

# A wider focus

Wiesbaden, 04.07.2017

# Intro

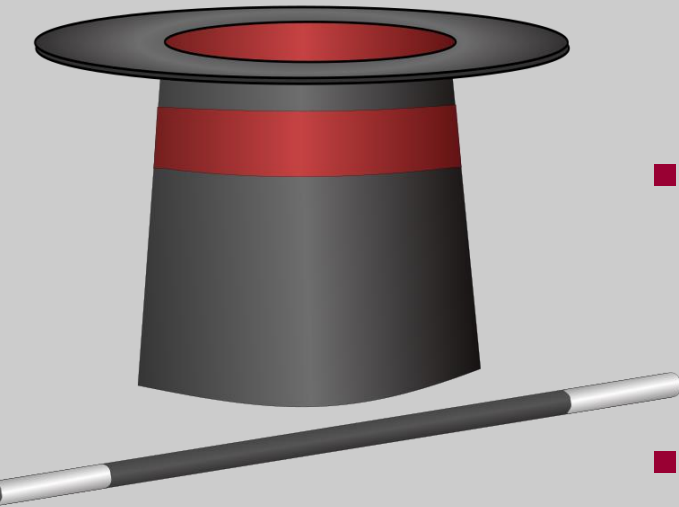
- „Digital transformation“ – part of the title of this workshop
- Could mean: Transforming manually activities by digital (automized or at least assisted) ones
- How can Service-orientation or SOA help to this aim?
- Lets go back to the beginning of the SOA hype ..

# Intro



- The **first** promise of service-oriented architecture in the 90ies was that enterprises could integrate legacy applications and others in one system
- This has worked out ..
- .. more or less

