# Introducing modularity in order to improve quality and efficiency

## Some ideas

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# *Francisco de Quevedo (1580-1645)*

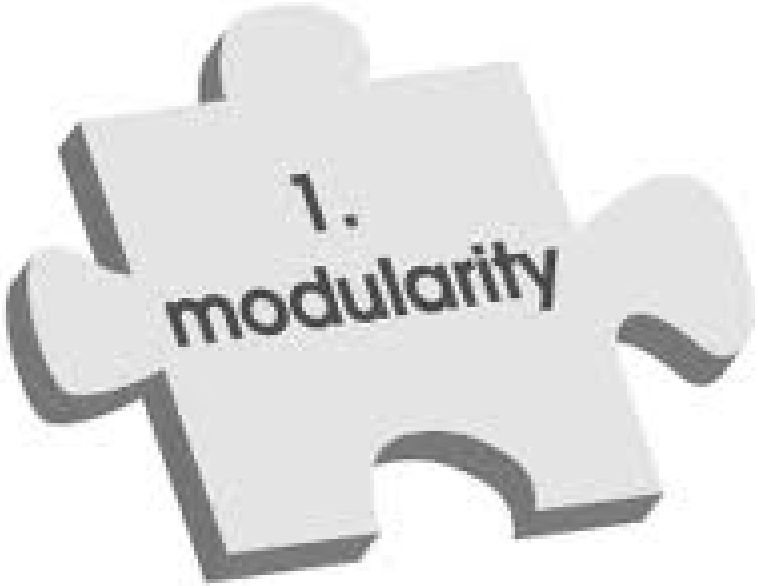
*Nunca mejora su estado quien muda solamente de lugar y no de vida y de costumbres*.

He who only moves around instead of changing customs and habits never improves his condition.

# Contents

- Present ideas on **modularity**
- Modularity is essential for
  - review of the LFS
  - modernisation of social statistics
- Address the following questions:
  1. What could modularity be?
  2. What are the advantages?
  3. Required adaptations to LFS

