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# Centralised data collection: process innovations and main results in business surveys

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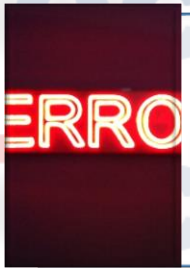
# Centralised Data Collection (CDC) and Total Survey Error (TSE)



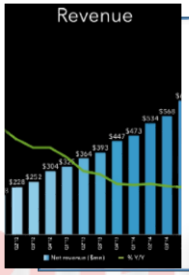

''Total survey error'' (TSE) is a conceptual framework aimed at enhancing problems facing surveys beyond those of sampling error (Groves, Lyberg, 2010)

It identifies two major divisions based on variance and bias on one hand and errors of observation and non-observation on the other

Errors of non- observation usually include coverage error, sampling error, and both unit and item nonresponse

Errors of observation involve differences between reported/recorded values of a survey variable and some ''true'' or underlying value

Introduction in Istat (Italian National Statistical Institute) of CDC allowed non- observation error reduction in economic surveys by increasing response rates and timeliness




CDC involved the observation error reduction by fostering innovative data collection tools and the standardization and harmonization of procedures

# Centralised DC in Istat: main characteristics

During 2016 Istat launched a Modernization Program

The program designed and implemented a new organizational set-up characterized by the centralization of all the support services, clearly separated from thematic statistical production

The new model restricts the role of production structures only to thematic aspects, while the “cross” expertises are all assigned to specialized sectors

The "transversalization" of many services fostered specialization, standardization and harmonization in particular of Data Collection (DC)

# Centralised DC in Istat: main characteristics

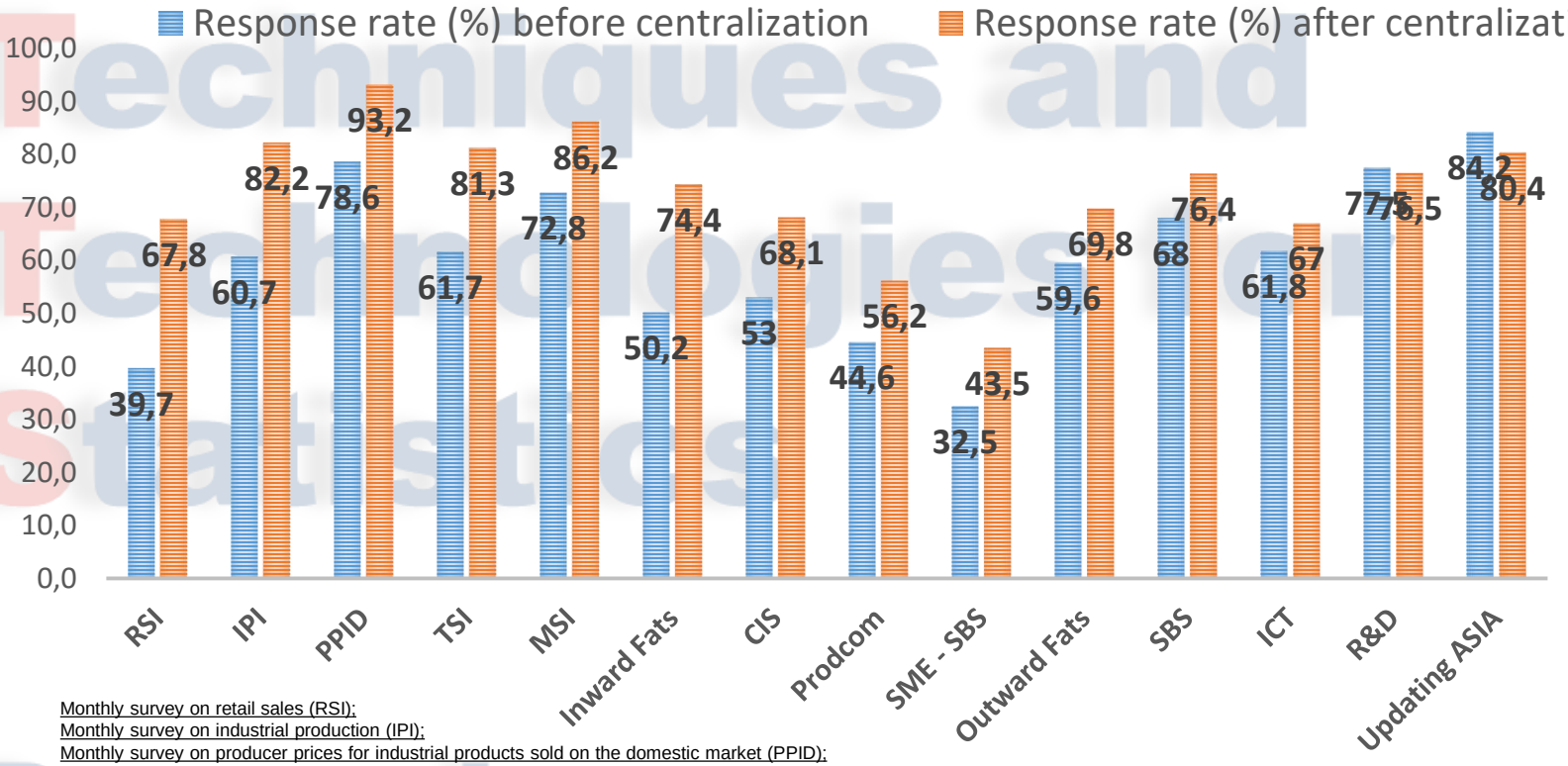
The introduction of a specialistic data collection, led to review of the organizational structure of data collection processes and to redesign of many of the management procedures

