



TWINNING CONTRACT

JO 21 ENI ST 01 22

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

Roadmap for the development of an integrated administrative data system in Jordan with pilots on Statistical Business registers (SBR) and population statistics

Activity: 1.2.9:

Installation StatBus and upload of test data

Mission carried out by
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Strengthening the capacity of Jordan's Department of Statistics

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Executive Summary

The main task of the mission was to train and demo the latest StatBus version, making sure the most important features and functionality required by DoS is verified and good enough to use in the near future. Information and demonstrations on how to use and customize StatBus were done, at the same time as we also worked to install StatBus in Amman Jordan.

The mission began with introductory meetings to welcome participants and provide an overview of the agenda.

Statistics Norway presented information about the latest version of StatBus, showcasing some of its newest features through a demonstration. Following this, DoS and Statistics Denmark & Norway collaborated on configuring the system, enabling DoS to define their own unique identifiers and statistical variables in future iterations. The discussion also covered definitions of data sources and user access administration in detail.

DoS highlighted the need for StatBus to manage various access rights effectively. Solutions for handling these requirements were discussed during the sessions.

For live demonstrations, StatBus cloud version was used. Seven DoS users had login details and used and tested the StatBus system during the mission.

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List of Abbreviations

- BC – Beneficiary Country
- CCD - Companies Control Department
- DoS – Department of Statistics
- GAM - Greater Amman Municipality
- MIT - Ministry of Industry and Trade
- LOCAL - Ministry of Local Administration Jordan
- MS – Member State
- PL – Project Leader
- RTA – Resident Twinning Advisor
- SBR – Statistical Business Register
- StatBus – A open source application for storing and maintaining information on businesses from administrative sources, surveys, and censuses
- STE – Short-term Expert

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 Mission related to the following Mandatory Results (MR) and indicators:

“MR 1.2: MR 1.2: Pilot project to develop strategy for integrating administrative data sources for the purposes of creating an SBR.

- **Indicator 1.2.A:** Administrative data sources identified and assessed and plan developed for integrating these with Census of Establishments (CoE) information in an SBR
- **Indicator 1.2.B:** Documentation prepared on database structures and compliance with statistical standards, classifications (e.g. ISIC, Rev 4) etc. and use of common identifiers etc.
- **Indicator 1.2.C:** Explore how SBS can benefit other statistical domains in the DoS

The purpose of this activity was:

- Identification of suitable sources for variables in SBR – primary and secondary sources;
- Selection of variables to be used to build a SBR;
- Preparation of a decision tree for data sources;
- Preparation of data for upload into StatBus in Jordan;
- A demonstration of the new StatBus application release, prepared the week before the mission.
- Verify classifications set up of StatBus
- Decision about identifiers used for DOS unique identifiers.
- Decision upon which statistical variables to use for DOS.
- Agreement on the remaining requirements for the go-live version of StatBus.
- Local installation of StatBus in Jordan
- Configuration and customization of the StatBus system.
- Loading Jordan datasets into StatBus.
- An agreed-upon list of outstanding issues to be resolved or implemented before the StatBus go-live milestone in Jordan.
- Denmark and Norway to gain valuable input and understanding of Jordans challenges and wishes for a business register system.

The consultants would like to express their sincere thanks to all officials and individuals met for the kind support and valuable information which they received during the online sessions which highly facilitated their work. The views and observations stated in this report are those of the consultants and do not necessarily correspond to the views of EU, Statistics Denmark or Statistics Finland or Destatis.

2. Assessment and results

Local installation of StatBus

Three days before the start of the mission, the StatBus Team uploaded a new version of StatBus to Github, after which DoS IT-personnel started the process of installing this version before the arrival of the experts. It was quickly concluded that the installation manual needed a few updates, as several Linux-based tools were needed to install the system, but the issues had otherwise no relation to StatBus itself. Quick intervention from the StatBus team through online meetings, identified the problems and StatBus was successfully installed on DoS servers. As StatBus is still a young system under development every day, these challenges are fully expected and within the scope. The task of creating users and providing internal access to StatBus for DoS personnel rests fully on DoS IT, but the StatBus team is ready to help on short notice.

Identifiers of StatBus in DoS

The new version of StatBus allows the use of custom identifiers for uploaded units. These identifiers can be added with very little effort and the StatBus team presented how to do it in the simplest manner possible.

For DoS, it was decided that the only – and therefore the main – identifier to be used in StatBus, should be the `legal_unit_stat_ident` (=INDV_NATIONAL_ID in MIT and ID_NUMBER in CCD) for the legal Unit and a statistical ID (`stat_ident`) is automatically generated

When Legal units are uploaded into the register, corresponding local units and enterprises are generated. They are given the same statistical ID as the legal units. To differ between them, the unit type should be used in addition to the `stat_ident`.

Identification of suitable sources for variables in SBR – primary and secondary sources

DoS has a number of sources available to them, as uncovered and explored in details in previous missions. The primary sources for populating the register are MIT and CCD. In combination, these two sources will cover 100% of Legal Units in Jordan. DoS have in-depth knowledge about these units and have prepared curated files with a limited number of units, ready to use for test-uploading into StatBus.

As the above sources will only provide the units themselves, various other sources are needed to provide the actual data and statistical variables, such as Social Security and the Tax Authority. These sources are not yet fully explored in the context of StatBus.