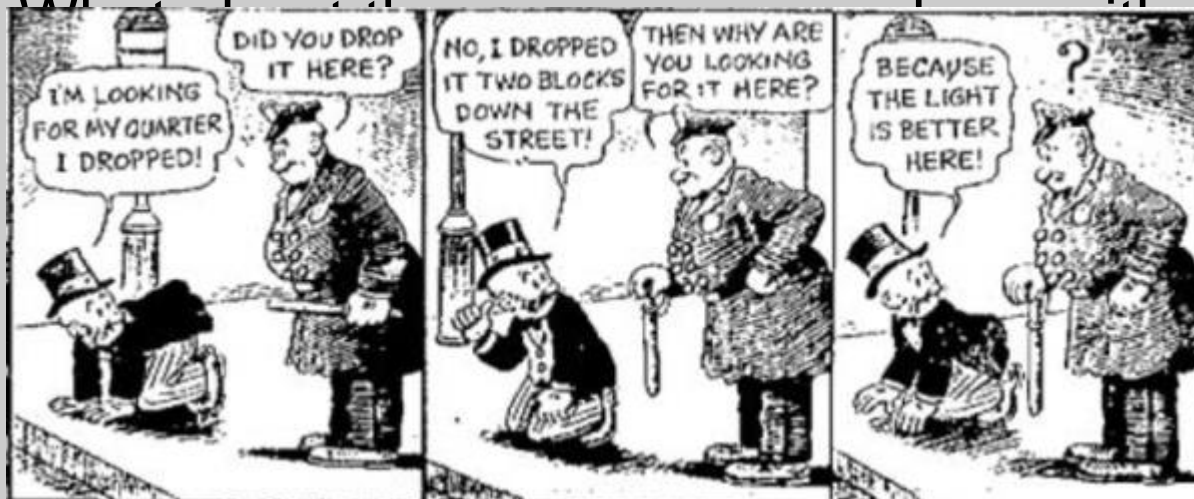
# Intro



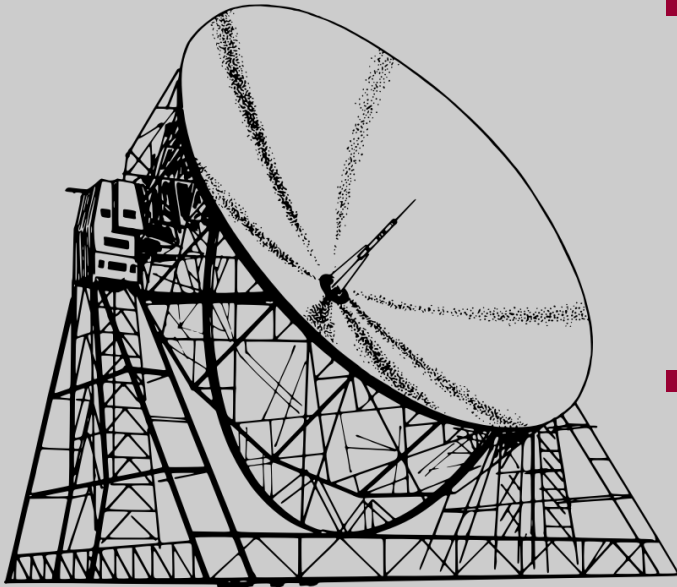
- The **second** promise was even more ambitious. Connect independent entities (companies) and create „value-chains“ using the internet
- A typical example: Car manufacturing industry and its supplying industries
- Not a complete success ..

# Intro

- How does this relate to our CSPA/SERV-initiatives?
- Question of scope
  - Momentarily we do concentrate on SOA-fication of our **internal** processes (and still have a lot to do!)



# Anybody out there?



- In the following slides I will highlight some connection to the outside world and some possible consequences to our initiatives
- The examples will be in sequence of the production phases (4-7) of GSBPM

# Phase 4: Data Collection

- This phase has a clear focus to contacts to the outside (some call them respondents)
- We tend to think of it as a one way connection ..
- .. but there is actually a lot of interaction involved