Before reorganization, statistical processes were organized according to the classical 'stovepipe' model, that involved independent, non-integrated, processes including all the necessary skills


The old approach, effective in terms of achieving the objectives set, involved low overall efficiency level, due to overlapping redundancies and lack of integration among processes

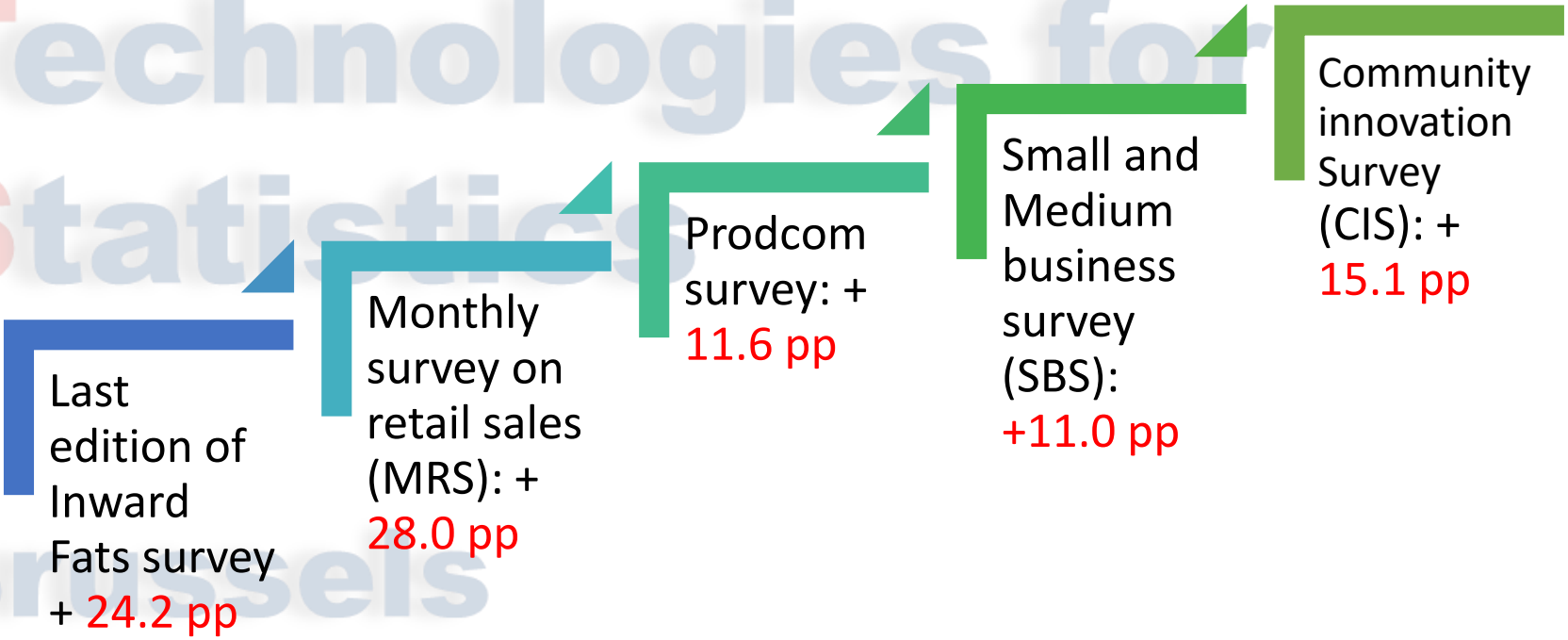
Among the main Program there is also the valorization of administrative sources for statistical purposes and the construction of an integrated system of registers

