



A generic production environment - use of GSIM in Statistics Sweden

Klas Blomqvist



facebook.com/statisticssweden



[@SCB_nyheter](https://twitter.com/SCB_nyheter)



[statistiska_centralbyran_scb](https://instagram.com/statistiska_centralbyran_scb)



- Vision
- GPM-project
- The central metadata repository
- Harmonization



Vision 2020

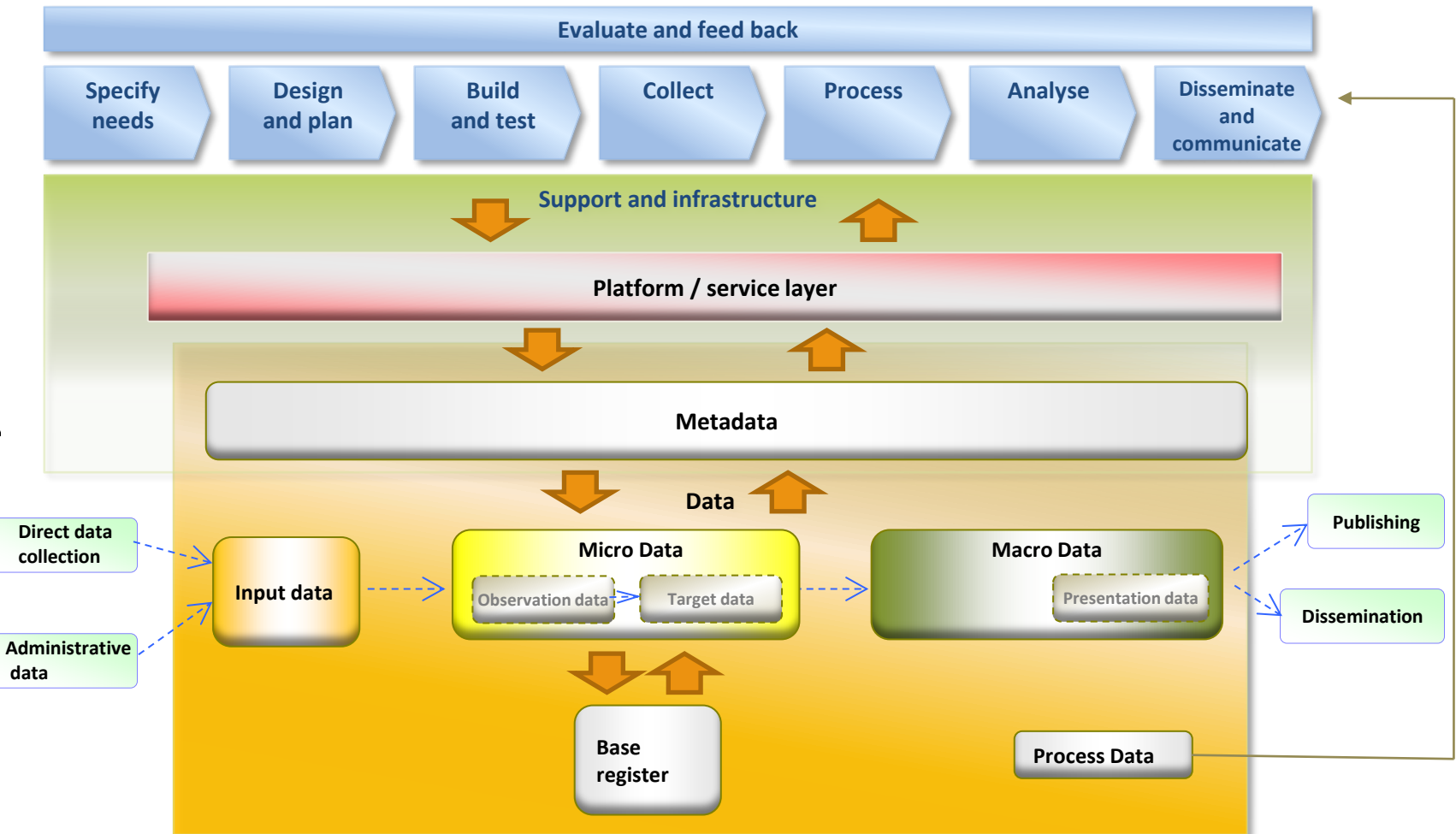
- Reduce respondent burden
- Meet new demands
- Harmonized statistics
 - A coordinated efficient statistical system that meets the needs and demands of the customers
 - The statistical information is well structured in order to promote new outputs
 - By analysing the statistical material the quality and usability can be improved



SCB's strategy on coordinated statistics production

Statistics Sweden

Statistiska centralbyrån



Common Production Environment (GPM-project)

Active metadata – Design driven production

Existing:

- Production environment for data collection
- Production environment for dissemination

Developing:

- Production environment for process and analyse



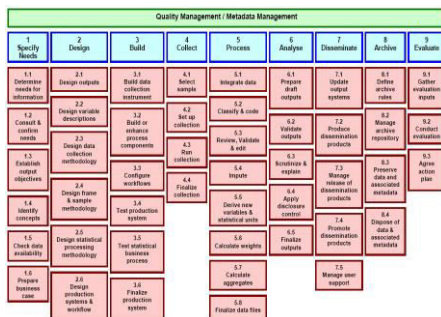
Ongoing

- Incorporating in/with the Common Production Environment
- Prototype – statistical program database
- National accounts
- Short term statistics (5 products) - KLON

