
No domain is special!

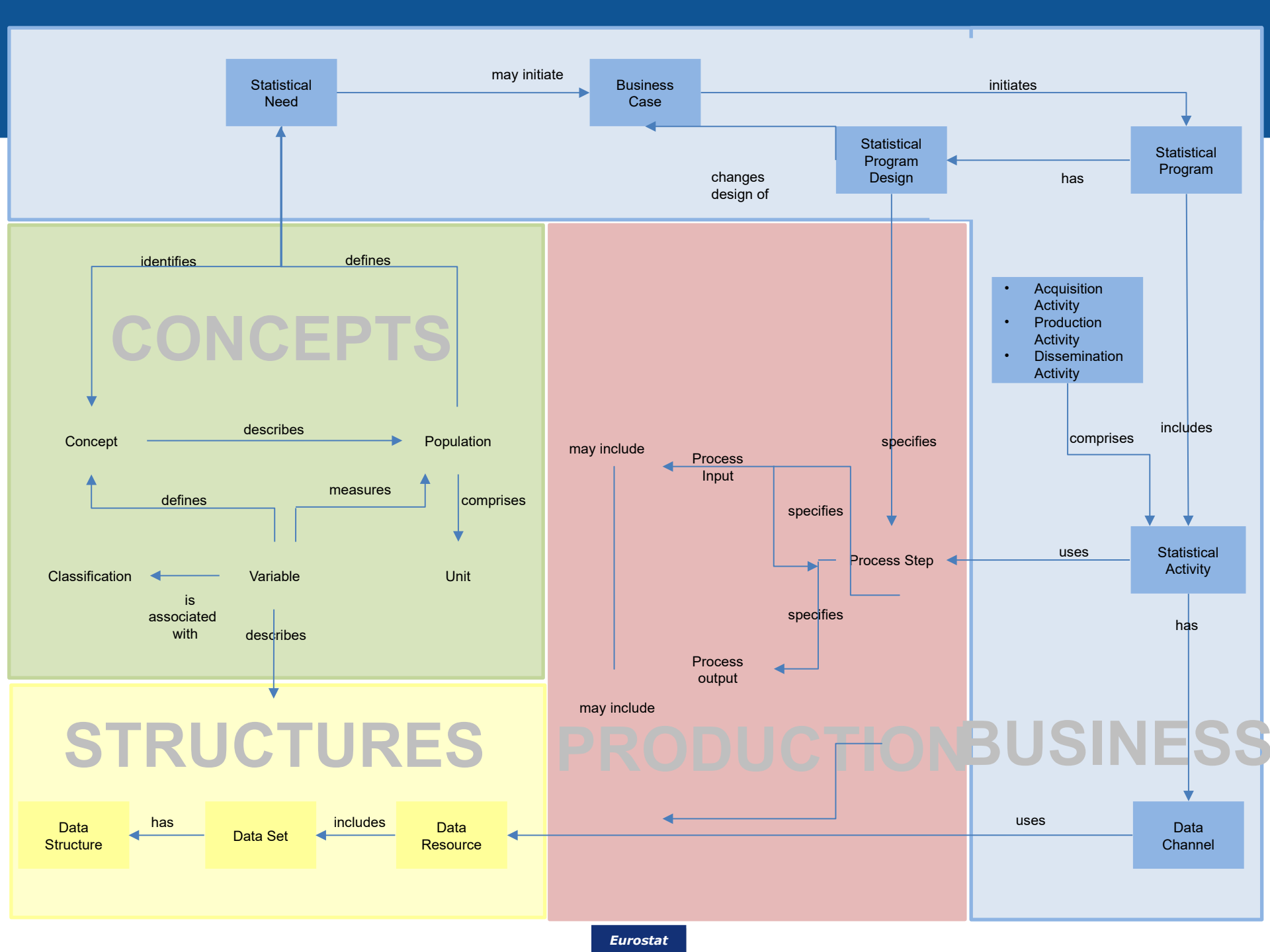
> 100 objects
grouped in
four broad
categories



