



TWINNING CONTRACT

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Strengthening the capacity of Jordan's Department of Statistics in terms of compilation, analysis and reporting of statistical data in line with International and European best practices

MISSION REPORT

on

Component 1

To develop a plan for an integrated administrative data system in Jordan, undertake pilot projects on the establishment of the Statistics Business Register (SBR) and strengthen population statistics

Activity 1.4.4

Data management Center (DMC) I – Requirement specification

Mission carried out by

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List of Abbreviations

- BC – Beneficiary Country
- CoP – General Population and Housing Census 2015
- DoS – Department of Statistics
- MS – Member State
- PL – Project Leader
- RTA – Resident Twinning Advisor
- SBR – Statistical Business Register
- STE – Short-Term Expert

Executive Summary

Main conclusions and highlights from findings:

The purpose of this activity was to draft a requirements specification for a Data Management Center (DMC) in DoS to ensure high security for data processing and data storage. The requirement specification the DMC will address both functional and non-functional requirements as well as a risk analysis.

The overall conclusion of the design and requirement process is the DoS should have a so-called Core DMC where only employees (e.g. Statisticians and IT people employed by DoS) can have access to. This is a highly secure zone where the statistical production and statistical calculations are being made on the basis of the 'raw' data which is in the custody of DoS and which is also stored and kept in the Core DMC. In addition to this, several platforms or user zones are needed for the external users like researchers, governmental decision makers and also for the broader public.

The specific activities carried out during the mission included:

1. A design as well as a requirement specification document for functional as well as non-functional demands and requirements for the DMC. The document was initiated and almost completed during this mission. The network sketch for the future set up was adjusted according to the risk analysis carried out during the workshop. Some sections in the requirement document still need more specification and detail, and recommendations for that are given in the this report in a later section.
2. A meeting for alignment of project ideas with the World Bank was carried out and presentations were given and website recommendation from the World Bank was handed over to the Twinning STEs.
3. A prototype of an Interactive Interface for extracting data from the data sources at DoS with dynamic on-the-fly generation of graphs was presented in a live demo. The Interactive Interface may be used for researchers and decision makers (as well as the public) according to specific adjustments. It is based on Vue.js, which is an open source tool for graphical and interactive presentation of data. It can be accessed and tested her: <https://www.dst.dk/extranet/statbankproto/statbank.html>
4. A meeting with His Excellency, Director General, with the purpose of getting the project aligned with his thoughts on the future of IT underpinning statistical production and publishing in DoS
5. An introduction to the requirements of Statistics Denmark for external data partners and HPC (External High Performance Computing Centers) was given; it also contains a number of relevant GDPR and ISO standards to consider for DoS.
6. A short live demo of Danish Data Portal and Research platform for external users was given.
7. A very brief introduction as well as rules and guidelines for the use of AI and AI programming tools was given.

The overall conclusion is that this mission was a very successful mission with fruitful outcomes and a common understanding between DoS Management and staff with the Twinning STEs of the vision, path and functional and security needs of the DMC and related topics.

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1. General comments

This mission report was prepared within the Twinning Project "Strengthening the capacity of Jordan's Department of Statistics in terms of compilation, analysis and reporting of statistical data in line with International and European best practices". This was the second planning activity in component 1 and the actions planned for this activity were carried out as scheduled.

The purposes of the planning mission were to draft requirement specification for a Data Management Center, DMC, and supporting dataflow in a secure way:

2. Assessment and results

During the mission a number of workshops and demonstrations were given in order to facilitate the completion of the requirement specification for the Data Management Center in DoS. The main result of this are the verbal description in the draft requirement specification and supplementary diagrams, all of which are Annexes to this mission report..

The produced transformation maps, i.e. strategic maps about information security and data protection that were prepared for this mission were not addressed due to time constraints. The topic can be addressed in a later mission if needed.

3. Conclusions and recommendations

The overall conclusion is that this mission was a very successful mission with fruitful outcomes and a common understanding between DoS and with the Twinning STEs of the vision, path and functional and security needs of the DMC and related topics.

The conclusions of this mission are in certain ways mirrored in the physical products that were created during the workshops:

1. A requirements specification containing sections on requirements for the DMC with regard to user needs and profiles, data sources and secure dataflows, file formats and file types. The requirements for this DMC will support dataflows with built-in security. (see Annex 2)
2. The high level sketches of the Core DMC with additional user zones (see Annex 3)
3. A network topology sketch of the future network setup for the DMC and user zones for external user (See Annex 4)
4. The handing over of the Vue.js files for the prototype of an Interactive Interface for extraction of data with dynamic on-the-fly generation of graphs for users for inspiration at DoS (not presented in Appendix)

The recommendations from the Danish STEs are:

1. Is it advised that The RTA Ms. Charlotte Nielsen should conduct a workshop with DoS IT on research and data services, since she has 8 years of experience in the Danish Research Service at DS.
2. Ms. Charlotte Nielsen is also recommended to conduct a workshop with IT with the aim of finishing the initiated user descriptions and user stories.
3. DoS is advised to familiarize themselves with the concepts of the GDPR framework for data processing and data agreements as well as International standards for quality assessments (ISO 9000-series and ISO 27001 series for information security). The

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- produced strategic transformation maps about information security and data protection that were prepared for this mission but not discussed or confirmed could be addressed.
4. IT and the publishing staff at DoS could perhaps be inspired further by the Interactive Interface in order to have it work with PX web API and add e.g. pie chart function and geographical map function. A virtual video conference with the Danish colleagues working with this Interactive Interface with dynamic on-the-fly generation of graphs can be set up with a short notice.
 5. It is advised that a virtual video conference where the Danish colleagues working with the Danish Data Portal and Research platform can give DoS an online demonstration and presentation of this solution.
 6. When the core DMC is completed, it will provide the necessary tools for Data Science Work. It is recommended that activities for building the necessary Data Science skills in DoS are initiated. As mentioned in the conclusion presentation Thursday September 21st, a Data Science Lab can be realized only by adding Data Science skills to the DMC.

Suggestions for next mission(s) are as follows:

1. Before next missions, perform two local workshops with the RTA as mentioned in (1) and (2) in the recommendations above
2. Software and configuration of the DMC with regard to tools and software programs
3. Specifications for databases with regard to size/cores and data organization
4. Considerations about virtualization (should infrastructure be based on virtualization like e.g. VMware)
5. Servers and their capacity, configuration and life cycle management
6. The topic of governance of data, security set up of data handling, International standards for data handling and quality
7. Further work and prototyping of an Interactive Interface with dynamic on-the-fly generation of graphs

Next steps

Action	Deadline	Responsible person
DoS examines the developed model and method (Excel spreadsheet) for performing an initial business case and assessment of the question of outsourcing/insourcing. DoS is advised to perform the analysis before the next mission and visit.	To be carried out as preparation before next IT mission. There will be a joint discussion of the method used and the results obtained using this method during the mission.	Ms. Ahlam Al-Rosan, Director of Electronic Transformation and Information Technology (IT).

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Annex 1. Terms of Reference

Terms of Reference is attached as document "ToR - 1.4.4 Data Management Center (DMC) vers 2.docx"

Annex 2. Requirement Specification

The requirement specification is attached as document "Requirement Specification DMC 2023 last mission day 21 sep 2023.docx"

Annex 3. DMC diagram

The diagram of the Data Management Center is attached as "DMC_jordan_overall.drawio.pdf"

Annex 4. Network Diagram for the Data Management Center

The network diagram for the Data Management Center is attached as "DMC Network Diagram.jpg"