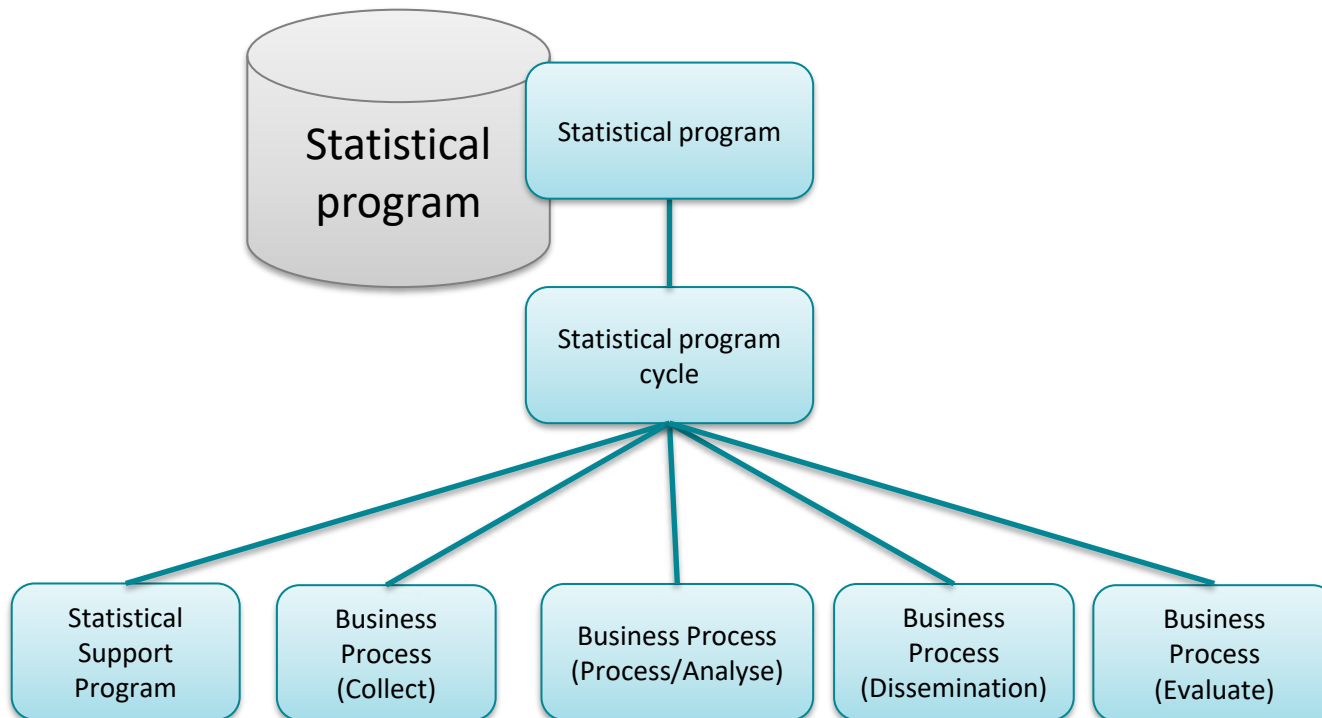
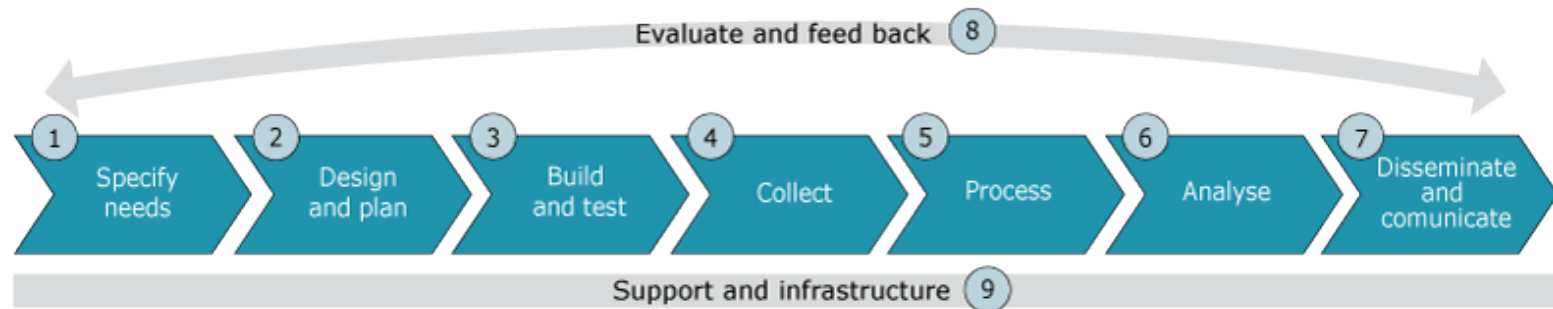


Active metadata – how?