Selection of variables to be used to build a SBR

The experts and DoS dedicated a part of the sessions during the first two days of the mission towards discussing the Custom Variables critical to have available in the StatBus system, to enable DoS to perform their duties.

The experts made it clear that StatBus is not meant to be used as a data-warehouse, as that is not the purpose of a Business Register. Only variables important to the immediate creation of

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populations and key business register work should be uploaded into the system, as simply filling it with all data will cause it to bloat and likely create several issues down the line.

The final selection of variables agreed upon:

- Turnover (Revenue)
- Employees
- Male
- Female
- Jordanians
- NonJordanians
- Reg_Capital
- Cur_Capital

It should be noted that DoS currently does not have a source for Turnover available to them, but it is still one of the most important variables in a business register.

Preparation of a decision tree for data sources

This point of the agenda was not touched on this mission. StatBus v2 is a new system and DoS does not yet possess the necessary knowledge to utilize the full potential of the system, so the merging and prioritization of multiple sources, will not be relevant for a while to come. DoS needs to become comfortable working with the system and understand workflows and dos and don'ts before they delve into the more advanced use cases.

Preparation of data for upload into StatBus in Jordan

Fake data had been created beforehand in collaboration between the StatBus team and DoS and was successfully uploaded into the Jordanian StatBus version currently running into the cloud. Over the course of the mission, the system was cleaned and data re-uploaded multiple time as the working groups refined the process and flow.

The experts explained in depth, that the cleaning and preparation of data that will be uploaded into StatBus largely rests on the shoulders of DoS, as it is not related to the system itself. DoS employees are also the key resource that knows their own data well and can make important decisions that the experts are not able to make. The experts are ready to provide support on feedback in regards to the data if needed.

The experts presented a variety of minor tools created in Python that can automate the process of cleaning data files and classifications. Mapping of column names to make them StatBus compatible and auto-converting raw CSV files is a prime example in addition to tools that will format region and ISIC4 classifications as desired.

The experts will clean up and make these tools available on the StatBus website to help facilitate this process in a more streamlined manner.

3. Conclusions and recommendations

Statistics Norway already had a to-do-list before coming to Jordan. Most of the wishes from DoS were already on the list, such as missing contact fields email, phone number and Status. DoS expressed their wish to see who and when units inside StatBus were updated, and StatBus verify this is on the plan going forward. Also on the plan is to be able for a data scientist to extract data in json format via R or Python, however, this is currently not top priority.

Top priority currently is to finalize different user roles in StatBus, making sure some can only read, and a super user can configure the system (do it all) while a regular user will be allowed to update and import data as well as reading StatBus.

During the mission, a list of issues and steps were agreed upon and divided between the StatBus team and DoS to be completed or started before the next mission.

StatBus changes

- Some of the error messages for various StatBus operations are currently unsatisfactory. Uploading a unit with errors simply displays a message that something went wrong, making error-corrections complicated. The StatBus team considers this a minor issue that will be fixed soon.
- In addition, the progress of StatBus development has moved faster than the Installation Manual, resulting in basic modules needed for the installation not being included in the manual. The StatBus team will revise the manual.
- It is currently not possible to see historical information of updates in the system even though they exist in the database. The StatBus team will soon expand the system to make „updated by” and „updated when” columns be displayed in the system.
- DoS requested various API-connections for StatBus, such as withdrawing data directly from the database in Json or CSV format through Python or REST api. The experts do not consider this a priority, as getting used to working with the system is of significantly higher priority for DoS. API tools are in the pipeline down the line, but is not currently a priority.

Mapping tools

A quick-fix Python tool for mapping and converting data-files automatically after a one-time setup process was shown to DoS as an example on how to pre-process datafiles to make them ready for uploading. Denmark IT will clean up this tool and add documentation and the StatBus team will make it available on the StatBus website.

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Next steps for DoS

- *Plan for pre-processing files preparing files for StatBus*
It is important that DoS becomes comfortable with preparing their files for StatBus in an efficient manner. Whether the process is manual or using various mapping/automation tools is mostly up to DoS to decide, though the frequency of these uploads will obviously play a big part in the decision process. This is something that should be worked on continuously by the entire DoS business register team (IT people included) to raise the competences of everyone involved. Cleaning and structuring data is important in general, but even so more in the context of StatBus.
- *Finalize local installation*
The local installation is more or less finalized, but IT needs to create users and make sure that the local installation itself is available for internal users over the network.
- *Test and try loading some data locally as well*
Testing StatBus in the cloud will uncover the vast majority of issues, bugs and complications, but only by uploading and testing real Jordanian data will the last issues be found and resolved. DoS, due to Jordanian law, cannot test real world data in the cloud, making it even more important that the local installation becomes available for the business register team, so that real data can be used for the test.
- *Real data files (20 rows to start)*
DoS should start with a small dataset of 20 rows of real-world data for testing purposes, as it will produce the majority of the most critical errors. In the longer term, larger and larger datafiles should be uploaded to test not only the system itself, but also its performance.

Action	Deadline	Responsible person
Better StatBus Error Messages	With next release	StatBus Team
Update StatBus installation manual	As soon as possible	StatBus Team
Mapping tools	As soon as possible	Denmark IT
Historical information	In a coming release	StatBus Team
Pre-processing files, plan and execution	Ongoing assignment, starting immediately	DoS
Finalize local installation	As soon as possible	DoS IT
Test upload and usage of local installation	As soon as possible	DoS

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Annex 1: Additional information

Picture from jo.StatBus.org after test loading with 2 digit region_codes, 2 sources by legal_unit files.