# Structural and short-term business surveys: average response rates before and after CDC




- Monthly survey on retail sales (RSI);
- Monthly survey on industrial production (IPI);
- Monthly survey on producer prices for industrial products sold on the domestic market (PPID);
- Quarterly survey on turnover in the services (TSI);
- Monthly survey on sales and orders (MSI);
- Community innovation survey (CIS);
- Statistics by product (Prodcom);
- Small and medium enterprise survey (SME),
- Survey on information and communication technology in enterprises (ICT);
- Survey on enterprise accounting system (SBS);
- Survey on Research and Development in enterprises (R&D);
- Survey updating the statistical register of economic units ASIA - Local units, Survey on the activities of foreign controlled enterprises resident in Italy (Inward Fats);
- Survey on abroad foreign affiliates activities controlled by Italy (Outward Fats)

# Main results: examples of significant increases in response rates of business surveys



# Effects on data collection periods

Average reduction business structural surveys

- 37.2 solar days (*d*)

# Innovations introduced in business surveys

Innovations introduced in business surveys are mainly based on:

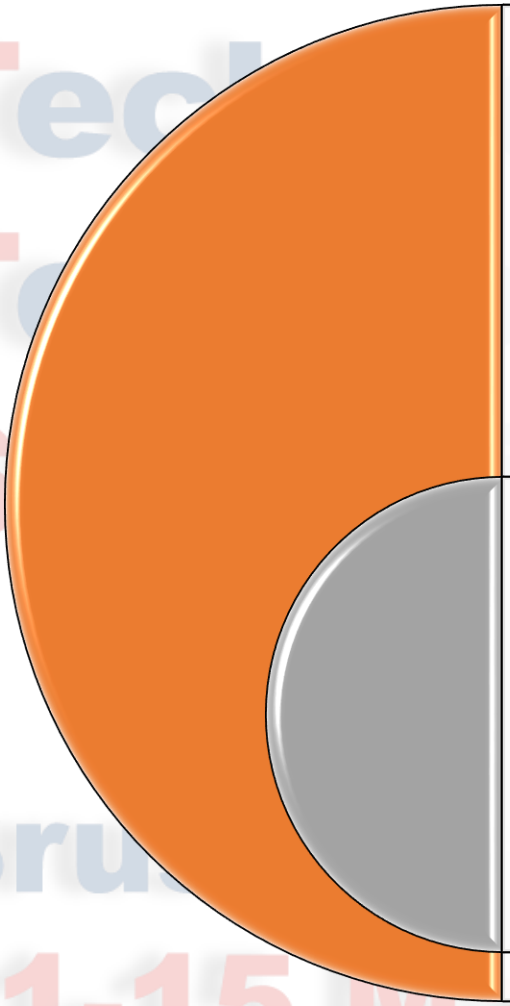
1. The design and implementation of innovative **management tools and services**
2. Rationalization of the **management processes and procedures**: standardization and generalization