- GSBPM
- GSIM

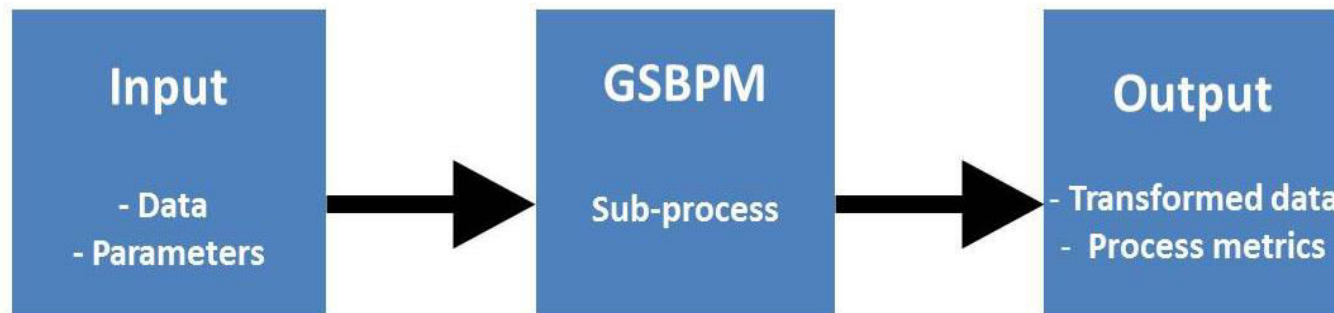


Statistical program DB

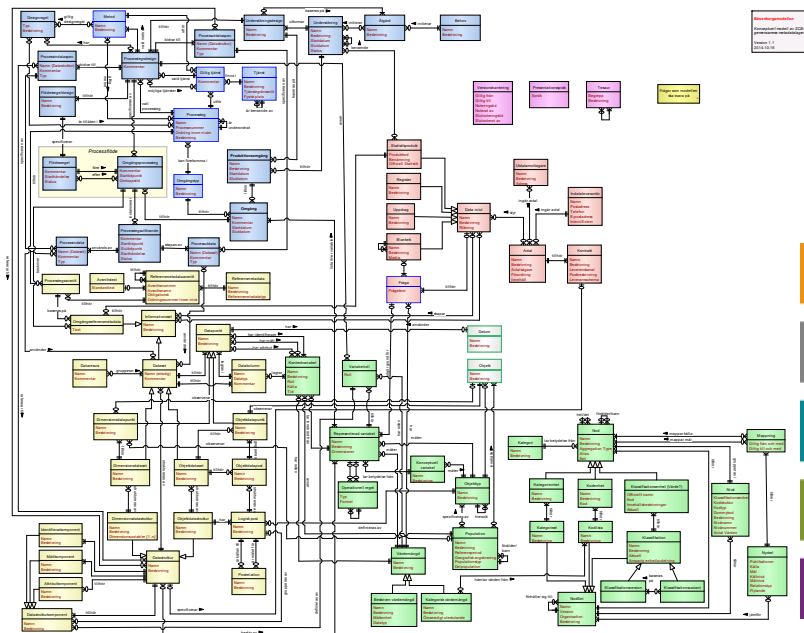


GSIM complements GSBPM

Describes information objects and flows within the statistical business process



SCB GSIM



Content harmonization

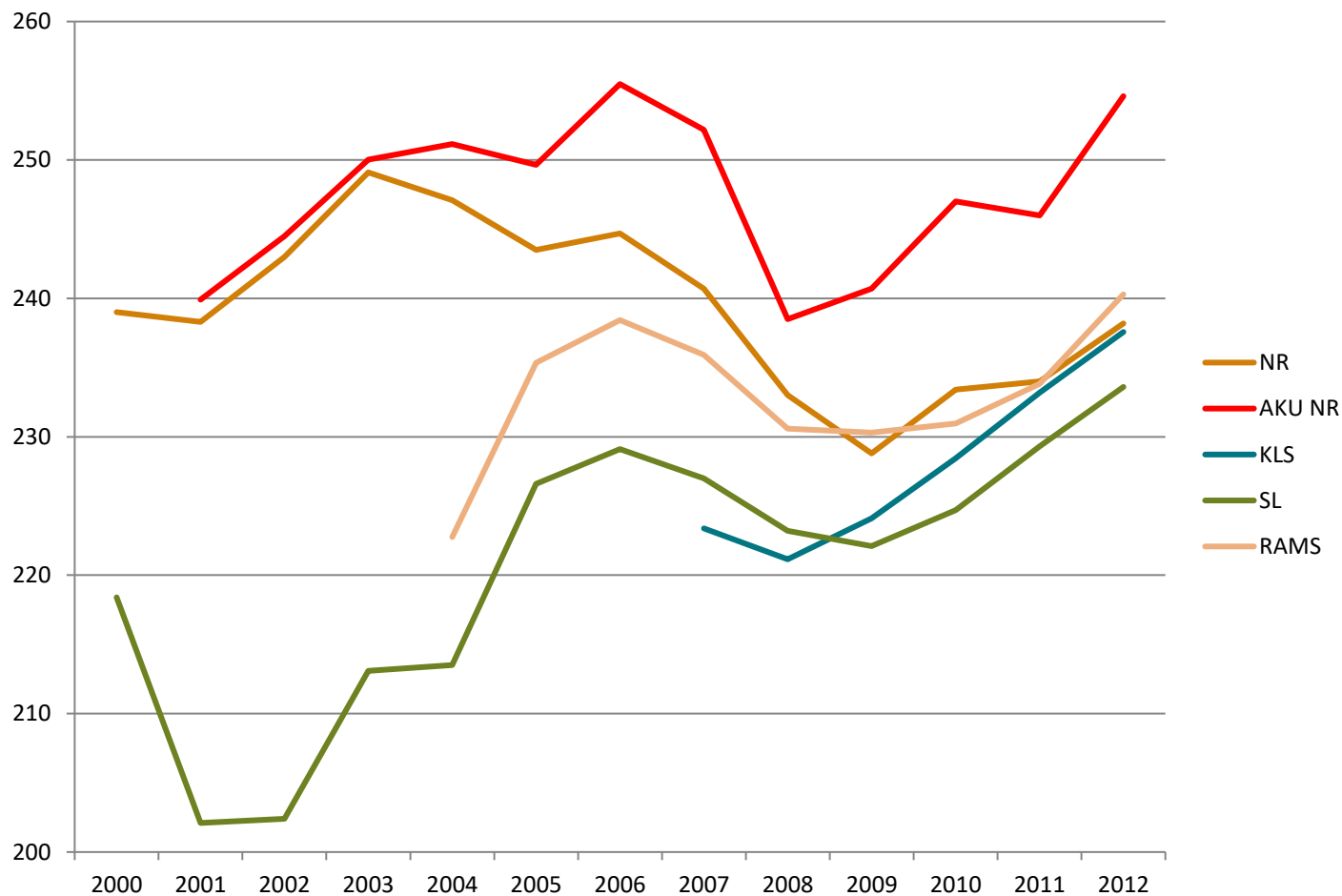
One of the goals of the new production environment is to enable content harmonization

- Metadata to provide reusability in order to increase efficiency and quality
 - Enable fusion of sources
 - Reduce respondent burden



