

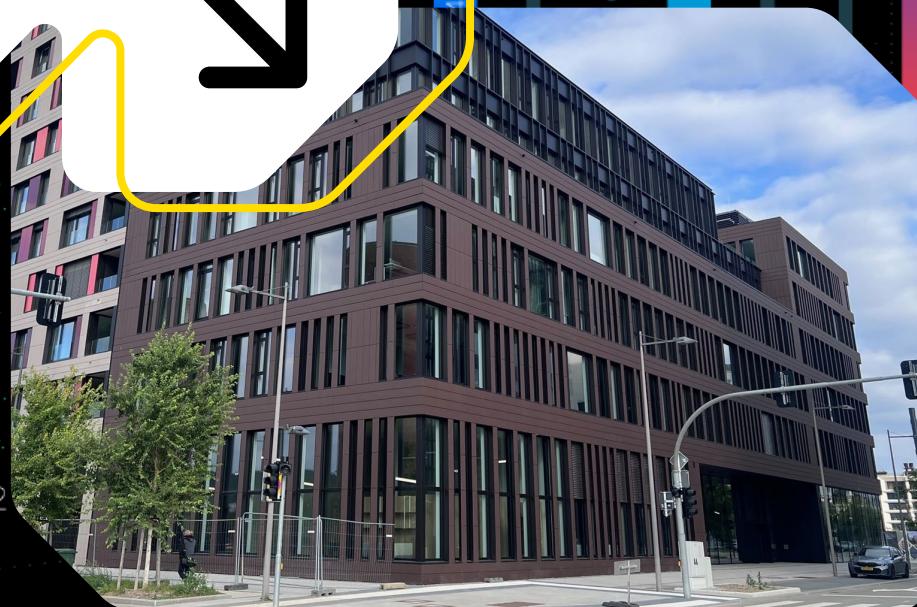


STATEC HACKATHON

STATEC



The STATEC



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STATEC

**National Institute of
statistics and economic
studies since the law
of July 10, 2011**



STATEC



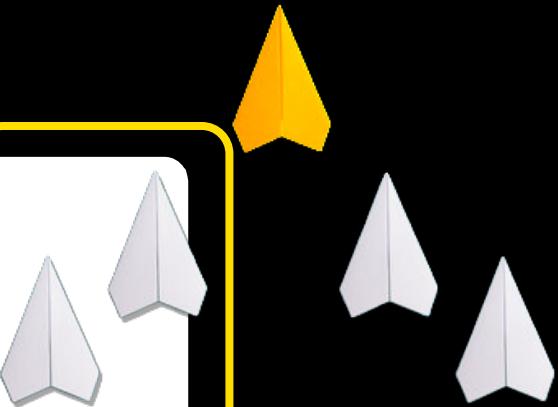
New headquarters “TWIST” in Belval
since October 2024

Tom Haas, Director of STATEC
since October 26, 2024

Public administration,
under the authority of
the Ministry of the Economy

**Scientific and professional
independence guaranteed
by law**

Our mission

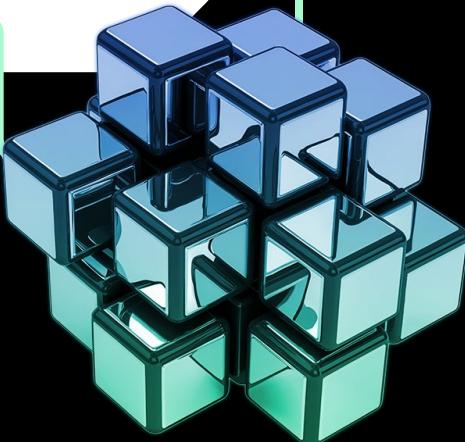


Produce a detailed, reliable, and objective picture of society in order to **inform public and private decision-making**

- ↳ To set up a **statistical information system** on the structure and the activity of the country
- ↳ **Study cyclical trends and structural changes** in the economy
- ↳ Conduct the **population and housing census**
- ↳ Prepare short- and medium-term **economic forecasts**, overall or by sector
- ↳ Coordinate the **Luxembourg statistical system**