Name	Activity Section	Activity Category	Region	Employees	Female	Male	Jor	Nonjor	Cur_capital	Reg_capital	Unit Counts	Sector	Legal Form	Address	Data Sources
بنك العربي 4048445	O	المؤسسات الائتمانية الإئتمانية	10102 العمان	444	244	200	400	44	400 000	500 000	Legal Units: 1	3 المستشفيات	12 شركة محدودة	AVENUE MED BELHASSAN EDUJAZZANI, Post box 1236, AMMAN	mit ccd
بنك العربي 3048545	I	خدمات الإقراض والائتمانية	10102 العمان	4 440	2 440	2 000	4 000	440	6 900 000	7 000 000	Legal Units: 1	3 المستشفيات	12 شركة محدودة	PRINCE MOHAMMED STREET, Post box 1241, ZARQA	mit ccd
شركة البوتاس العربية 1234567	H	التجارة والتجارة	10102 العمان	333	133	200	300	33	400 000	500 000	Legal Units: 1	1 المكوكات المحلية	12 شركة محدودة	RUE SOULTANE MOULAY MOHAMMED, Post box 1234, AMMAN	mit ccd
شركة البوتاس العربية 2234567	C	صناعة المواد الكيميائية	10102 العمان	3 330	330	3 000	3 000	330	400 000	500 000	Legal Units: 1	1 المكوكات المحلية	12 شركة محدودة	ABDALLAH GOSHE STREET, Post box 1239, AMMAN	mit ccd
شركة الفوسفات الأردنية 2200019	I	خدمات الإقراض والائتمانية	10111 مجان	666	366	300	600	66	400 000	500 000	Legal Units: 1	2 البنوك	4 شركة عامة	AEROPORT MOHAMED 5 NOUACEUR, Post box 1237, NOUACEUR	mit ccd
شركة الفوسفات الأردنية 6200019	G	المركبات والبريد البرية	10102 العمان	6 660	3 066	3 000	6 000	666	6 900 000	7 000 000	Legal Units: 1	2 البنوك	4 شركة عامة	AL-HUZZI ROAD, Post box 1242, AZARBA	mit ccd
شركة تعدين النوب 4567890	H	التجارة والتجارة	10107 جرش	4 440	2 440	2 400	4 000	440	780 000	880 000	Legal Units: 1	1 المكوكات المحلية	12 شركة محدودة	WADI MUSA STREET, Post box 100, TBC	mit ccd
شركة زين الأردن 3220794	C	الصناعة الخفيفة	10103 الزرقاء	2 220	1 220	1 000	2 000	220	6 900 000	7 000 000	Legal Units: 1	3 المستشفيات	3 أخر	AL-HASAN INDUSTRIAL ESTATE, Post box 1240, Irbid	mit ccd
شركة زين الأردن 2220794	O	المؤسسات الائتمانية الإئتمانية	10103 الزرقاء	222	122	100	200	22	400 000	500 000	Legal Units: 1	3 المستشفيات	3 أخر	2 RUE AL ABTAL HAY ERRANA, Post box 1233, AMMAN	mit ccd
شركة صناعات الورق 8878543	G	المركبات والبريد البرية	10111 مجان	2 220	1 220	1 000	2 000	220	890 000	990 000	Legal Units: 1	3 المستشفيات	3 أخر	AL-HASHEM STREET, Post box 1246, JERASH	mit ccd

Be aware that the 2 files both use the same national Ids, If both sources use national_id but ids are different, the MIT abd CCD units will be presented on separate lines like in the next picture:

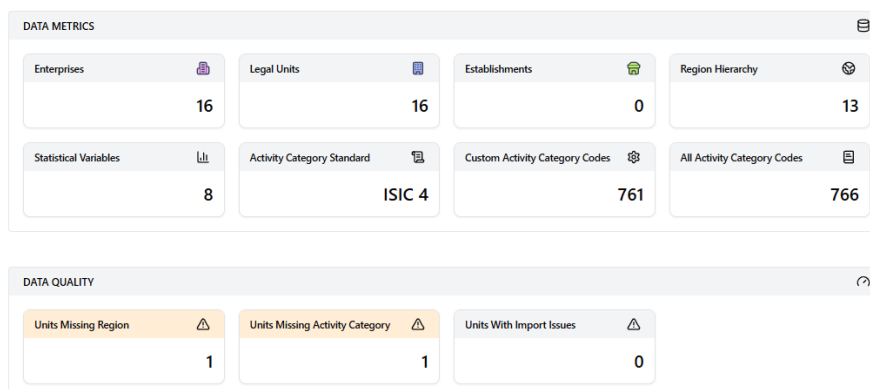
Name	Activity Section	Activity Category	Top Region	Region	Employees	Jor	Nonjor	Male	Female	Reg_Capital	Cur_Capital	Unit Counts	Sector	Legal Form	Address
البنك العربي 123456788	G	المركبات والبريد البرية	الأردن	الأردن						1 000	1 000	1	12	12	شركة محدودة
البنك العربي 812345678	G	المركبات والبريد البرية	الأردن	الأردن						1 000	1 000	1	4	4	شركة عامة
البنك العربي 654321088	G	المركبات والبريد البرية	الأردن	الأردن						2 000	2 000	1	12	12	شركة محدودة
البنك العربي -	O	المؤسسات الائتمانية الإئتمانية	الأردن	الأردن	444	400	44	200	244			3	12	12	شركة محدودة
البنك العربي -	I	خدمات الإقراض والائتمانية	الأردن	الأردن	4 440	4 000	440	2 000	2 440			3	12	12	شركة محدودة
بنوك وخدمات الصرافة 654321087	G	المركبات والبريد البرية	الأردن	الأردن						1 000	1 000	1	3	3	شركة عامة
تجارة التوزيع الأردنية 765432108	G	المركبات والبريد البرية	الأردن	الأردن						1 000	1 000	1	4	4	شركة عامة
مطبخين مابنا للخدمات 21087654	G	المركبات والبريد البرية	الأردن	الأردن						1 000	1 000	1	12	12	شركة محدودة
خطوط بويال تاركون الجوية 567891234	S	الخدمات الجوية	الأردن	الأردن						1 000	1 000	1	4	4	شركة عامة
شركة الأردن لخدمات الطعام 887654320	I	خدمات الإقراض والائتمانية	الأردن	الأردن						1 000	1 000	1	3	3	شركة عامة