# What is modularity?

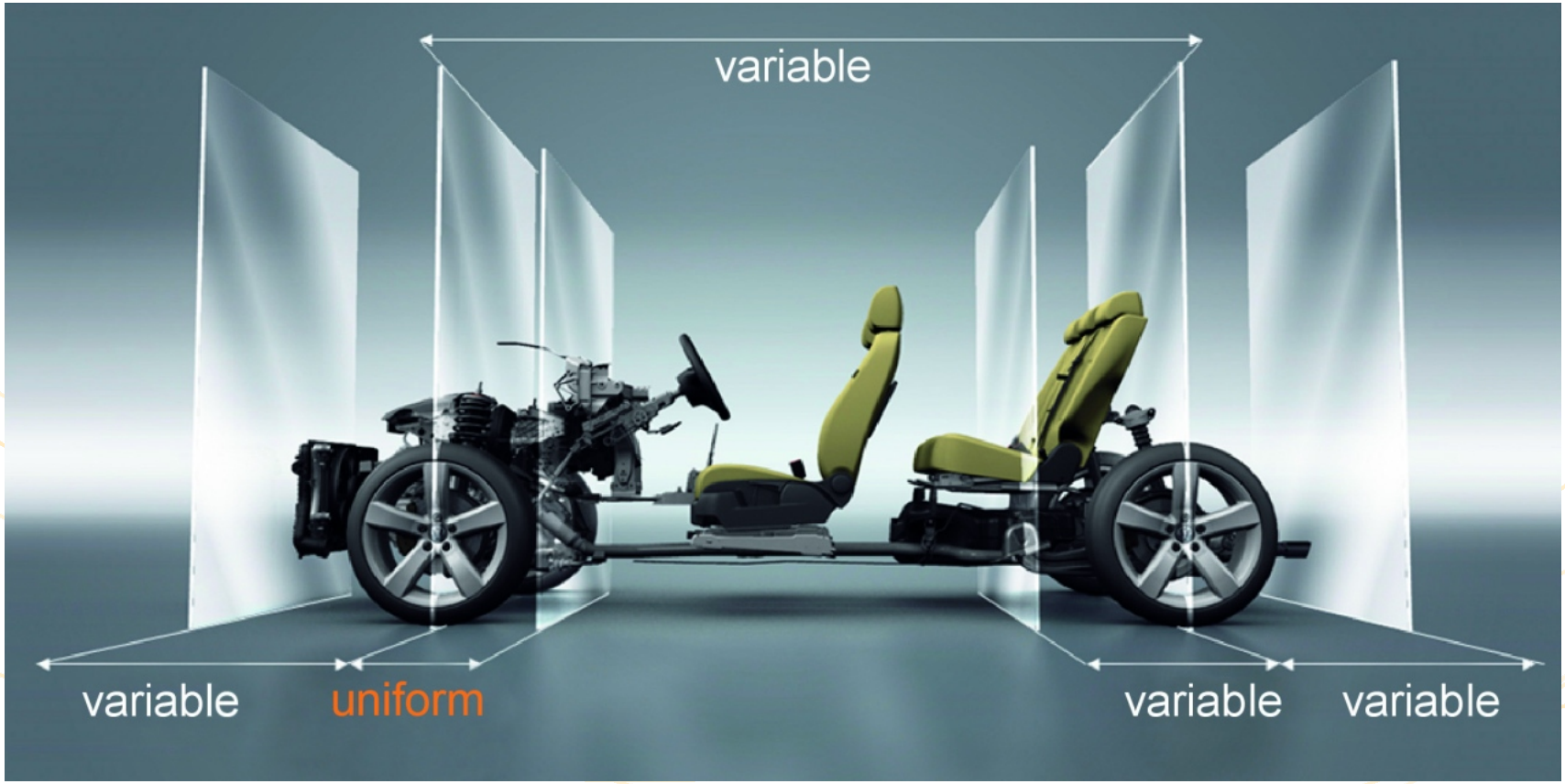


# The beginning of a new era: **Volkswagen** introduces the **Modular Transverse Matrix**

This year, the Volkswagen Group will be introducing the Modular Transverse Matrix – the German acronym is MQB (Modularer Querbaukasten) – for the Volkswagen, Audi, ŠKODA and SEAT brands.

The MQB strategy represents a turning point in the design and production of future automobiles. It standardises vehicle component parameters across brands and vehicle classes. At the same time, it offers access to new technologies.

http://www.volkswagen.co.uk/volkswagen-world/news/384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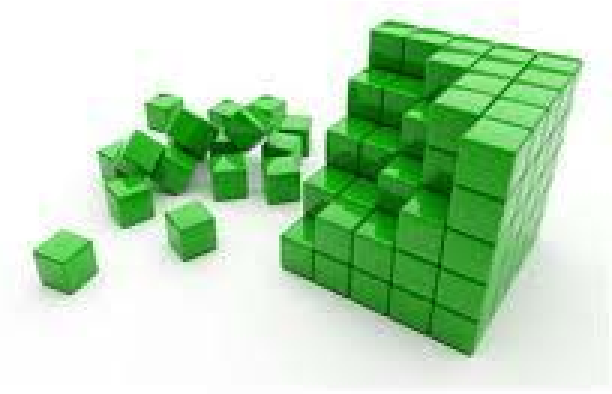
# What is modularity?



**Modularity** is

1. Decomposing complicated systems
   into more or less independent parts (modules) with a clear structure
2. Treating and using modules as separate units

# Properties of modules

Modules generally are:

- Domain specific
- Autonomous
- Hierarchal

# What is  a module for social statistics?

For social statistics a module is a set of variables that is

- Homogenous of content
- Measuring a topic comprehensively
- Minimal dependency on other modules

LFS AHMs are no real modules!