Our challenge

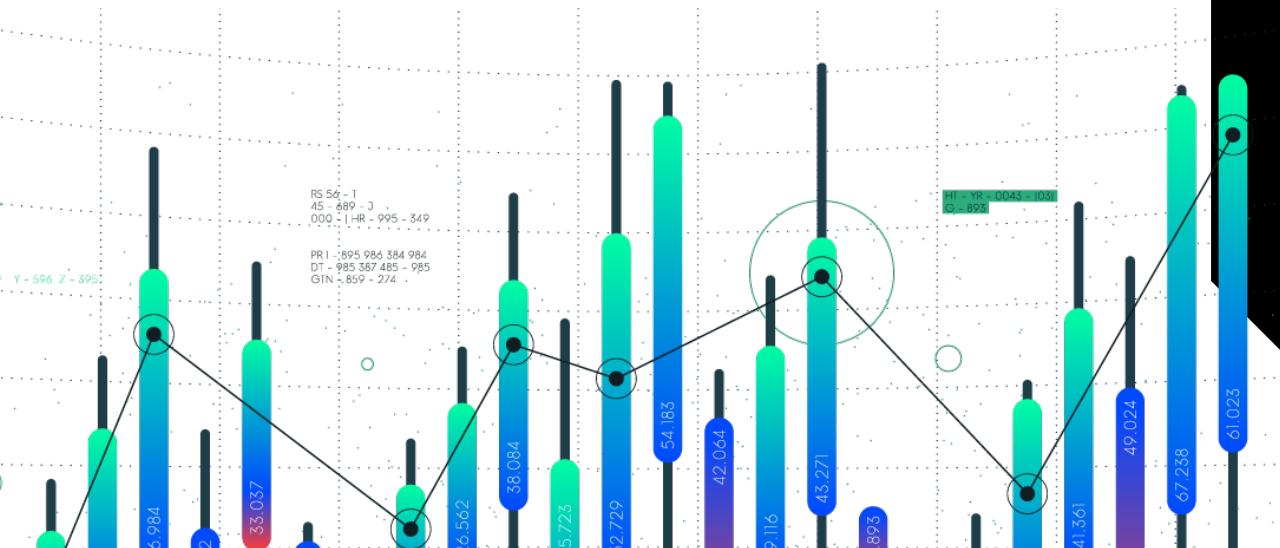
Our environment
is changing



- ↳ **Technological developments** are opening up new horizons
- ↳ Need to **modernize our methods and tools**
- ↳ Need to **centralize, standardize, and interconnect our data**
- ↳ **Ensure the quality, value, security, and accessibility** of statistical information
- ↳ **Strengthen our capacity for analysis** and support to public decision-making

Heading to the future

An opportunity for STATEC to reinvent itself, to grow, to innovate, and to inspire a new collective momentum.



For us, **data are not just numbers**, but essential levers for understanding and action. STATEC aims to evolve into a **leading data engineering institute**, capable of shedding light on major economic, social, and environmental challenges.

STATEC HACKATON



Agenda @Gouvtechlab

➔ DAY 1

27 oct. 2025

1:30 / 2:00 pm

Arrival of participants

2:00 / 3:00 pm

Presentation
of data sets

3:00 / 6:00 pm

Hacking

6:00 / 8:00 pm

Networking & Drinks

➔ DAY 2

28 oct. 2025

8:00 / 9:00 am

Arrival of participants

9:00 / 12:00 pm

Hacking

12:00 / 1:00 pm

Lunch

1:00 / 6:00 pm

Hacking

6:00 / 7:00 pm

Dinner





@Gouvtechlab or STATEC

DAY 3

29 oct. 2025

8:00 / 9:00 am

Arrival of participants

9:00 / 12:00 pm

Hacking

12:00

Lunch & head to STATEC

@STATEC

11:30 / 2:00 pm

Networking cocktail

2:00 / 4:00 pm

Pitching sessions

4:00 / 6:00 pm

Networking & Drinks

4:30 / 5:00 pm

Award presentation



Journée de la Statistique

29 oct. 2025

10:40 / 11:30 am

Presentation of the vision for the future of public statistics by **Tom Haas**, Director of STATEC, alongside **Lex Delles**, Minister for the Economy