Above: First load with 2 different legal_units files with different information. StatBus configures to only show National_id (and not the first ID Dos Id that we loaded initially)

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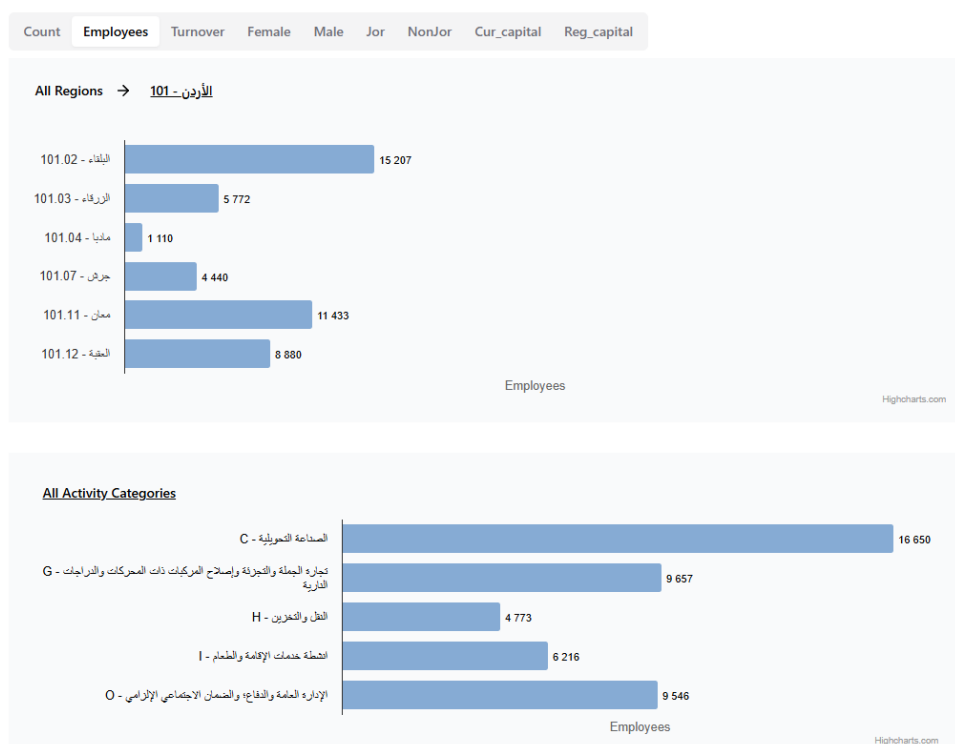
Statbus Status Dashboard



StatBus Dashboard, showing number of units loaded. Be aware the one error is a unit that only occur in one of the legal unit files, and are missing both regional code and activity code (Just sto give an example)

Statbus Data Drilldown

Gain data insights by drilling through the bar charts below



StatBus Drill Down analysis of statistical enterprises. All datasources combined no matter of Id.s. The chart **combine all sources based on activity code AND regionl_code** from the legal unit files.

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First Legal Unit File loaded:

```

6FirstLegalUnitsJOShortMIT.csv X
C: > Jordan24 > ny > 6FirstLegalUnitsJOShortMIT.csv
1 national_ident,data_source_code,reg_capital,cur_capital
2 1234567,mit1,500000,400000
3 2220794,mit1,500000,400000
4 4048645,mit1,500000,400000
5 2200019,mit1,500000,400000
6 3300598,mit1,500000,400000
7 2234567,mit1,500000,400000
8 3220794,mit1,7000000,6900000
9 5048645,mit1,7000000,6900000
10 6200019,mit1,7000000,6900000
11 7300598,mit1,7000000,6900000
12 8678912,mit1,7000000,6900000
13 9901234,mit1,7000000,6900000
14 8876543,mit1,990000,890000
15 3456789,mit1,450000,350000
16 4567890,mit1,880000,780000
17 9999999,mit1,99,99

```

Second / Additional legal unit file loaded: Using same National_Ids as the first file. The second file does not have the unid 9999999, therefore this unit will be missing regional code, activity code and more..