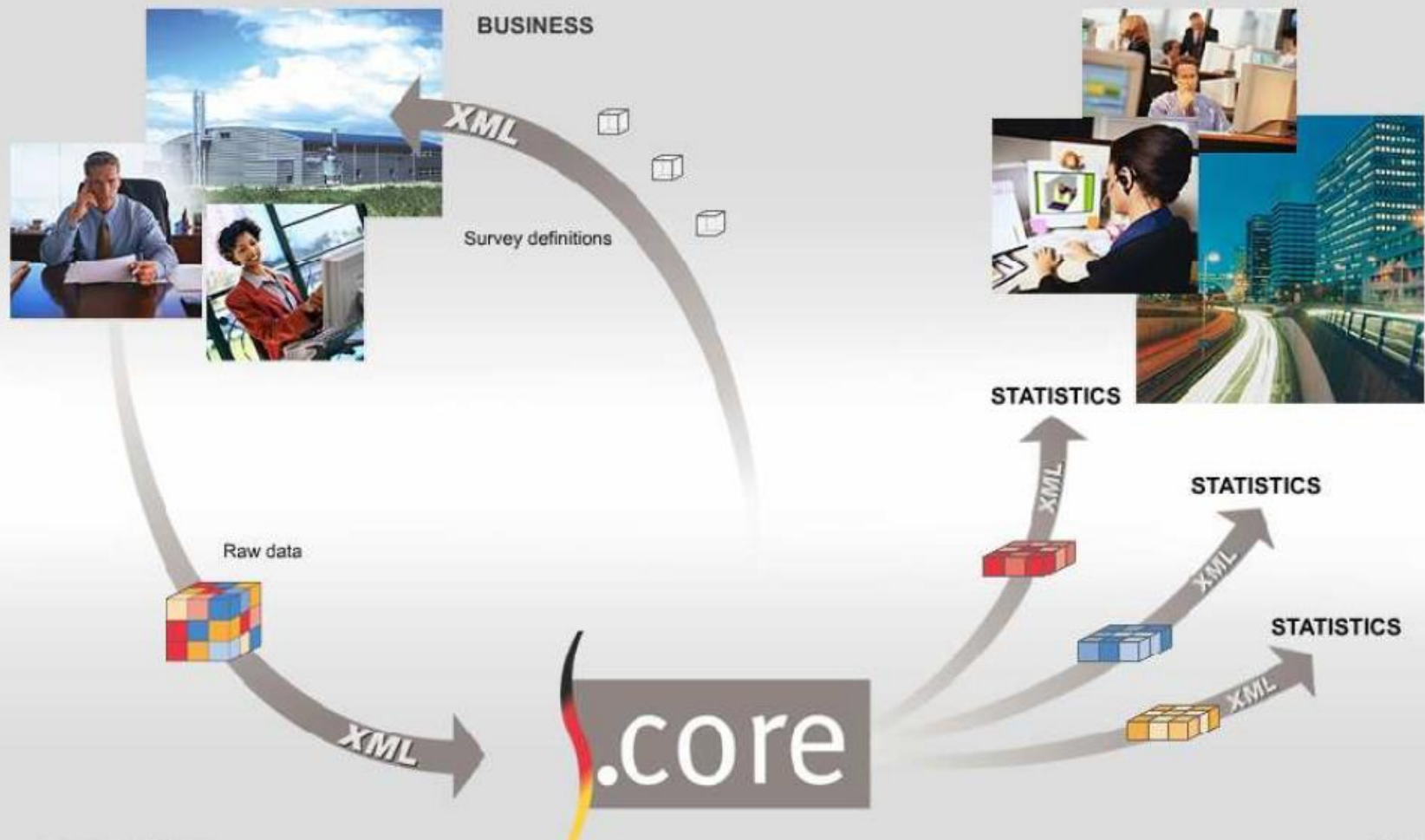
# Phase 4: Data Collection

## ■ **Business:**

- „Traditional“ forms of data collection are webforms, paper and phone
- A smarter approach: Service gateways accepting specific XML formats could be the main data entry point
- In Germany
  - We developed such a Gateway
  - Convinced software companies to incorporate our libraries into their software to address this service (CORE & CORE.connect)
  - Now: Transmission of validated statistical data by pushing a button



# Phase 4: Data Collection



# Phase 4: Data Collection

## ■ **Administration:**

- Administrative data replace or add to original survey data
- Many national approaches to harmonize the G2G (Government to Government) data flow
- In Germany:
  - Statistics provides its own XML-Standard (called DatML/RAW)
  - National initiative: OSCI (Open Service Computer Interface), XML-Standard for public administration

# Phase 4: Data Collection

## ■ Households:

- CAPI: Interviewer do connect to central services
- Portal Services: Secure exchange of data and metadata, bi-directional

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DES BUNDES UND DER LÄNDER

Statistikdaten melden | Infos für Melder | Hilfsmittel und Automatisierung | Mein Portal

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Download CORE.reporter

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Statistiken mit Online-Verfahren

Anbieter von unterstützender Software für das .CORE-Verfahren

Sicherheit der Daten

**Unterstützung für Melder**

Software-Produkte für Melder zur Unterstützung der Datenübermittlung an den gemeinsamen Dateneingang der Statistik.

24.01.2014

**Wie werden Melder durch eSTATISTIK.core unterstützt?**

Allgemeine Informationen zum Meldeverfahren eSTATISTIK.core → mehr

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# Phase 5: Data Processing

- We tend to think that data processing is something quite internal. But ..
- Data integration
  - Matching requires UUIDs. Who provide these?
- Classify & Code
  - Standardized codelists make life so much easier. Who is in charge?
- Validation, Data editing and imputation
  - Validation rules should be applied „the sooner, the better“. Common standards and repositories beyond statistics are required

# Phase 5: Data Processing

- Registers and repositories
  - All the sub-processes mentioned before would improve by common registers and repositories
  - This applies well beyond the realm of official statistics
  - And often: an international approach is needed
    - Interoperable Business registers
    - International Classification of Diseases
  - Technically: Providing them as shared services would be a good idea



# Phase 6: Data Analysis

- Even data analysis is nothing that can be done only inside our offices
- We have to coordinate with other providers of statistics
  - National accounts is produced by NSIs and the National banks
  - Georeferencing and geodata processing
  - ..