Number of employees

Statistiska centralbyrån Statistics Sweden



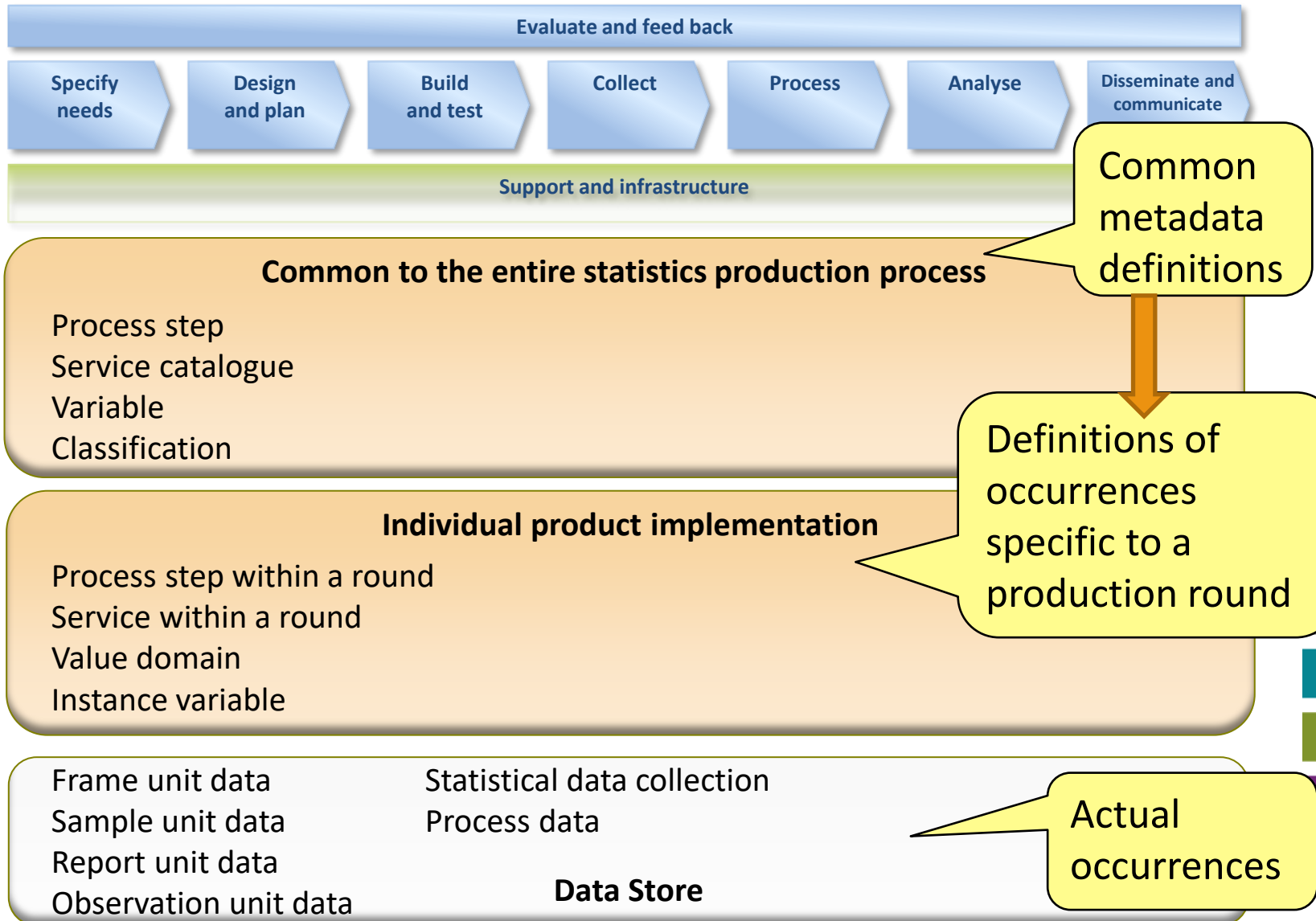
Industrial Company A

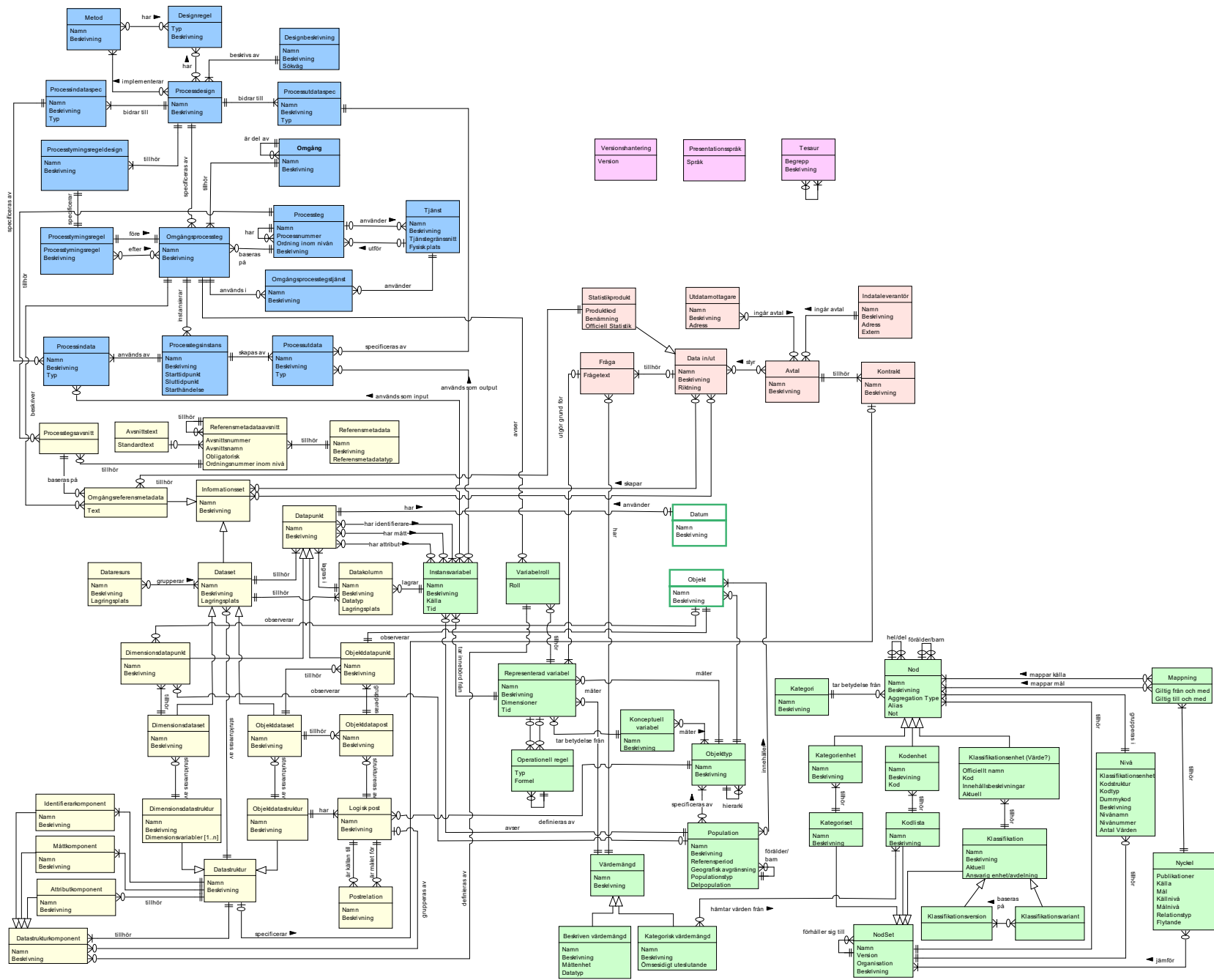
Number of employees: 159

- Monthly surveys
 - Kortperiodisk sysselsättningsstatistik - Marie
 - Intrastat - Marianne
 - KonjInd – Stefan och Ylva
 - Ksju - Marie
 - Konjunkturstatistik över vakanser - Jonas
 - KLP - Marie
 - PPI
- Quarterly surveys
 - Kvartalsvis bränslestatistik - Claes
 - Investeringsenkäten - Stefan
 - Industrins lager - Stefan
 - UHT - Stefan
- Yearly surveys
 - SLP
 - BONUS - Jonas
 - FEK - Ylva
 - Företagens utgifter för IT - Ylva
 - ISEN - Ylva
 - IVP - Stefan
 - Utlandsägda företag - Stefan