11:30 pm

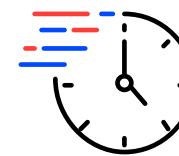
Networking cocktail



**Pitching
Session
2:00 pm**



Room **Alan Turing**
@ STATEC



5-minute pitch
per team

Jury



**Bastien
Larue**

Head of Department
Economic conditions,
modelling and
forecasts



**Delia
Contoguerra**

Head of Unit
Communication



**Luc
Roettgers**

Head of Department
Information Technology



**Claude
Lamboray**

Head of Unit
Methods and quality



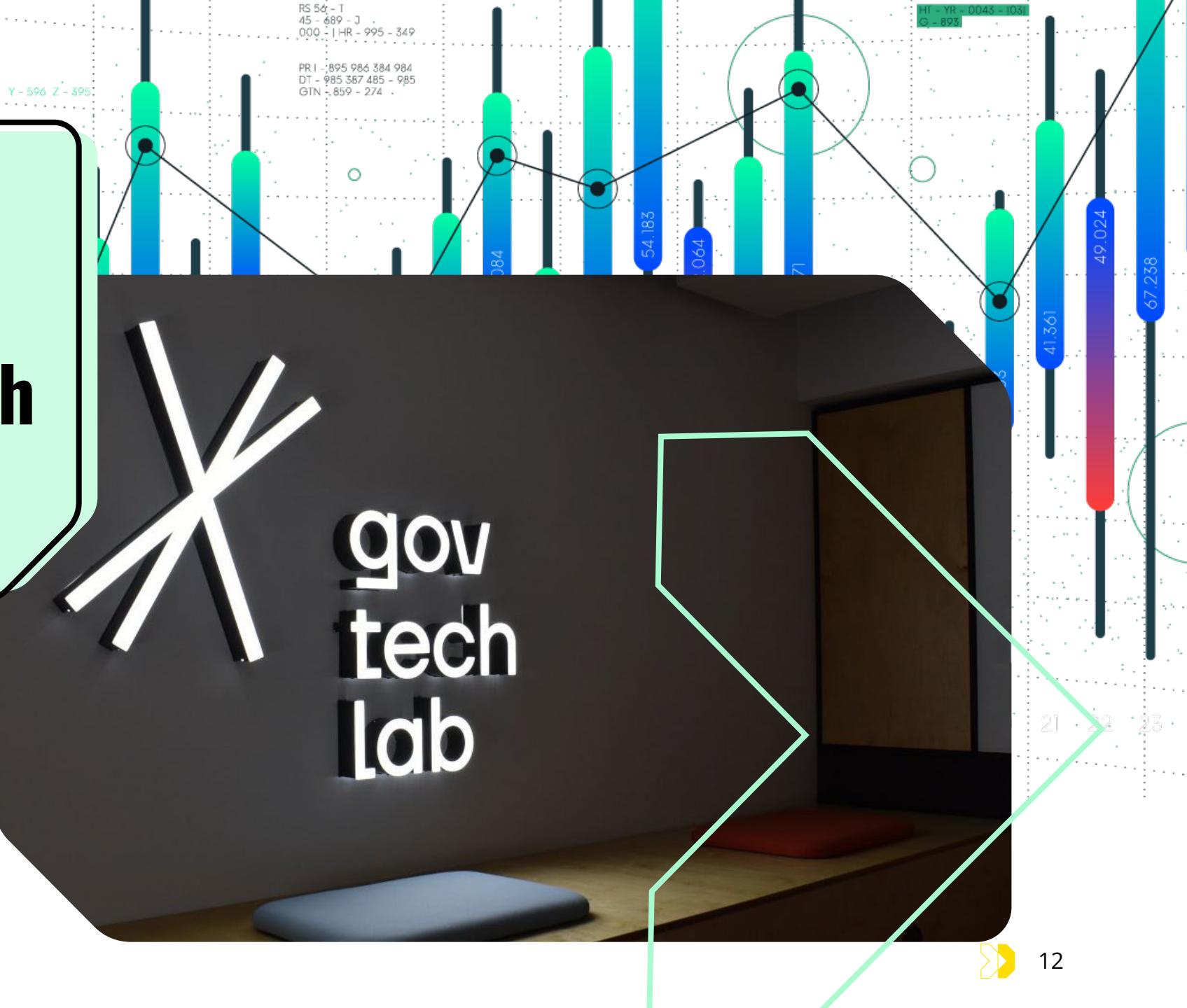
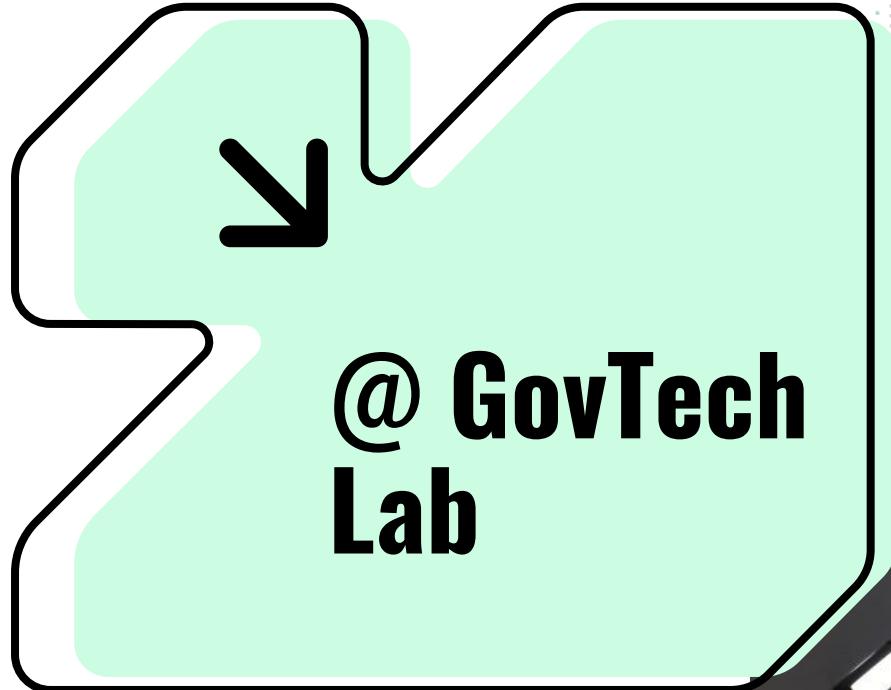
**François
Peltier**