Top-level groups

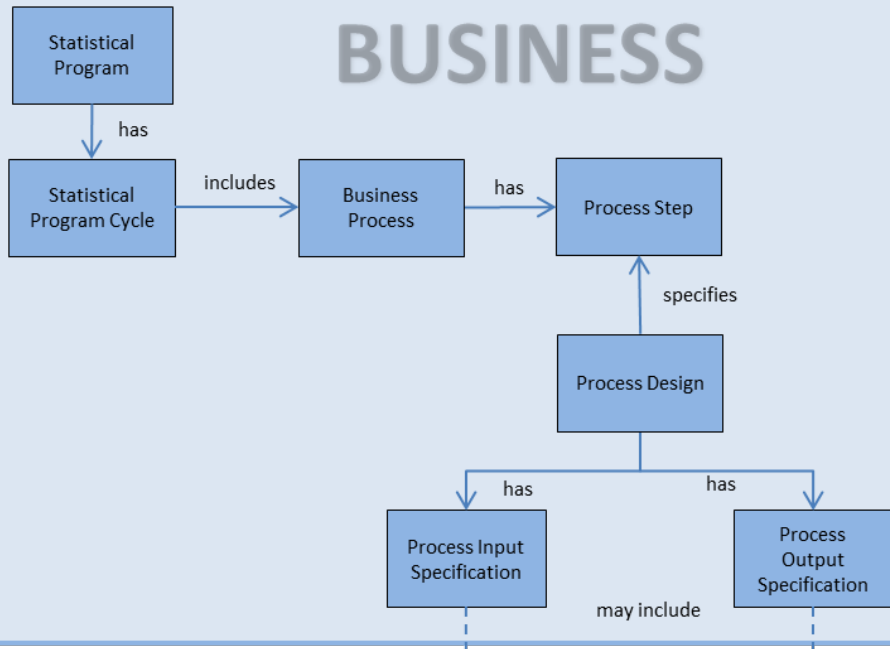
- The **Business** group includes the designs and plans of statistical programs i.e. the identification of a Statistical Need, the Business Processes and their evaluations
- The **Exchange** group is used to catalogue the information that comes in and out of a statistical organization via Exchange Channels. It includes objects about the collection and dissemination of information
- The **Concepts** group is used to define the meaning of data, providing an understanding of what the data are measuring
- The **Structures** group is used to describe and define the terms used in relation to information and its structure



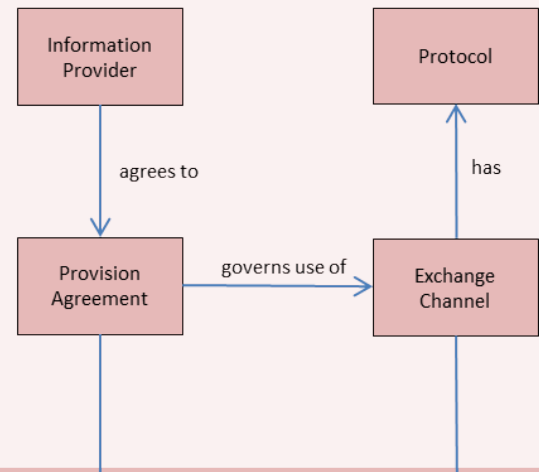




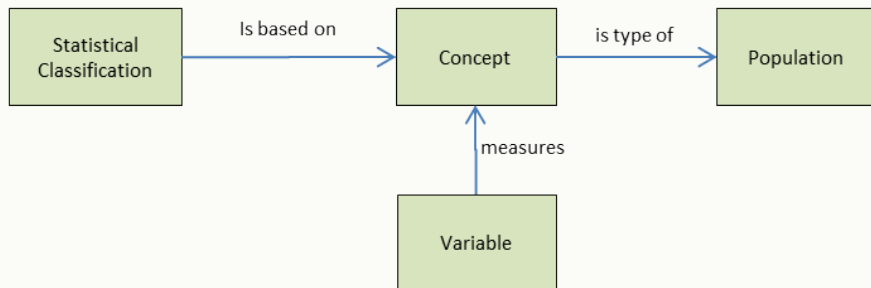
BUSINESS



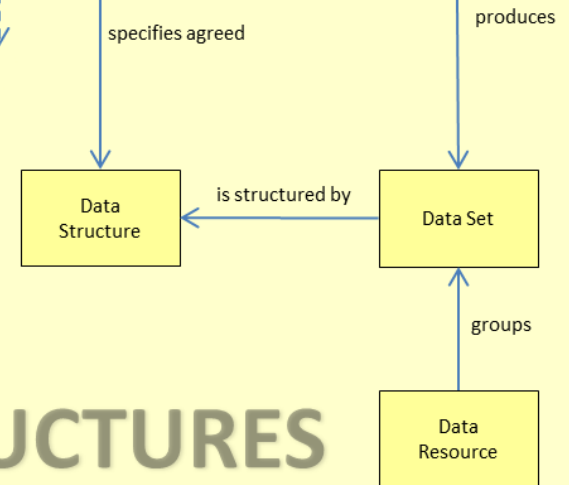
EXCHANGE



CONCEPTS



STRUCTURES



GSIM long term benefits

- GSIM provides a set of standardized information objects, inputs and outputs in the design and production of statistics, regardless of subject matter. So GSIM enables statistical organizations to rethink how their business could be more efficiently organized
- GSIM could be used to direct future investment towards areas of statistical production where the need is greatest
- It could also enable some degree of specialization within the international statistical community
- GSIM could:
 - Create an environment prepared for reuse and sharing of methods, components and processes
 - Provide the opportunity to implement rule based processes
 - Facilitate generation of economies of scale through development of common tools