# Definition of a module

Per module the following aspects have to be specified:

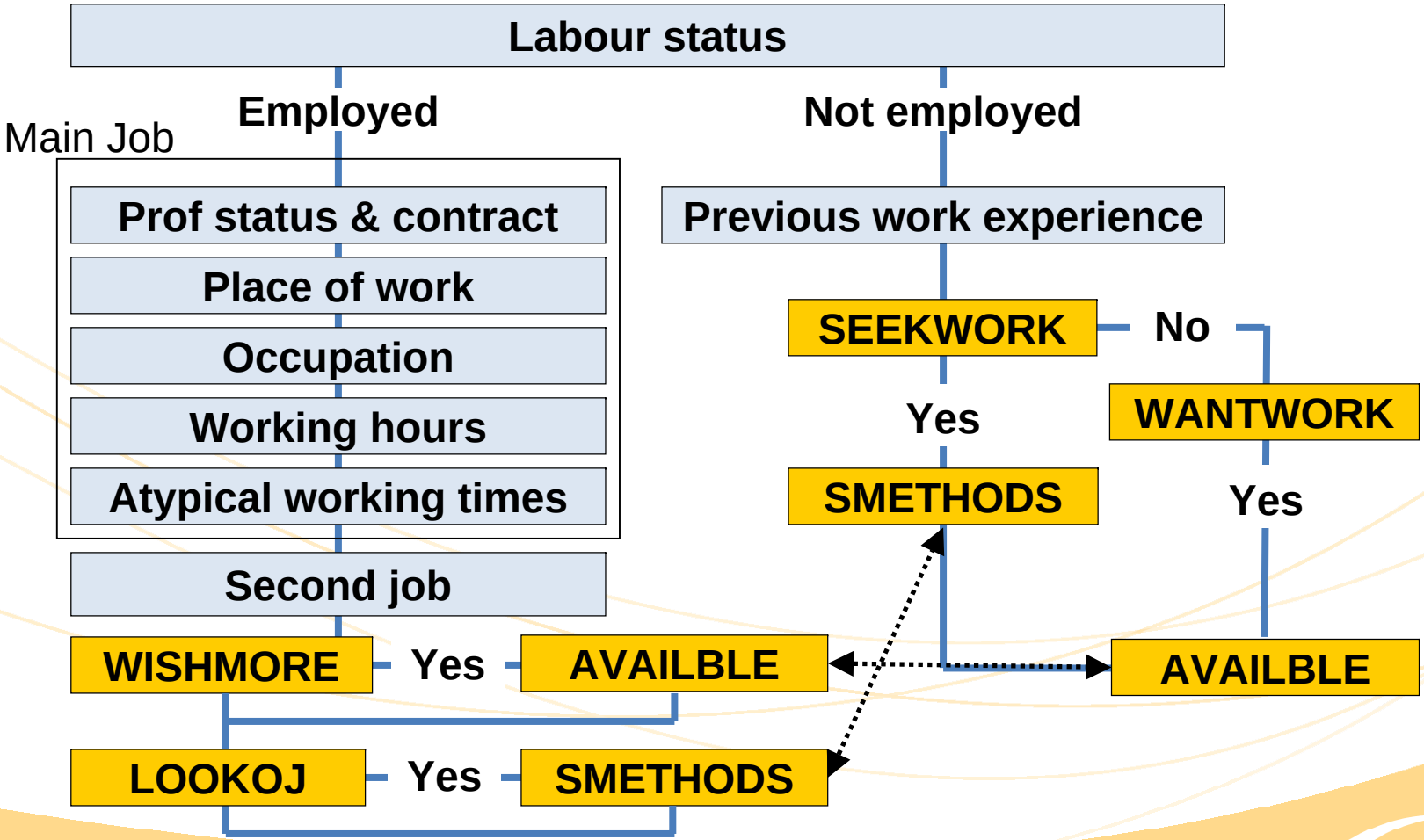
1. Objective
2. Target group
3. Set of variables
4. Frequency and data collection period
5. Quality (including sample size)