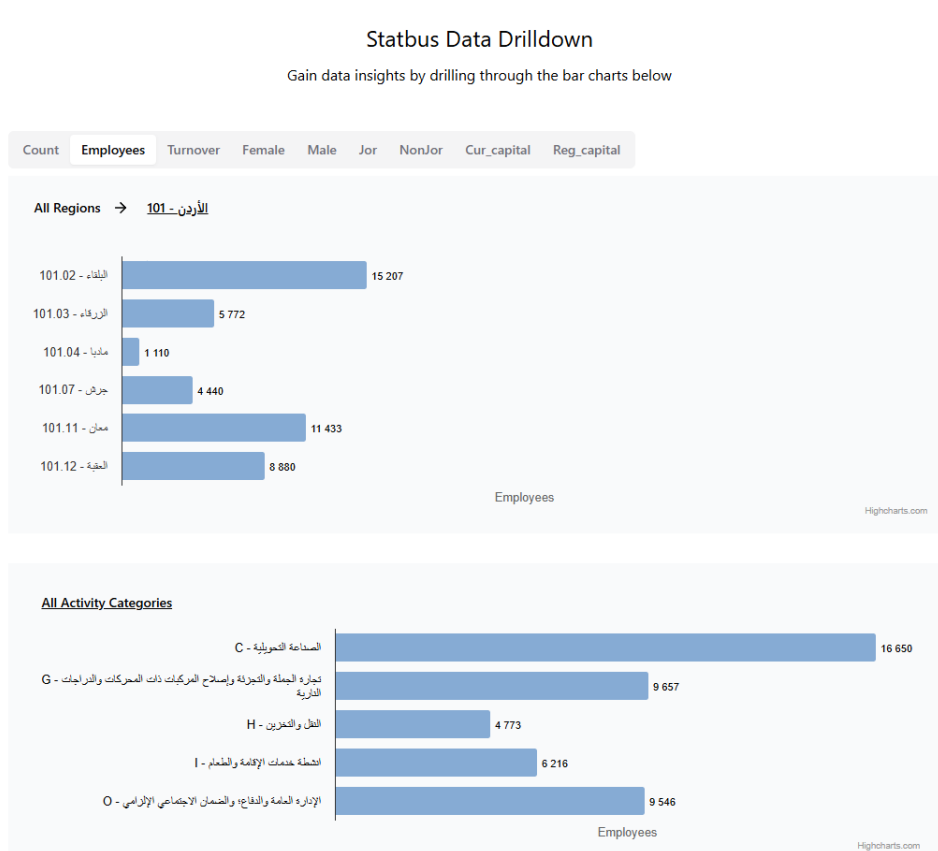
```

national_ident,data_source_code,employees,jor,nonjor,male,female,turnover,birth_date,death_date,physical_postcode,physical_address_part1,phy
1234567,ccd2,333,300,33,200,133,33000,01.jan.10,01.jan.17,BERKANE,RUE SOULTANE MOULAY MOHAMMED,Post box 1234,AMMAN,5110,5110,JO,12,10102,1,ر
2220794,ccd2,222,200,22,100,122,20000,01.jan.10,01.sep.14,CASABLANCA,2 RUE AL ABTAL HAY ERRAHA,Post box 1235,AMMAN,8411,8411,JO,3,10103,3,ن
4048645,ccd2,444,400,44,200,244,40000,01.jan.10,01.jan.18,RABAT,AVENUE MED BELHASSAN EQUAZZANI,Post box 1236,AMMAN,8421,8421,JO,12,10102,3,ر
2200019,ccd2,666,600,66,300,366,66000,01.jan.10,01.jan.14,NOUACEUR,AEROPORT MOHAMED 5 NOUACEUR,Post box 1237,NOUACEUR,5630,5630,JO,4,10111,2
3300598,ccd2,777,700,77,400,377,17777,01.jan.10,01.jan.14,RABAT,IMI MAHAJ RIAD Main RD 130-140,Post box 1238,AMMAN,4730,4730,JO,4,10111,3,س
2234567,ccd2,3330,3000,330,3000,330,33000,01.jan.10,01.jan.17,AMMAN,ABDALLAH GOSHÉ STREET,Post box 1239,AMMAN,1062,4730,JO,12,10102,1,عربية
3220794,ccd2,2220,2000,220,1000,1220,20000,01.jan.10,01.sep.14,IRBID,AL-HASAN INDUSTRIAL ESTATE,Post box 1240,IRBID,1062,1062,JO,3,10103,3,ر
5048645,ccd2,4440,4000,440,2000,2440,40000,01.jan.10,01.jan.18,ZARQA,PRINCE MOHAMMED STREET,Post box 1241,ZARQA,5630,1062,JO,12,10102,3,رسي
6200019,ccd2,6660,6000,666,3000,3066,66000,01.jan.10,01.jan.14,AQABA,AL-HIJAZI ROAD,Post box 1242,AQABA,4730,5630,JO,4,10102,2,مفات الأردنية
7300598,ccd2,7770,7700,70,3000,4077,77000,01.jan.10,01.jan.14,MADABA,KINGS HIGHWAY ROAD,Post box 1243,MADABA,1062,4730,JO,4,10111,3,الدولي
8678912,ccd2,8880,8000,8800,80,4000,4880,01.jan.10,01.feb.20,KARAK,AL-MAZRA' A MAIN STREET,Post box 1244,KARAK,8421,1062,JO,3,10112,2,الكرك
9901234,ccd2,1110,1000,110,500,6010,11111,01.jan.10,01.jun.19,MAFRAQ,AL-JISR ROAD,Post box 1245,MAFRAQ,5630,8421,JO,4,10104,1,مياه اليرموك
8876543,ccd2,2220,2000,220,1000,1220,22000,01.jan.10,01.apr.15,JERASH,AL-HASHEMI STREET,Post box 1246,JERASH,4730,5630,JO,3,10111,3,ت الورد
3456789,ccd2,3330,3000,330,1500,1833,33000,01.jan.10,01.mar.16,AJLOUN,AL-SHIFA ROAD,Post box 1247,TBC,1062,1062,JO,12,10103,2,نة عذا الأردن
4567890,ccd2,4440,4000,440,2400,2440,44000,01.jan.10,01.nov.18,TAFLEH,WADI MUSA STREET,Post box xxx,TBC,5110,5630,JO,12,10107,1,نين الجنوب

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Chart showing the different regions, and activity categories in a connected drill down chart:



Annex 2: ToR

Terms of Reference

EU Twinning Project JO 21 ENI ST 01 22

Component 1:

Roadmap for the development of an integrated administrative data system in Jordan with pilots on Statistical Business registers (SBR) and population statistics

Activity 1.2.9:

Installation StatBus and upload of test data

Dates: 13 – 16 January 2025

List of abbreviations

BC	Beneficiary Country
CoE	Census of Establishments
DoS	Department of Statistics
ESS	European Statistical System
MS	Member State
NA	National Accounts
RTA	Resident Twinning Advisor
SBR	Statistical Business Register
STE	Short Term Expert
ToR	Term of References

0. Objective and Mandatory Results for the component

To prepare a roadmap for the development of an integrated administrative data system for Jordan, and conduct pilot projects on creating an SBR and strengthening population statistics.

As the development of a fully integrated administrative data system is a long-term project. The main focus of the Twinning project will be on specific pilot projects where the use of administrative records can address key challenges currently faced by the DoS. These pilot projects will constitute the first steps in rolling out a roadmap for the Jordanian statistical system by providing a template for expanding the use of administrative data across the wider statistical system over time. Specifically, the pilots for the Twinning project will focus on the development of a statistical business register (SBR) and improving the quality of population statistics. In relation to business statistics specifically, the development of a SBR it is essential to integrating different data sources, and providing additional analysis without increasing costs.

SBR is an essential component in supporting the coherence, consistency and quality of statistics produced as well as providing data on the population of business units. The SBR provides a basis for selecting and monitoring samples, integrating administrative and other data sources and providing a framework for deriving business demographics and National Accounts.

The lack of a comprehensive SBR was identified as an obstacle to future improvements of DoS statistics back in the 2015 Twinning project led by Statistics Denmark. This gap still remains - developing and maintaining an SBR for Jordan would, therefore, greatly enhance the ability of the DoS to monitor and analyze developments in a rapidly changing business environment. The pilot project will examine available administrative data sources on business entities.