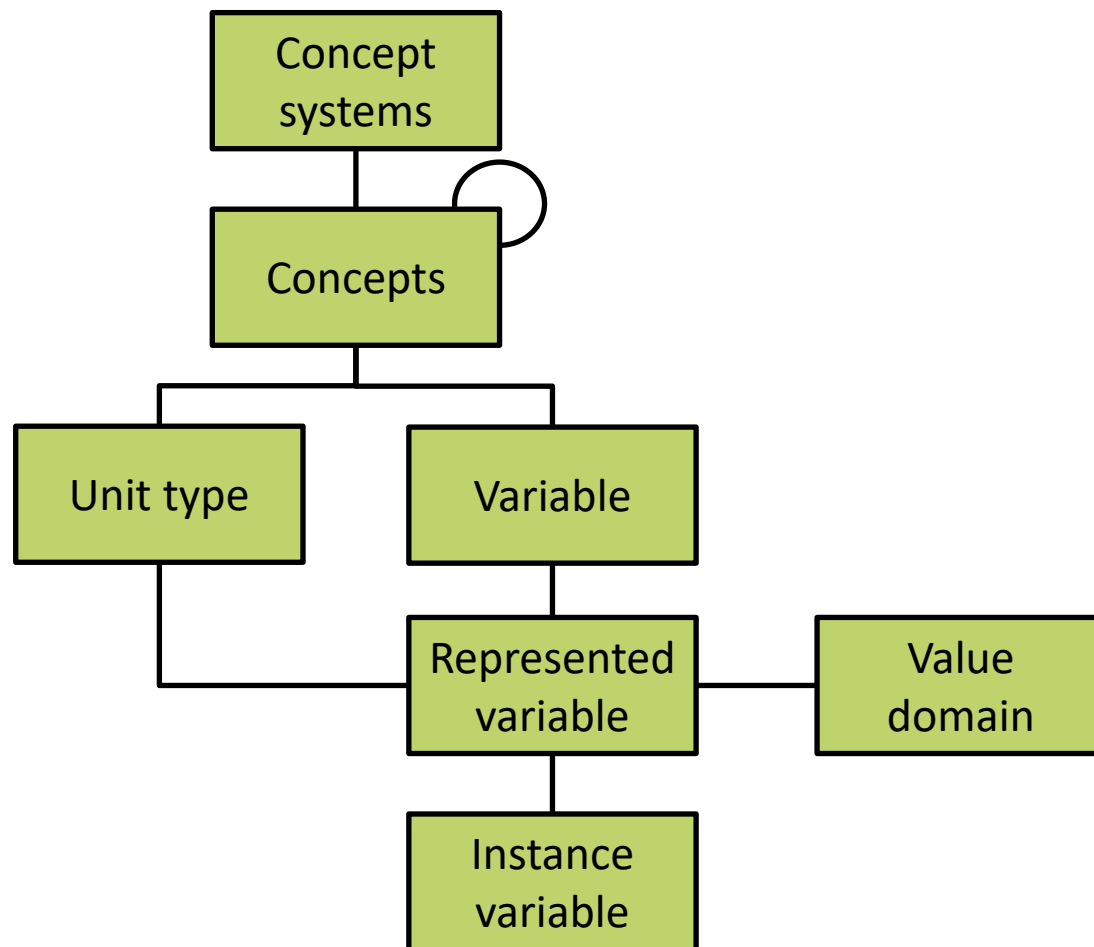


Common and specific metadata

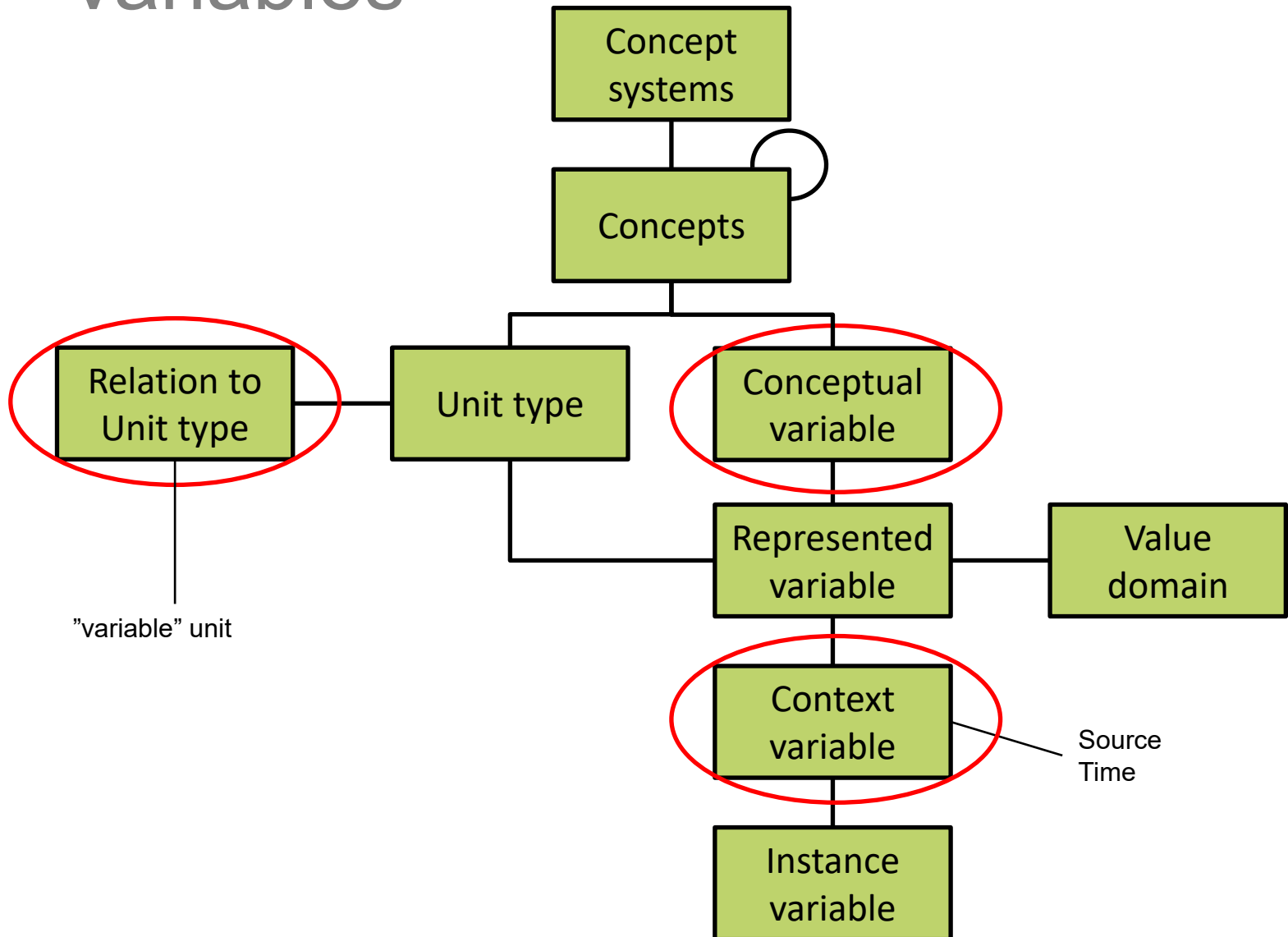




GSIM - variables



Swedish version of GSIM - variables



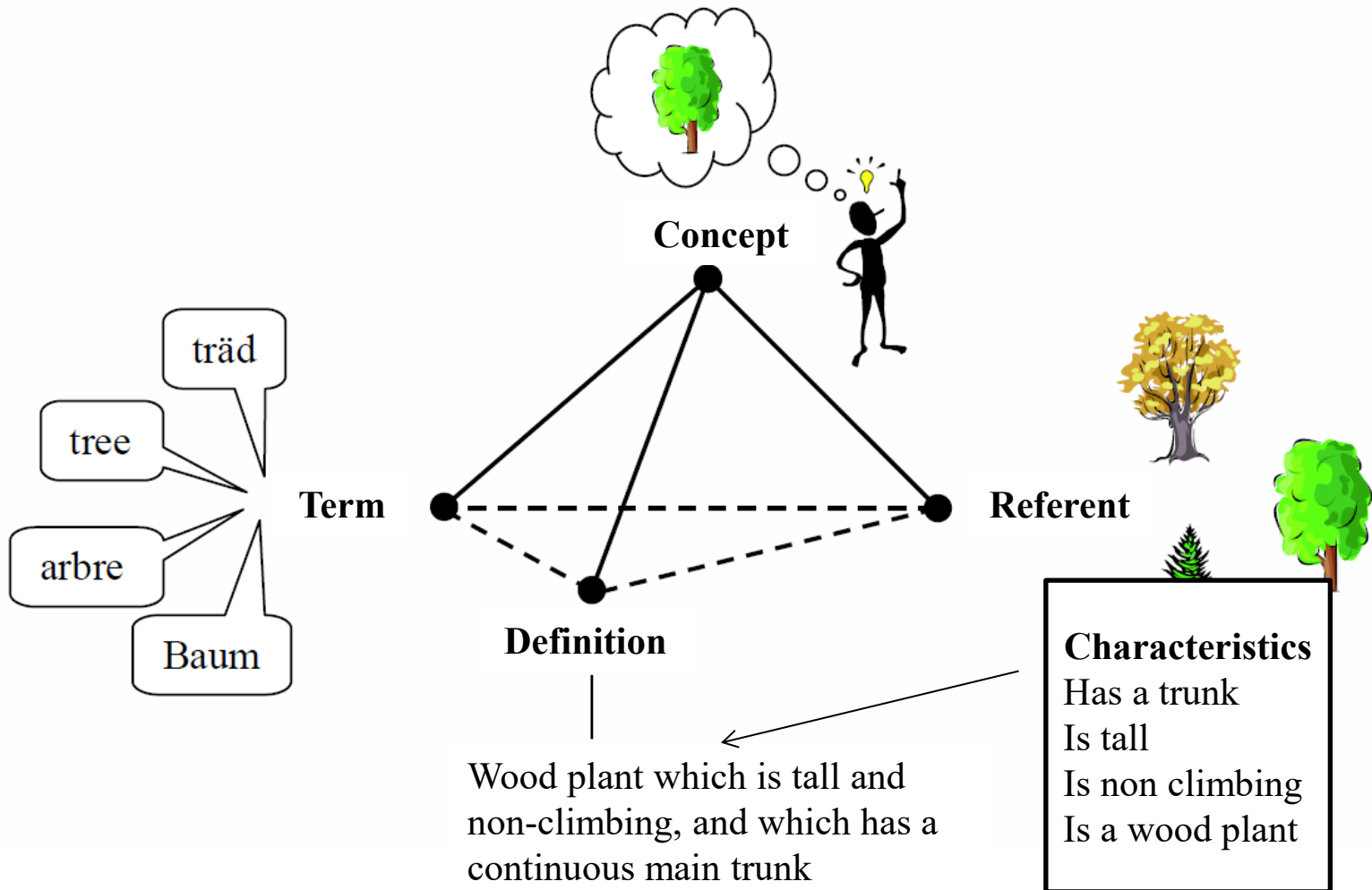
Concept systems

Conceptual models

- Variables
- Unit types
- Value domains



Concept, Term, Definition, Characteristics



Statistiska centralbyrån Statistics Sweden

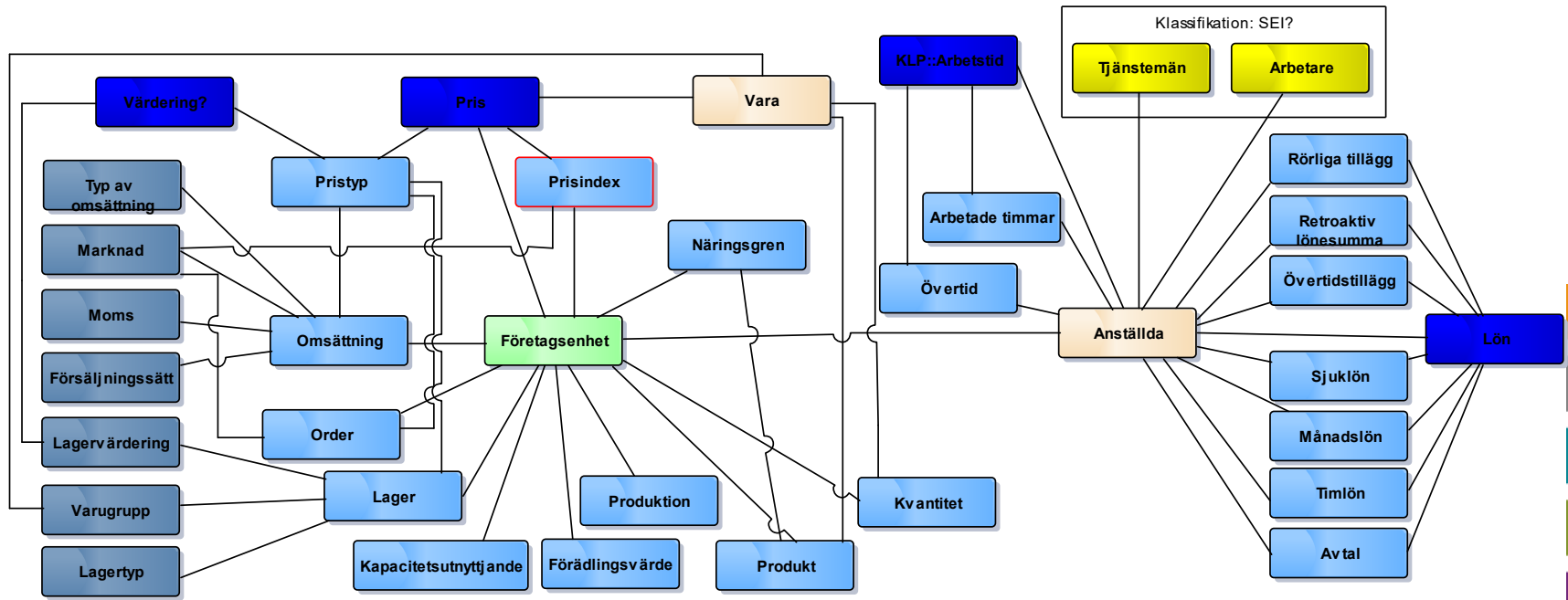


Concepts – Unit types and variables

- Population register

Unit type	Variables
Person	Gender
• Birth	Person ID-number
○ Live birth	Number of
• Immigration	Non Swedish/Swedish background
• Degree	Age
• National registration	Country
• Education	County