The Business Statistical Portal (BSP)

Main objectives of the Portal are:

- Streamline the operations required by respondents to fulfill their response obligations, with an overall reduction of the respondent burden
- Increase both ordinary and extraordinary (e.g. news) communications on the survey events and activities
- Standardize and harmonize data collection procedures in order to increase overall efficiency

# Innovative management tools and services



## BSP: Front office section

Optimizing the bi-directional communication between Istat and the companies involved in the statistical surveys.

The main features of the section concern the following aspects:

- Single sign-on and single point of access
- Integrated Register changes management
- The delegation system
- News management
- Up-to-date state of obligations
- The personalized statistical information return

# Innovative management tools and services

BSP: Back-office section

Includes a set of functions to support the management of the survey:

- Help-desk activities
- Survey administration
- Monitoring of the data collection process
- Management of outcomes for each survey
- Reports of variation in register data
- Monitoring of linked users
- Management of DB of internal /external contacts

# Innovative management tools and services


Centralised inbound and outbound Contact center services

- Progressive centralization of:
  - support and assistance services addressed to the units involved in the surveys (inbound)
  - telephone alert and reminders addressed to non-respondent units (outbound).

The coordinated management of the service ensures strong standardization

# Centralised inbound and outbound services

## Inbound service

The inbound service provides 1-st level assistance and support on the following areas:

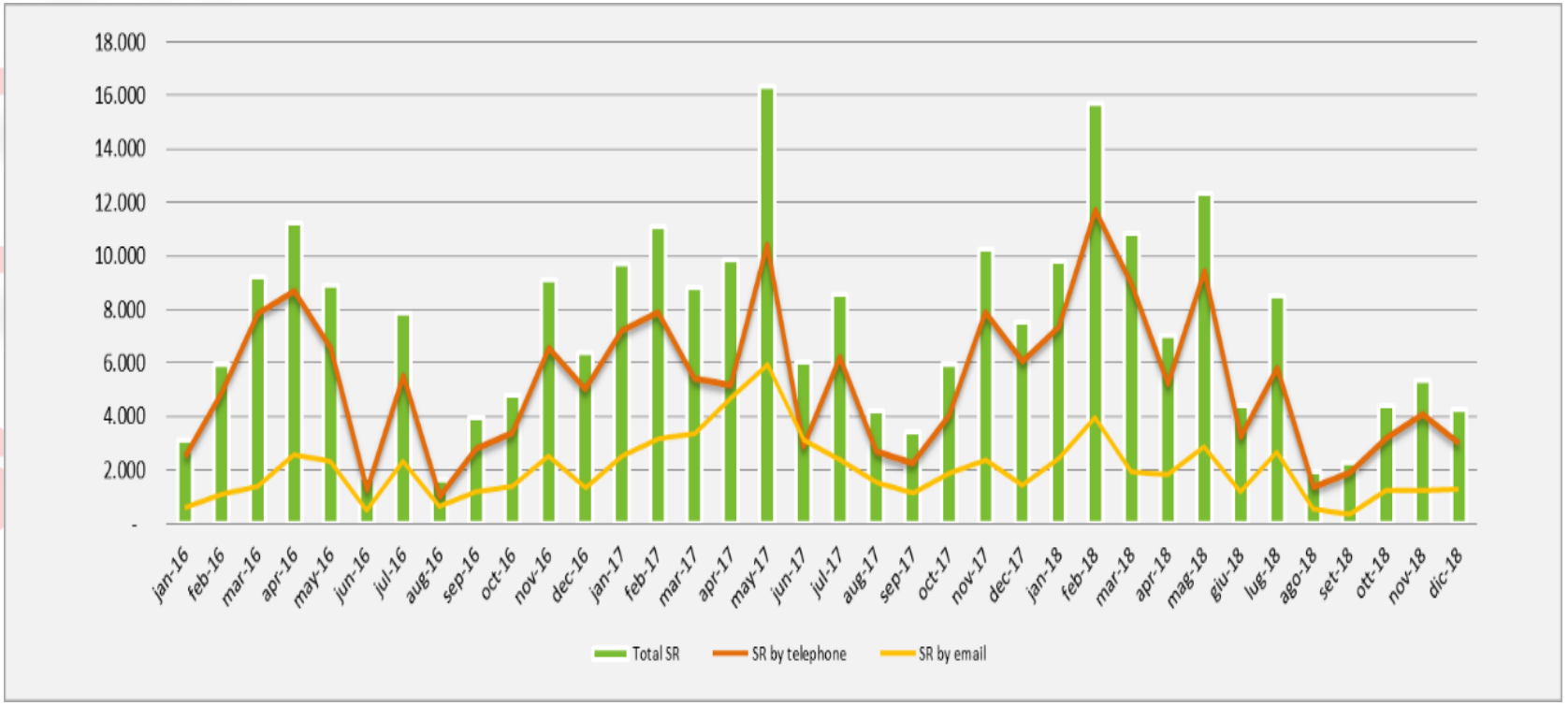
- access and navigation of the Business statistical Portal
- general rules that define the statistical activity and the legal obligations
- answers to the most recurring questions about major instances concerning the survey's content