For business statistics, the development of a statistical business register (SBR) is essential to integrating different data sources, and providing additional analysis without increasing costs. It is also the main source of business demography indicators. The lack of an SBR has also been identified as an impediment to improving DoS statistics.

SBRs are an essential component in supporting the coherence, consistency and quality of statistics produced. As well as providing data on the population of business units, the SBR provides a basis for selecting and monitoring samples, integrating administrative and other data sources and providing a framework for deriving business demographics. The lack of a comprehensive business register was identified as an obstacle to future improvements of DoS statistics back in the 2015 Twinning project led by Statistics Denmark. This gap still remains - developing and maintaining an SBR for Jordan would, therefore, greatly enhance the ability of the DoS to monitor and analyse developments in a rapidly changing business environment. The pilot project will examine available administrative data sources on business entities, primarily in the Companies Controller Department and Ministry of Industry and Trade. Based on the mapping exercise in 1.1 above, a strategy for linking these data with DoS information, primarily from the Census of Establishments (CoE), will be drawn up. While specific administrative source data have been identified for the pilot, other information can also be considered.

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Recently the [Jordan Economic Modernization Vision 2030](#) was launched and “[Smart Jordan](#)” was identified as one of the eight Growth Drivers to implement the Economic Modernization Vision. The ‘Smart Jordan Driver’ includes seven sectors where data is one of them. This indicates the national interest to ensure constant and reliable data sources, and robust statistical systems that contribute to timely and informed policy making. It is expected that one of the measures that will be taken is to transform Jordan's Department of Statistics (DoS) into an interactive National Statistical Center (NSC).

Component 1 is sub-divided in five sub-components each with a Mandatory Results (MR) and two to four indicators of achievements associated with the sub-component. This specific mission is related to MR 1.2: Pilot project to develop strategy for integrating administrative data sources for the purposes of creating an SBR and the indicator of achievement (IA) Documentation prepared on database structures and compliance with statistical standards, classifications (e.g. ISIC, Rev 4) etc. and use of common identifiers etc.

Mandatory results and indicators for achievement for each sub-component

Table 1: Mandatory results and indicators for achievement (IA) for each sub-components within Component 1: an integrated administrative data system for Jordan

MR from the Twinning Fiche	Indicator
MR 1.1: Compile an inventory of administrative data on business and households and an indicative roadmap for inclusion in an integrated system	Indicator 1.1.A: Inventory of administrative data variables and detailed supporting metadata prepared Indicator 1.1.B: Tentative roadmap prepared for inclusion of data in integrated system
MR 1.2: Pilot project to develop strategy for integrating administrative data sources for the purposes of creating an SBR	Indicator 1.2.A: Administrative data sources identified and assessed and plan developed for integrating these with Census of Establishments (CoE) information in an SBR Indicator 1.2.B: Documentation prepared on database structures and compliance with statistical standards, classifications (e.g. ISIC, Rev 4) etc. and use of common identifiers etc. Indicator 1.2.C: Explore how SBS can benefit other statistical domains in the DoS
MR 1.3: Undertake pilot project on how administrative records can be used to strengthen population statistics and inform framing of the 2025 CoP questionnaire	Indicator 1.3.A: Inventory of data sources prepared and assessed and action plan for incorporation in DoS statistics developed Indicator 1.3.B: Methodology developed for incorporating administrative data Indicator 1.3.C: Documentation prepared on statistical standards, classifications, identifiers, mapping etc. Indicator 1.3.D: Review of how administrative data can assist in developing the COP 2025 questionnaires
MR 1.4: Develop strategy for ensuring flows of data between the DoS and counterpart institutions are established on an ongoing basis for pilot projects above	Indicator 1.4.A: Review of technical infrastructure for data transfers and action plan prepared based on 1.1 and 1.2 above Indicator 1.4.B: MoUs agreed between DoS and partner institutions Indicator 1.4.C: Agreement on statistical standards, classifications, identifiers etc. between DoS and partner institutions Indicator 1.4.D: Review of data flows within the DoS