Head of Unit
Population and
housing



**Leila
Deshayes**

Head of Unit
Administrative
Data





WiFi



GouvNet

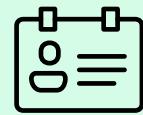
SSID: GouvNet
Pass: GouvNet!



GovTechLab

SSID: GovTechLab
Pass: GovTechLab

Venue Logistics



Please wear **your nametag** throughout the entire event



Toilets are on the corridor (on the way to the conference rooms/GTL) and upstairs



Please stay inside GovTech Lab or the conference room



Keep hold of your **own cups** please

Opening hours:

Monday

1:30 / 8:00 pm

Tuesday

8:00 am / 7:00 pm

Wednesday

8:00 / 12:00 am

Code of conduct

- ▶ We are dedicated to providing a **harassment-free experience** for everyone
- ▶ Participants violating these rules may be **expelled** from the event at our discretion
- ▶ Everyone must treat each other with **respect, act professionally and treat the facilities with proper care**
- ▶ Should you have any issue, please contact one of the organizers





Organisation & seating

- You will find the **name of your group on the desk** that is assigned to you
- Teams will be **hosted** at the GovTech Lab and the Conference room

Conference room



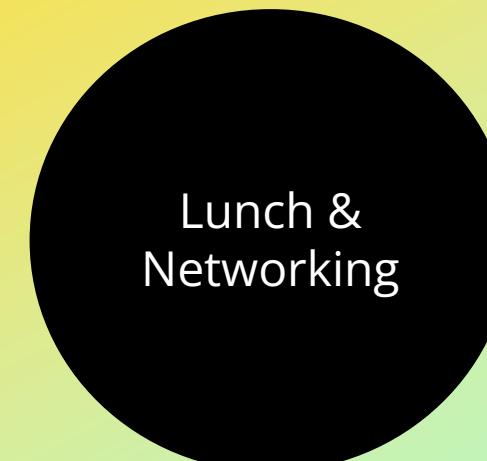
ARTEMIS (5)



SCRIPT DATA 2 (6)



EY (5)



Entry



SCRIPT DATA 1 (6)



LIST (Besser) (5)



STATEC (4)

GovTech Lab



42lux (3)

Outliers (4)

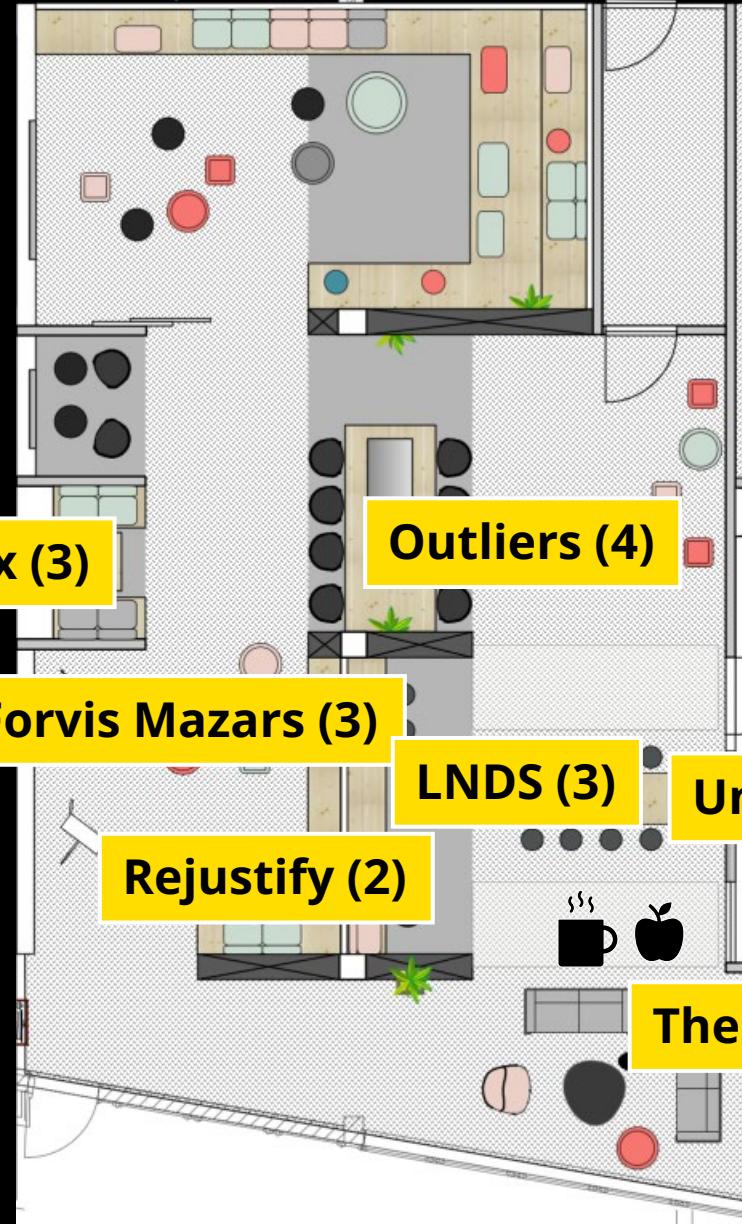
Forvis Mazars (3)

LNDS (3)

Uni.lu (3)

Rejustify (2)

The GNUs (4)





The theme for the Hackathon is
“Ageing Luxembourg”.

The goal is to **develop a dashboard** based on openly available data that provides insights on how an **ageing population in Luxembourg shapes the society and the economy**. Participants are encouraged to explore demographic shifts and their implications to raise public awareness and support policy making.