The assistance is guaranteed by synchronous (free number) and asynchronous channels (dedicated email address).

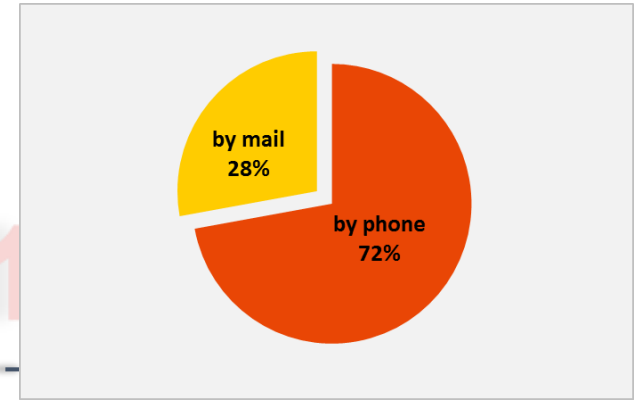
Tools:

- - Set of "Standard answers" and "FAQ"
- - "shared agenda", for managing and sharing the received instances with Istat's experts (thematic, register, technical, legal experts)

# Centralised inbound service: monthly requests by channel (Jan 2016-Dec 2018)




- 262,000 service requests.
- Monthly request - on average was around 7,300 units