• Citizenship	Congregation
• Emigration	Municipality
• Father	Year
○ Adoptive father	Civil status
• Mother	Property ID
○ Adoptive mother	
Property	

Concepts - Short term statistics



Concepts – Unit types and variables

- KLON – Short term statistics

Unit type	Variables
Business	Number of employees
• Industry	Number of worked hours
	Value added
	capacity utilization
	Stock
	Salary
	• Monthly salary
	• Hourly salary
	Industrial activity
	Turnover
	Order
	Price indices
	Identity
	• ID-number
	• Category number
	• Name
	• Organization number

Conclusions

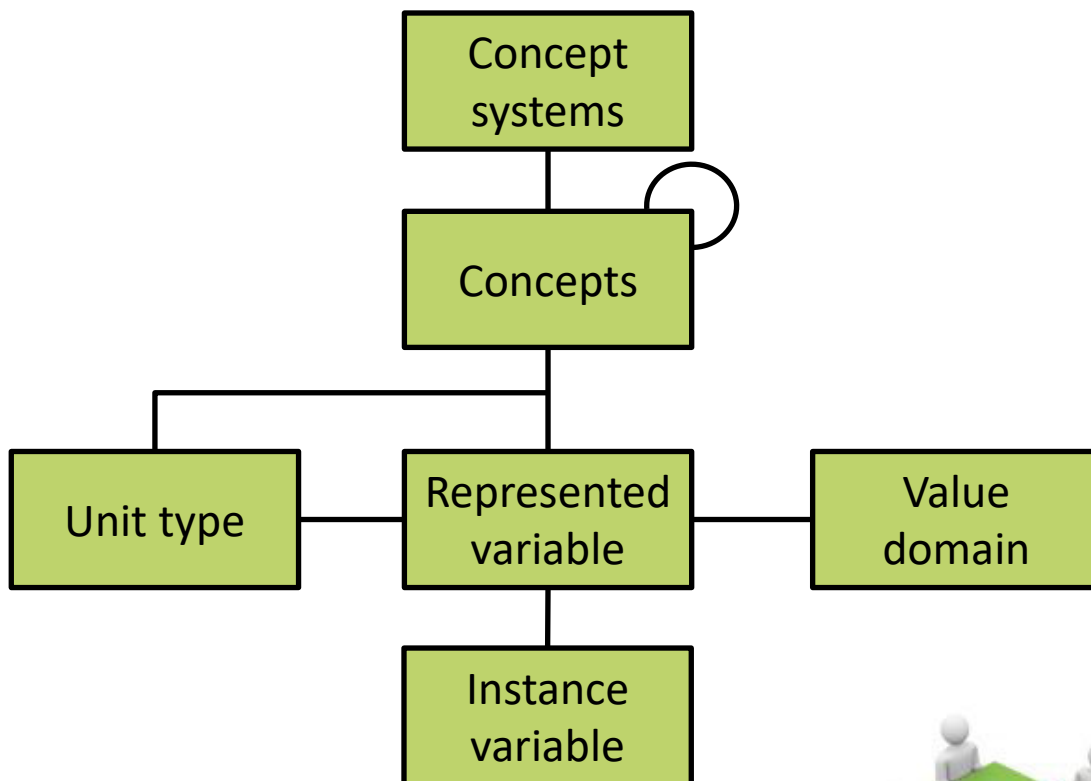
- Standards help
- Can be interpreted in different ways
- Foundation for harmonization