Key considerations for the dashboard:

- The **focus** of the dashboard should be put on **Luxembourg**.
- The dashboard may include a **temporal dimension**, comparing different points in time.
- The dashboard may include a **geospatial dimension**, for example by comparing Luxembourg with other countries, or by looking more closely at the subnational level (e.g. communes).
- The dashboard may combine **different indicators** to uncover relevant and new insights.



Evaluation criteria

When developing the dashboard, the following criteria should be kept in mind:



Relevance

Does the dashboard address the topic of the data challenge in a meaningful way?

Use of Data Sources

Are the provided data sources used appropriately? Are different indicators and data sources combined to create new insights?

Innovation

Does the dashboard demonstrate creativity or introduce novel approaches in its design or analysis?

Reproducibility and Openness

Can the project be easily reproduced and is it shared in an open and transparent manner (e.g., code, documentation)?

Robustness

Is the dashboard functional and reliable? Does it handle data and interactions smoothly?

Presentation

How clearly are the results communicated during the pitch?



Data Sources



The participants should select the data for their dashboard from one or several of the following data sources.

It is allowed to combine data from these eligible sources with data from any other open data sources provided that these additional data sources are clearly cited.

Portail des statistiques and LUSTAT

STATEC together with partners from the Luxembourg Statistical System publish statistical data at on the “Portail des statistiques”. Available data tables clustered by theme are listed here:

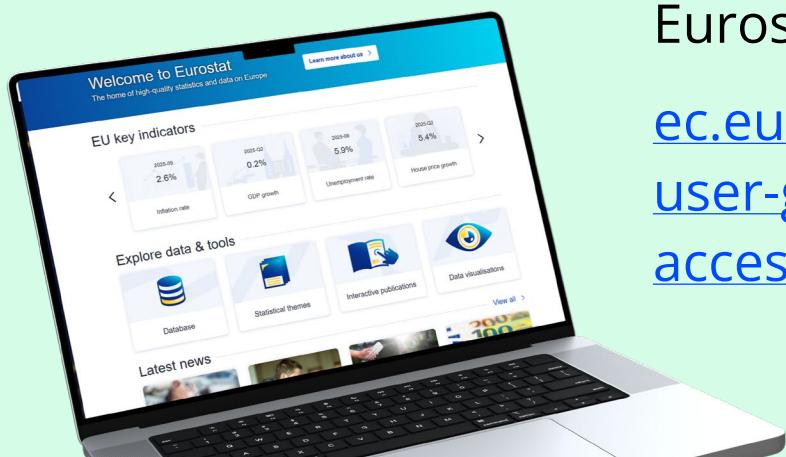


- statistiques.public.lu/fr/donnees/liste-tableaux-par-theme.html
- Most of these tables are disseminated through LUSTAT, which is STATEC's main data dissemination portal.
lustat.statec.lu
- A **pre-selection of statistical tables** from LUSTAT relevant for the data challenge can be found in the Appendix 1.
- Data from LUSTAT can be accessed in various ways. It is possible to use an API for querying data from LUSTAT (see Appendix 2 for further instructions).



Eurostat

Eurostat is the statistical office of the European Union. Eurostat disseminates European Statistics produced by the European Statistical System, including from STATEC. The data enable comparisons both among European countries and between individual countries and European aggregates. The data can be accessed in a dedicated database.



ec.europa.eu/eurostat/web/main/data/database

A pre-selection of statistical tables from the Eurostat database relevant for the data challenge can be found in the Appendix 1. Data from Eurostat can be accessed in various ways. It is possible to use an API for querying data from the Eurostat database:

ec.europa.eu/eurostat/web/user-guides/data-browser/api-data-access/api-getting-started/api



Portail Open data

The open data portal of the SIP is the main platform for disseminating open data in Luxembourg. It also covers a wide range of statistical data, including data already disseminated through the “Portail des statistiques” and LUSTAT:

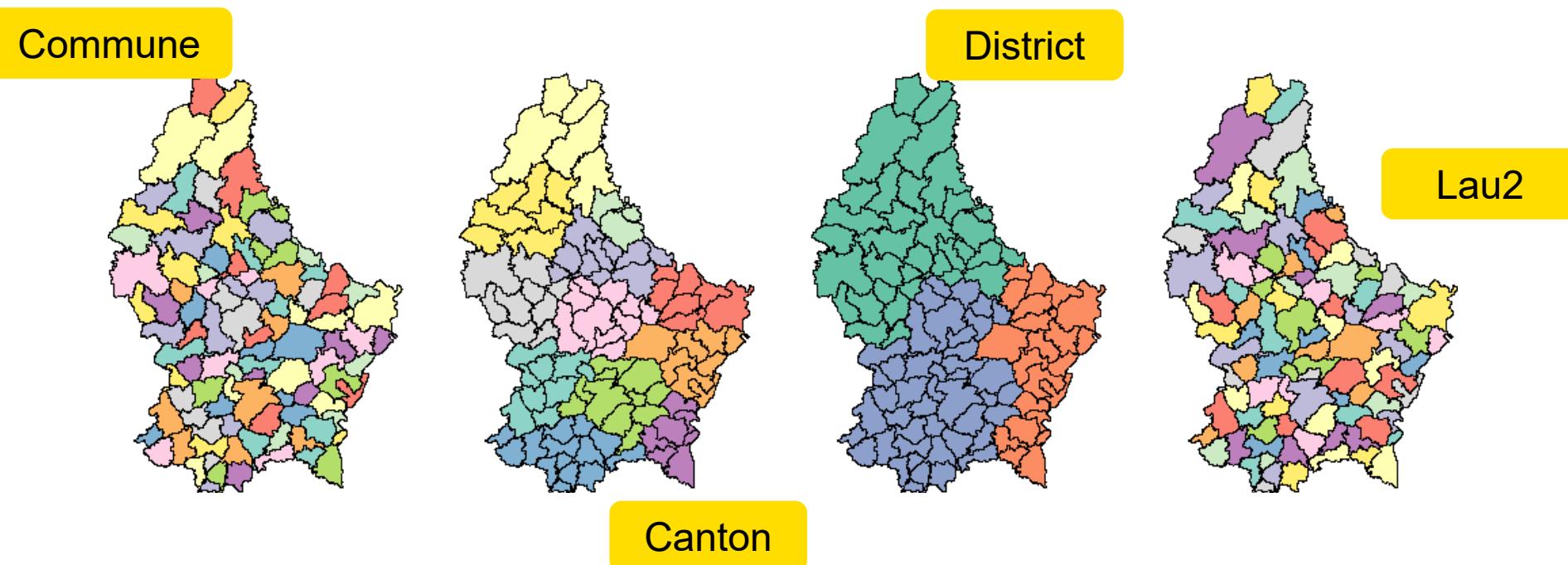
data.public.lu/fr/pages/topics/statistics



Auxiliary data source

The teams may use the provided shapefile repository to represent geospatial data for Luxembourg by “communes” and “cantons”.

These files can be conveniently used with R (`sf` package) or Python (`GeoPandas` library).



Deliverables

- **README (one page max)**

What the project does, why it matters for public statistics, how to run it.

- **Reproducible artifact**

examples: a Jupyter notebook, a small script/app + requirements.txt/environment.yml

- **Data note (“data card”, half page)**

What datasets were used, provenance, key transformations, known limits/biases.

- **5-minute pitch deck (≤5 slides)**

Idea → approach → mini demo

- **Licensing & ethics mini-note (5-10 lines)**

Code license (e.g., EUPL-1.2 or MIT) + data license (e.g., CC BY 4.0 / CC0) + privacy considerations.

Deliverables per team:

Can be stored on a public GIT repository. A link needs to be shared at the end of the hackathon

or

A data transmission request can be send by STATEC to the group if preferred



ANY
QUESTIONS
?