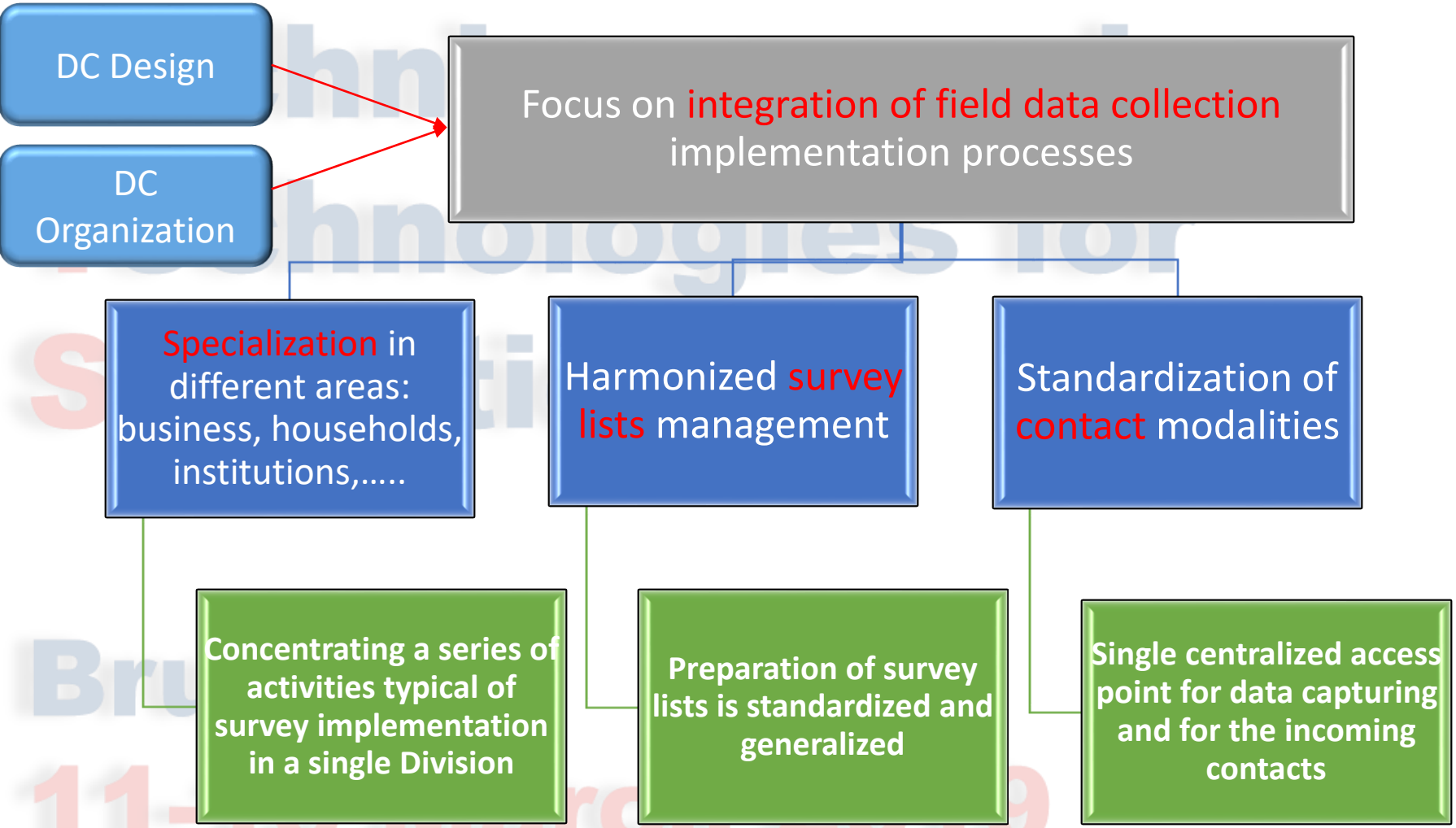
# Centralised inbound and outbound services