Examples



GSIM



GSIM



Concepts and Variables

- Concept
- Variable
- Represented variable
- Instance variable



Represented variable

Combining concepts for

- Unit type
- Variable
- Value domain

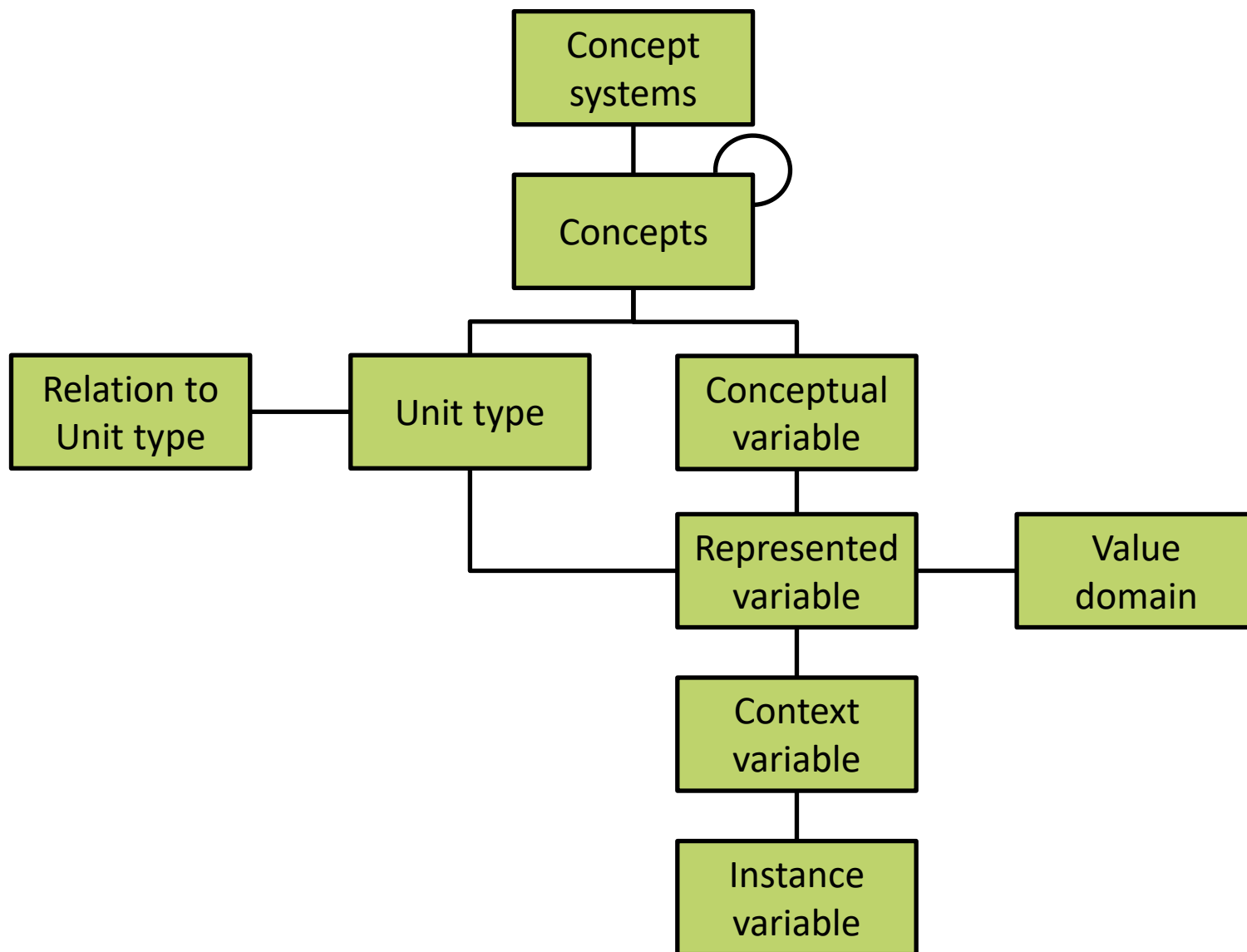


Concepts and Variables

- Concept
- Variable
- Conceptual variable
- Represented variable
- Conceptual variable
- Instance variable



Examples

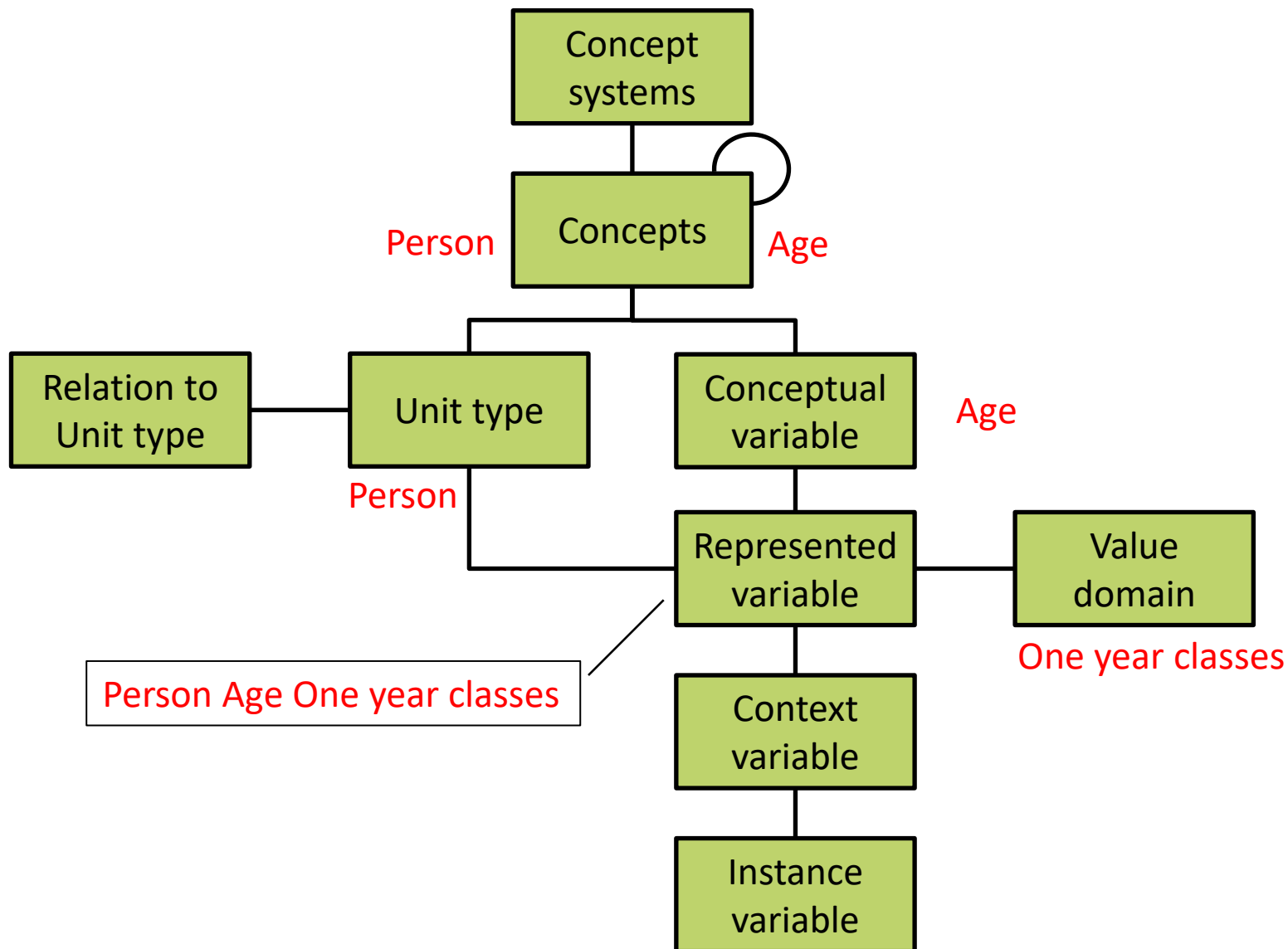


Examples

- Swedish population register
 - Population register 2014: Age
 - Statistical unit: Person
 - Variable: Age
 - Value domain: One year classes
- Represented variable: Person Age 2014 in one year classes