GSIM immediate benefits

- A significant benefit of using GSIM is that it provides a common language to improve communication at different levels:
 - Between different roles in statistical production (business / IT)
 - Between the different statistical subject matter domains
 - Between statistical organizations at national/international levels
- More efficient exchange of data and metadata within and between statistical organizations, and also with external users and suppliers
- GSIM can be used by organizations now to:
 - Build capability among staff by using GSIM as a teaching aid to understand view of complex information and clear definitions
 - Validate existing information systems and compare with emerging international best practice
 - Guide development of international or local standards to ensure they meet the needs of the international statistical community



Move to GSIM in practice

GSIM could lead to:

- A foundation for standardized statistical metadata use throughout systems
- A standardized framework to aid in consistent and coherent design capture
- Increased sharing of system components
- Common terminology across and between statistical agencies
- It allows NSIs and standards bodies, such as SDMX and DDI, to understand and map common statistical information and processes.

GAMSO

GAMSO stands for Generic Activity Model for Statistical Organizations

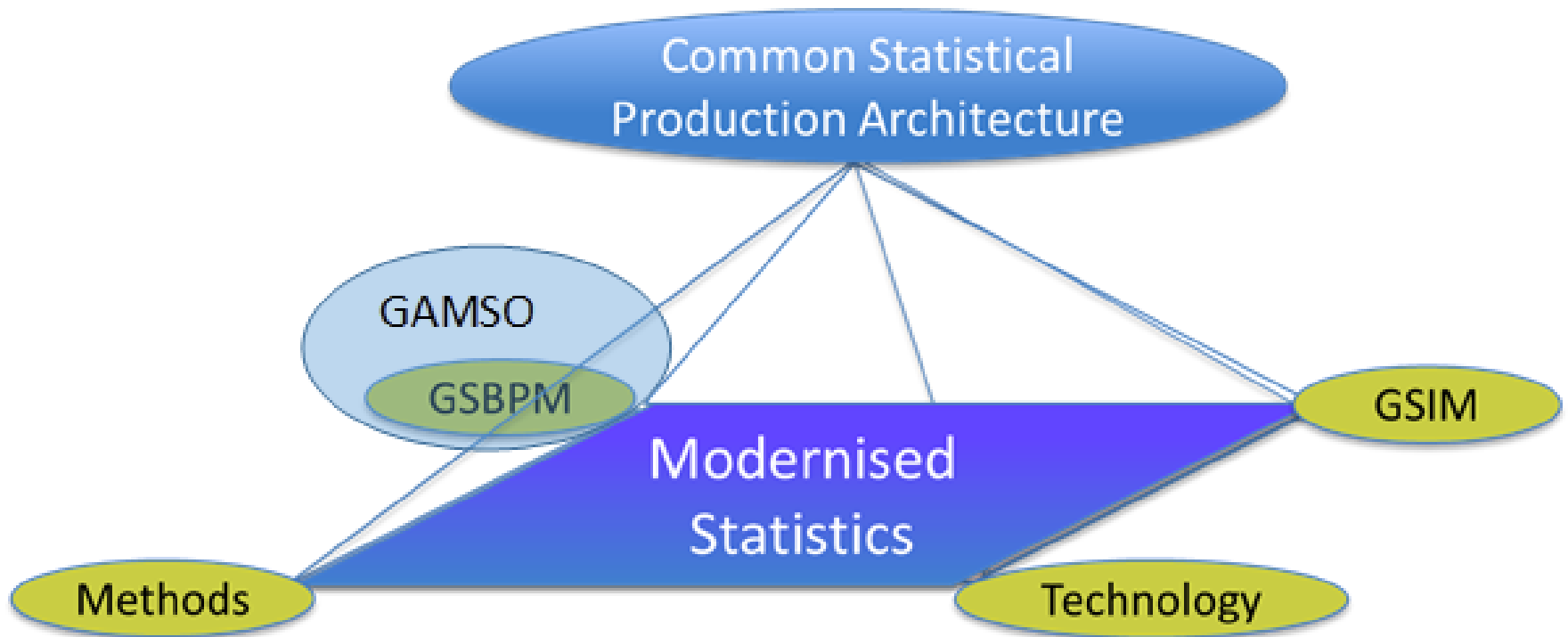
GAMSO extends and complements the Generic Statistical Business Process Model (GSBPM) by adding additional activities needed to support statistical production.

When the GSBPM was developed, such activities were referred to as over-arching processes but not elaborated in any great detail.

The GAMSO draws heavily on two existing models:

- The GSBPM, which provides the contents of the Production activity area
- The Statistical Network business activity model, which provides the basis for the Strategy and leadership, Capability management and Corporate support activity areas.