# Advantages of using modularity

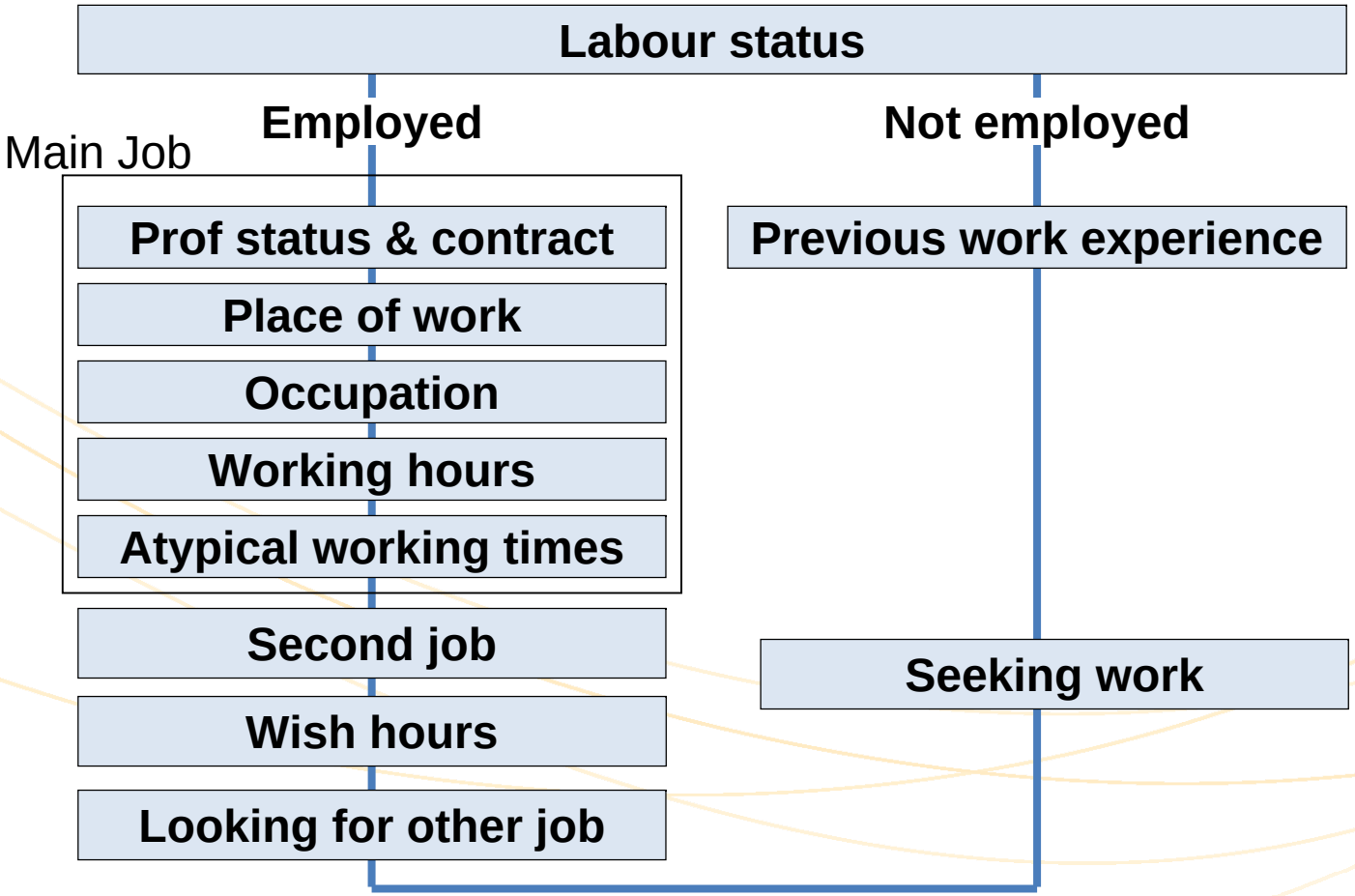
- Provides a clear structure to a complicated system
- Design and maintain statistical process per module
- Better tailor input organisation to output needs
- Modules can be used as building blocks to design data collections