Age, population register 2014

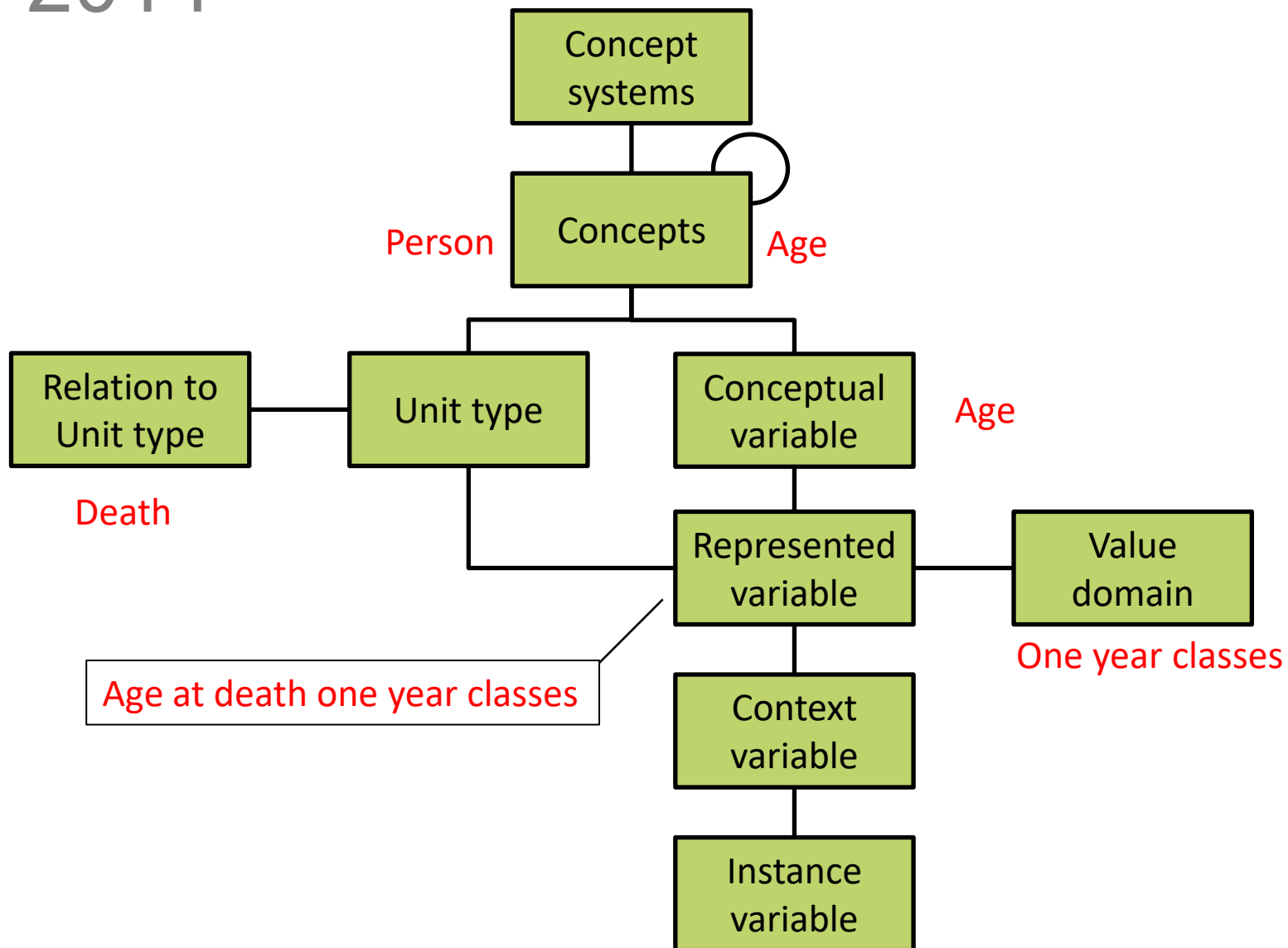


Examples

- Swedish population register
 - Deaths 2014: Age at the event
 - Statistical unit: Death (Person related event)
 - Variable: Age
 - Value domain: One year classes
- Represented variable: Person Age at Death 2014 in one year classes



Mothers age population register 2014



Examples

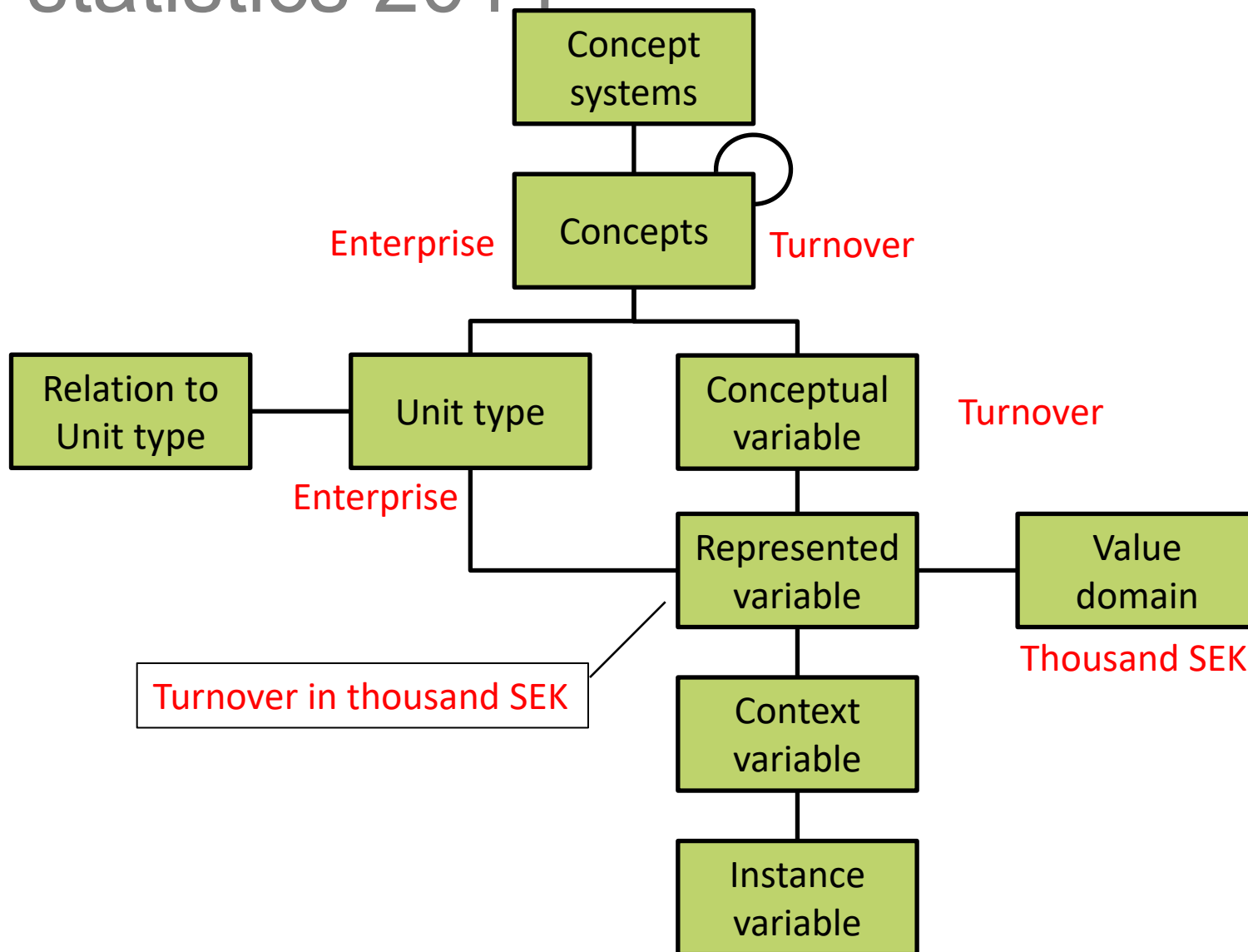
- Short term business statistics 2014

- Statistical unit: Enterprise
- Variable: Turnover
- Value domain: Thousands SEK

Represented variable: Enterprise 2014 in Thousands SEK



Turnover short term business statistics 2014



Examples

- Business register 2014

- Statistical unit: Enterprise
- Variable: Industrial activity
- Value domain: SNI 2007 5-digit

Represented variable: Enterprise Industrial activity 2014 by
SNI 2007 5-digit



Industrial activity, business register 2014