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<p>MR 1.5: Implement training programmes and develop training materials both within DoS and with partner institutions on the use of administrative records for statistical purposes, based on pilot projects above</p>	<p>Indicator 1.5.A: Detailed documentation on statistical standards, classifications, identifiers etc. developed. Indicator 1.5.B: Comprehensive training programs and workshops provided for DoS staff and partner institutions Indicator 1.5.C: DoS leadership role in ensuring proper statistical standards applied across the Jordanian statistical system reinforced.</p>
<p>MR 1.6: A governance roadmap for decisions makers data access outlined</p>	<ul style="list-style-type: none"> ● Indicator 1.6.A: Best international practices for NDC's outlined ● Indicator 1.6.B: Stakeholder awareness raised and needs from stakeholder mapped; ● Indicator 1.6.C: Organizational structure and required skills for staffing the National Data Center outlined; ● Indicator 1.6.D: Requirements and standards for data and metadata layer outlined;

1. Purpose of the activity

The purpose of this activity is to introduce and test the StatBus vers. 2.0 System for its suitability to support an SBR in Jordan.

The following subject will be covered:

- Introduction to the StatBus ver. 2.00 System, a client-server based system for SBR;
- Installation of StatBus v 2.0;
- Upload a sample of 1000 Units of Legal Units data for Entrepreneurs from Ministry of Industry and Trade (MIT)
- Upload a sample of 1000 of Legal Units data for Cooperation's from Companies Control Department (CCD);
- Upload a sample of statistical information from Social Security Cooperation (SSC) for the legal Units samples from MIT and CCD

Background information about StatBus:

StatBus is a client-server based system for statistical business registers which is an important backbone of any national statistical office. For additional information, please consult:

<https://www.StatBus.org/>

The main features are:

- A tool for storing and maintain information on businesses from administrative sources, surveys and censuses
- Licensed as open source
- Based on UN international guidelines for development and maintenance of statistical business registers
- Used for drawing samples and make national economic statistics
- Important for National Accounts

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Table 1: Screenshot from StatBus

For additional information, please consult: <https://www.StatBus.org/>

Background information for enhancing SBR at DoS

As background information for building a roadmap for an enhanced SBR in Jordan the current achievements and challenges are provided in Annex C. In table 2 the known available variable from key administrative sources are listed.

In brief, DoS has reach out to the following five owner of administrative data where the two first two is regarded as the most important according to DoS.

- The Ministry of Industry and Trade
- Companies Control Department
- Income and Tax Department
- Greater Amman Municipality
- Social Security Corporation
- Ministry of Local Administration
- Ministry of digital Economy and Entrepreneurship

Table 2: Current variables in the current SBR as well as know available variable from different key sources of administrative data (Based extract from appendix c).

Source/Variable	SBR in DoS	Companies Controller Department	Social Security Corporation	Greater Amman municipality
Commercial name for the establishment	x	x		
Common name	x			
Establishment's owner name	x			
Establishment's owner nationality	x			
Establishment's owner national number	x	x		
Establishment's registration number	x	x		
Detailed address	x	x		
Number of workers			x	
Establishment's size				x
Establishment's registration date	x	x		
Registered capital	x			
Establishment's legal entity	x	x		
Occupation and description of economic activity			x	

Currently, the SBR is stored and managed in Excel. However, at former mission for this component it was decided to test the suitability of using an updated version StatBus as the

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platform for SBR. StatBus is as a client-server based system for storing and maintain information on businesses from administrative sources, surveys and censuses. StatBus is based on the UN international guidelines for development and maintenance of statistical business registers.

Strategy for the cooperation with stakeholders for establishing a SBR

Broader coalitions resulting in wider public sector collaborations are very conducive to the expansion in the use of administrative data, as well as the establishment of good practices. In order to ensure a good cooperation with the stakeholders it is essential to build a good relation and cooperation with administrative data owner and to establish written agreements in form of a Memorandum of Understanding (MoU). In some cases legal changes might be needed as well, e.g. as in the case of receiving administrative data from Income and Tax Department.