# Modularising the LFS

# Flow chart labour market variables LFS



# Flow chart labour market modules LFS



# Conclusions

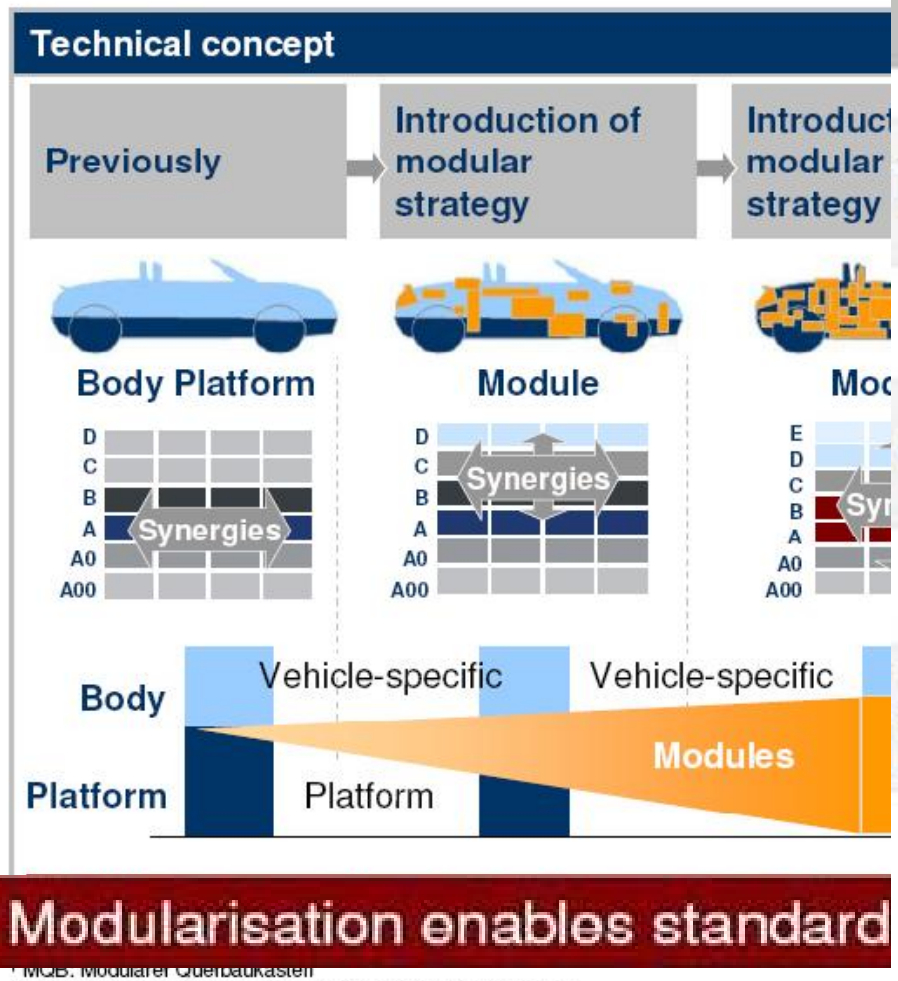
## Low costs

- LFS can be modularised easily

## High (potential) gains

- Clearer structure
- Maintenance per module
- Potential for more effective data collection
  (Wave approach, follow up data collection)
- Modules can be used for other data collections

# 2 Significant Competitive Advantages From Modular Toolkit Strategy




**Modularisation enables standard**

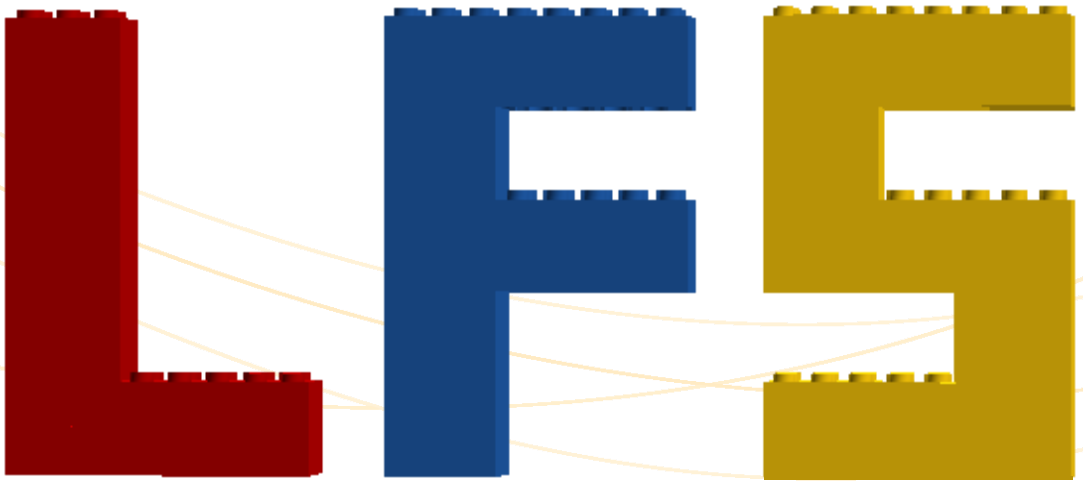
Reduction targets from MQB[1,2]