GAMSO



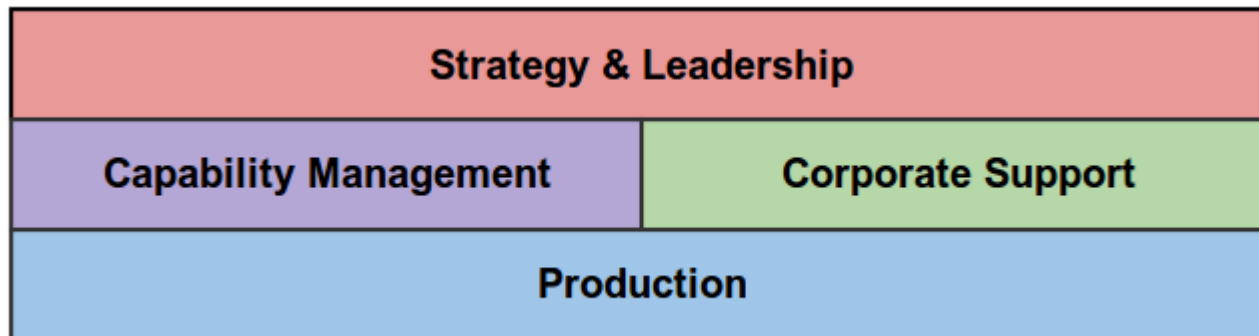
GAMSO

Like the GSBPM, the GAMSO aims to provide a common vocabulary and framework to support international collaboration activities, particularly in the field of modernisation.

Some expected uses of the GAMSO are listed below:

- As a basis for resource planning within a statistical organisation
- As a basis for the measurement of costs of producing statistics
- As a tool to help assess the readiness of organisations to implement different aspects of modernisation
- To support risk management systems
- To support the implementation of enterprise architectures
- To help to measure and communicate the value of statistical modernisation activities across an organisation

GAMSO structure



<http://www1.unece.org/stat/platform/display/GAMSO/Structure>

GAMSO: Strategy & Leadership

High-level strategic activities that enable statistical organisations to deliver the products and services needed by governments and communities nationally and internationally.

The activities influence, shape and drive future directions and investments through the development of high-level strategies to develop organisational capabilities and the statistical product and service portfolio.

Strategy & Leadership		
1.1	1.2	1.3
Define vision	Govern & Lead	Manage strategic collaboration & cooperation

<http://www1.unece.org/stat/platform/display/GAMSO/Strategy+and+leadership>

GAMSO: Capability management

These activities support the development and monitoring of the capabilities that underpin an organisation's ability to conduct its business.

They aim principally at promoting the re-use and sharing of infrastructure (statistical and technical), both inside the organisation and across organisations, thus facilitating harmonisation and coherence of statistical outputs.

Capability Management			
2.1	2.2	2.3	2.4
Plan capability improvements	Develop capability improvements	Monitor capabilities	Support capability implementation

<http://www1.unece.org/stat/platform/display/GAMSO/Capability+management>

GAMSO: Corporate support

These activities cover the cross-cutting, functions required by the organisation to deliver its work programme efficiently and effectively.

Corporate Support									
3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	3.10
Manage business & performance	Manage finances	Manage human resources	Manage IT	Manage statistical methodology	Manage information & knowledge	Manage consumers	Manage data suppliers	Manage buildings & physical space	Manage quality

<http://www1.unece.org/stat/platform/display/GAMSO/Corporate+support>

Modernization Maturity Model levels

1 Initial awareness

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 being prepared.

Modernization Maturity Model levels

4 Corporate implementation

A corporate-wide programme/strategy for use of the standard is in place.

There is a widespread awareness of the standard and it is used in a consistent manner 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 and practices and used in a consistent manner across the organisation.

See [on the wiki](#) for GSBPM self-assessment criteria

Modernization Maturity Model

Which standards I have to implement?

Which standard is best to start with?

→ Modernisation Maturity Model (MMM) has been developed

Maturity dimensions and different levels of maturity: model for self-assessment to be performed by a cross-cutting group involving members of different skills

Self-assessment criteria has been formulated that is specific to of the following HLG-MOS standards: GAMSO, GSBPM, GSIM, CSPA



MMM Roadmap tools

The roadmap presents an iterative way to go through each maturity level: each instance of the roadmap can be repeated until the next maturity level has been reached

Activities and supporting instruments applicable at each stage, from preliminary actions, to planing, implementation, evaluation and consolidation

See [on the wiki](#) for the Roadmap and related tools



Standards: first steps

- Documenting processes using GSBPM
- Mapping activities to GAMS0
- Modelling information flows using GSIM
- Moving to standard services
- Adopting service-oriented architecture and CSPA
- Sharing services within and between organisations