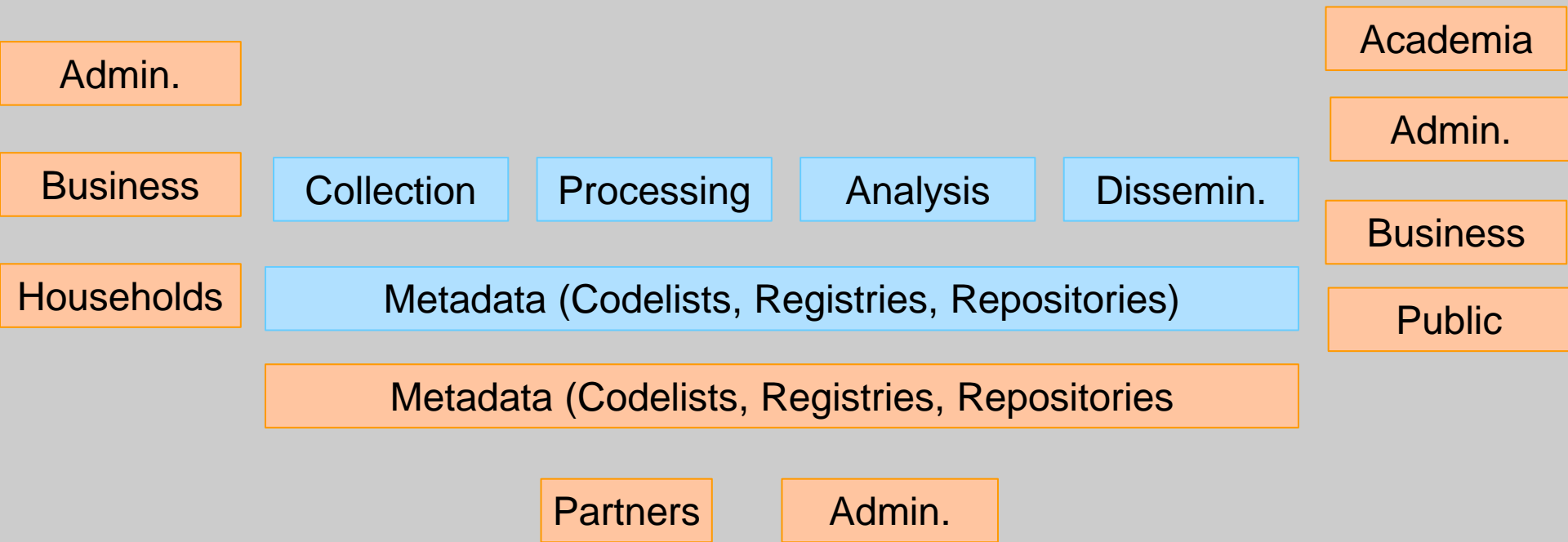
# Phase 7: Dissemination & Exchange

- Phase 7 is again mainly an interface with the outside world
- Examples that might profit by common standards and architecture
  - Remote Microdata Access
  - Linked Open Data
  - INSPIRE and all that
- Data transmission to other organisations is more and more service-oriented

# Quality & Big Data

- Two final thoughts on cross-cutting issues:
  - **Quality** is affected before data enter and after data leave the statistical offices -> Overarching processual metadata handling is necessary
  - Introducing **Big Data** sources blurs the clear picture to another degree: Not data might be exchanged but algorithms -> Are we ready for this?





# Conclusions: We are not an



- Modernisation of official statistics is often seen as an “internal affair”
- We are well on our way to standardize our own processes
- In several phases we do have strong connection to the “outside world”
- This is not restricted to phase 4 (data collection) and 7 (dissemination)
- Domain specific optimisation might be a cul-de-sac

# Conclusions: Building bridges

- Efficiency gains and quality aspects could be achieved by
  - Common Architectural Frameworks
  - Common Information model
  - Common “physical” Standards of data and metadata exchange
- Many statistical institutes are already involved in national initiatives
- How do we deal with that on an international level?