| | |
|---|---|
| Unit costs | ~ 20% |
| One-off expenditure | ~ 20% |
| Engineered hours per vehicle | ~ 30% |

**Significant weight and emission reduction**

[1] MQB: Modularer Querbaukasten
[2] Reduction targets illustrate benefits from MQB implementation
Source: Volkswagen Group

# 2.0



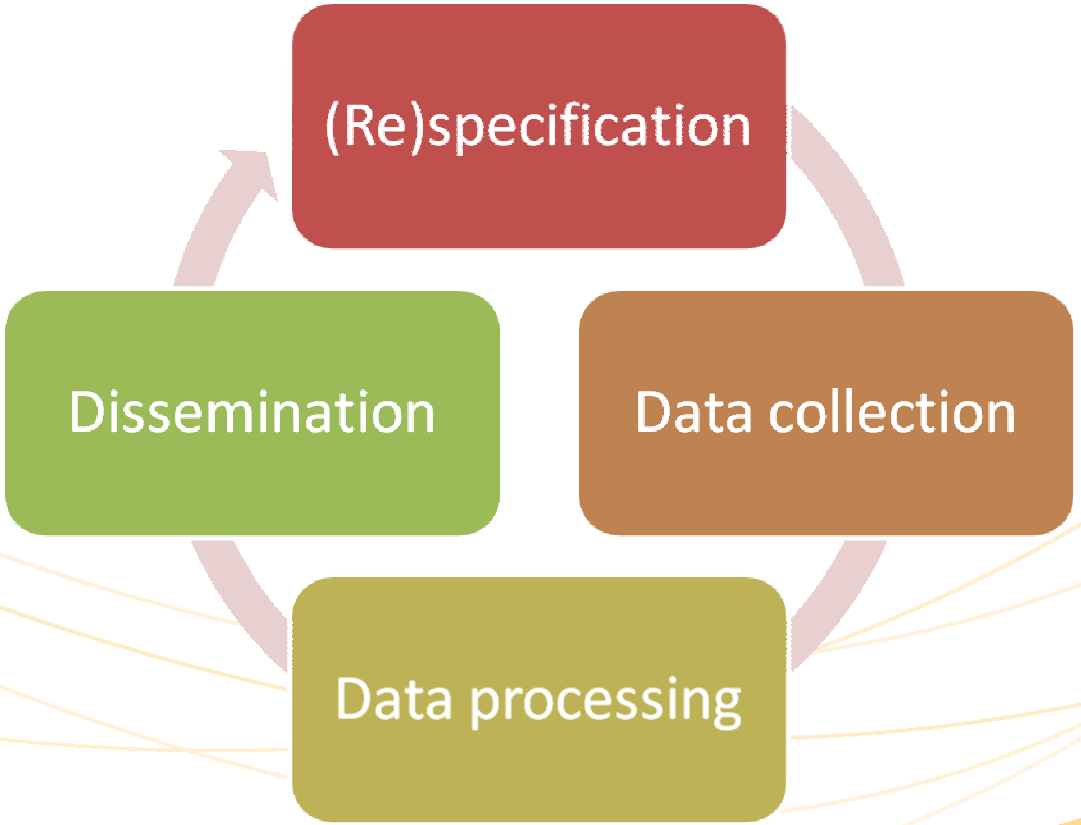


eurostat

# *Thank you*

# *for your attention!*

# Statistical process

Currently per survey

Future per module