## The outbound service

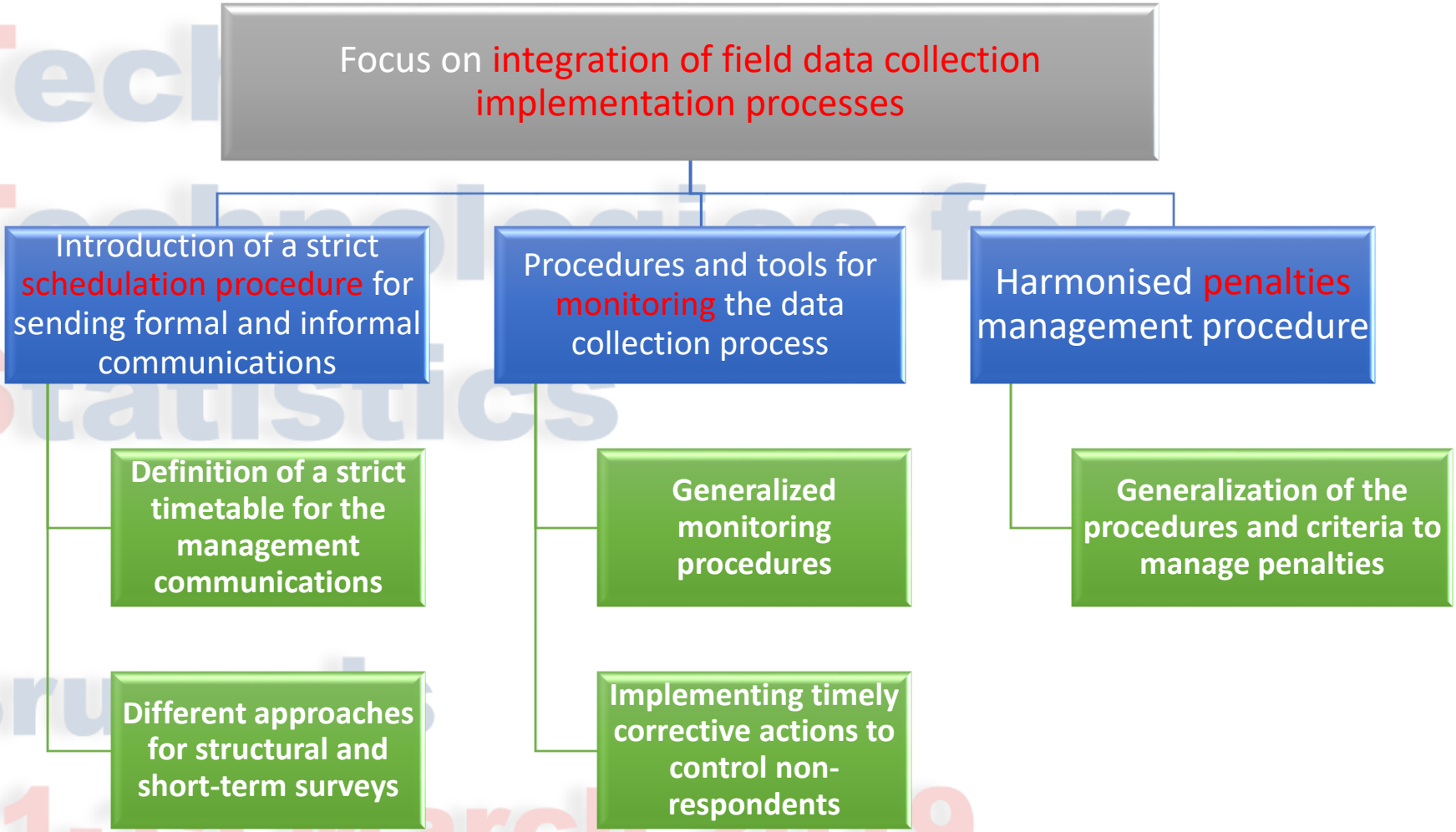
- The outbound service is realized contacting by telephone the referents stored in the Business statistical Portal or indicated by the responsible of the production survey unit
- The service also provides assistance on access to data capturing systems
- For business structural surveys: the contact is carried out on a fixed time before the closing of the survey and it is limited only to the most relevant non-respondent units
- For short-term surveys: it is carried out few days after the punctual deadline of the monthly/quarterly Data Collection and during the 'useful' period
- A specific contact procedure that is adapted to the specificities of each survey guarantees the uniformity of treatment of the units contacted

# Centralised outbound service: monthly contacts and questionnaires recovered (June 2017 – Dec 2018)

# Process standardization



# Process standardization



# Conclusions

The introduction of the new organizational model which provided a specialized approach for the management of cross-cutting services produced significant results in terms of increasing response rates, reductions in the data collection periods, product and process innovations

Consequently Centralised Data Collection had a positive effect on TSE (Total Survey Error) reduction, both in terms of observation and non-observation errors, there is the necessity to assess this effect

Focusing on the activities concerning the “Field implementation of Data collection" the most effective solutions concern *innovative tools and services* supporting DC activities and *process innovation and optimization* that involved significant gains in terms of process efficiency

Efficiency gains can be re-used in further process and product innovation activities, in the quality of the outputs and to respond to new needs of statistical information. They can also represent the base for statistical burden reduction

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