2. Expected output of the activity

- Activity report;
- Common understanding of international best practices for SBR;
- StatBus downloaded and implemented for testing;
- Initial testing carried out in order to determine usability and the fulfillment of needs for DoS;
-

3. Participants

MS Short Term Experts (STE's)

- **Mr. Christian Bendtsen**, IT Developer, IT, Statistics Denmark. Mr. Bendten is IT Developer and has been employed at Statistics Denmark since 2007 mainly in the field of Statistical Business Register. Besides that, Mr. Bendsen has extensive knowledge on Oracle Database, PL/SQL. E-Mail: chb@dst.dk
- **Mr. Erik Sjøberg**, Head of the StatBus System, Statistics Norway.
 - E-mail: Erik.Soberg@ssb.no

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DoS experts

BC Component Leader: Mr. Jaffar Ababneh, Director of Data Management Department, DoS.

E-Mail: Jafaar.Ababneh@DOS.GOV.JO

DIRECTORATE OF INTERACTIVE NATIONAL DATA CENTER (NDC)

Administrative Data Division

- Mr. Abdalwahed Alharaizeh - SBR Division
- Mrs. Safa Abo Aitah - SBR Division
- Ms. Anwar Al Kasaba - SBR Division

Management Team

- Mr. Nabil Abu Sall, Director of NDC
- Mr. Mohammad Alhiary, External consultant of the NDC Team

DIRECTORATE OF ELECTRONIC TRANSFORMATION AND IT

- Mr. Mohammad Al-Shatnawi (backup for IT related issues)
- Mr. Ayman Elhloul (backup for IT related issues)

Twinning team

- Eng. Tamer AlRosan, Head of plant Statistics Division Jordan (RTA Counterpart)
- Dr. Charlotte Nielsen (RTA)
- Ms. Zaina Amireh (Language Assistant)
- Ms. Thekra Altorah (RTA Assistant)

4. Resources

Translation and interpretation will be provided throughout the activity. Translation will be provided as sequential translation. Therefore, please keep frequent pauses when presenting and talking allowing our project translator to provide as accurate a translation as possible.

All material will be provided in both English and Arabic before, during and after the Mission.

The venue will be the Meeting room at DoS. Projector, flip-overs and other office material will be available.

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5. Prerequisite and preparation

Installation of StatBus

StatBus is a multiuser serverbased web-application. In other words, it will only be installed once and all users will connect to the server – no individual users will need to install anything.

General Requirements

Before installing STATBUS, ensure you have the following tools and services installed:

- **Git:** For source control and cloning the repository.
- **Docker:** For managing application containers.
- **Docker Compose:** To orchestrate multiple containers.
- **Unix Shell:** Comes with macOS and most Linux distros. For Windows, you'll need Git Bash.

StatBus -Server minimum Requirements:

- **Operating System:** Linux (Ubuntu)
- **Ubuntu Upgrades:** Can be downloaded from Ubuntu Releases
- **CPU:** 4 cores
- **RAM:** 16 GB
- **Disk Space:** 10 GB.

Link to current installation guide:

https://www.StatBus.org/Documentation/STATBUS_Technical_Installation_Guide.pdf

Test data

- Prepare test dataset with 1000 Legal Units of Entrepreneurs from the Ministry and Entrepreneurs (MIT)
- Prepare test dataset with and 1000 Legal Units for Cooperation's from the Companies Control Department and Cooperation (CCD)
- Prepare test dataset for the Legal Units in MIT and CCD test datasets with Statistical information from the Social Security Cooperation (SSC) – e.g. number of employees

6. Overall agenda

- **Monday 11:00 – 15:00**
 - Welcome and introduction to this activity
 - Introduction to StatBus vers. 2.0
 - Installation of StatBus (It might take many hours, we don't know)
 - Review of data to be uploaded

- **Tuesday 09:00 – 15:00**
 - Access to the database
 - Upload data Value lists (preliminary)
 - Upload classifications – preparation for data entry

- **Wednesday 09:00 – 15:00**
 - Look into StatBus (if ready)

- **Thursday**
 - Follow up
 - Presentation of achievement for the management
 - Future work/next mission

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Annex 3: Person meet

DIRECTORATE OF INTERACTIVE NATIONAL DATA CENTER (NDC)

Administrative Registers Division

- Mr. Jaafar Ababneh - Head of the Administrative Registers Division
- Mr. Abdalwahed Alharaizeh - Staff member
- Mrs. Safa Abu Aitah - Staff member
- Ms. Anwar Al Kasaba- Staff member

Artificial Intelligence and Data Engineering Division

- Mr. Zaid Abu Rasheid- Staff member
- Mr. Qusai Hamdan - Staff member
- Mr. Suhaib Ananabeh - Staff member

Management Team

- Mr. Nabil Abu Sall, Director of NDC
- Mr. Mohammad Alhiary, External consultant if the NDC Team

DIRECTORATE OF ELECTRONIC TRANSFORMATION AND IT

- Mr. Mohammad Al-Shatnawi (backup for IT related issues)
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