ARE
YOU
READY

Appendix 1: Pre-selection tables relevant for the data challenge

LUSTAT : <https://lustat.statec.lu/?lc=en&pg=0>

Social life

[Household consumption expenditures by product category, country of purchase and age/gender of the household reference person](#)

[Household consumption expenditures by product category, country of purchase and age/nationality of the household reference person](#)

[Household consumption expenditures by product category, country of purchase and age/activity status of the household reference person](#)

[Mean and median standard of living by Sex, Age and Nationality](#)

[Mean and median standard of living by Sex, Age and Level of education](#)

[Mean and median standard of living by Sex, Age and Country of birth](#)

[Mean and median standard of living by Sex, Age and Working status](#)

[Share of people at risk of poverty or social exclusion by sex, age and nationality](#)

[Share of people at risk of poverty or social exclusion by sex, age and level of education](#)

[Share of people at risk of poverty or social exclusion by sex, age and country of birth](#)

[Share of people at risk of poverty or social exclusion by sex, age and quintile](#)

[Share of people at risk of poverty or social exclusion by sex, age and working status](#)

[Share of people at risk of poverty by sex, age and nationality](#)

[Share of people at risk of poverty by sex, age and level of education](#)

[Share of people at risk of poverty by sex, age and country of birth](#)

[Share of people at risk of poverty by sex, age and quintile](#)

[Share of people at risk of poverty by sex, age and working status](#)



Appendix 1: Pre-selection tables relevant for the data challenge

Census

[Year of arrival by age and sex](#)

[Legal marital status by sex and age](#)

[Population change by age and sex 1880 - 2021](#)

[Housing arrangements by citizenship and age](#)

[Housing arrangements by country of birth and age](#)

[Education level by sex and age](#)

[Population by canton and municipality, legal marital status and sex](#)

[Population by canton and municipality, citizenship and sex](#)

[Population by canton and municipality, country of birth and sex](#)

[Population by canton and municipality, sex and age](#)

[Population by canton and municipality, household status and sex](#)

[Population by citizenship, age and sex](#)

[Occupation by citizenship, sex and age](#)

[Occupation by year of arrival in the country, sex and age](#)

[Occupation by country of birth, sex and age](#)

[Occupation by sex and age](#)

[Employment status by occupation, sex and age](#)

[Employment status by economic activity, sex and age](#)

[Current activity status by citizenship, year of arrival in the country sex and age](#)

[Working status by citizenship, country of birth sex and age](#)

[Working status by citizenship, sex and age](#)

[Working status by year of arrival in the country, sex and age](#)

[Working status by place of birth, sex and age](#)

[Work status by sex and age](#)



Appendix 1: Pre-selection tables relevant for the data challenge

Labour market

[Employment rate of the persons aged between 15 and 64 years \(in %\)](#)

[Statutory employment in the public sector](#)

Social security

[Beneficiaries of annuities and pensions by type and system](#)

[Current expenditure of the social protection schemes \(in millions EUR\)](#)

[Revenue of the social protection schemes \(in millions EUR\)](#)

[Benefits from the long term care insurance \(in millions EUR\)](#)

[Infrastructures for the elderly](#)

Population

[Population structure indicators at national level](#)

[Population on 1st January by age, sex and type of projection:](#)

[Population on 1 January by age group and sex](#)

[Population structure indicators at national level](#)

Living conditions

[Overcrowding rate by age, sex and poverty status - total population](#)

[Inability to keep home adequately warm](#)

Health

[Life expectancy by age and sex](#)

[Self-perceived health by sex, age and labour status](#)

EUROSTAT :

<https://ec.europa.eu/eurostat/web/main/data/database>



Appendix 1: Pre-selection tables relevant for the data challenge

Working life

[Duration of working life](#)

[Employment rates by citizenship](#)

Income & expenditure

[Expenditure on pensions by type of pension and means-testing](#)

[At-risk-of-poverty rate by poverty threshold, age and sex](#)

Social life

[Persons performing physical activity outside working time by duration in a typical week, educational attainment level, sex and age](#)

[Individuals - internet activities](#)

EUROSTAT: Census hub:

<https://ec.europa.eu/CensusHub/selectHyperCube?clearSession=true>



Appendix 2: Retrieving content from LUSTAT via the API query builder

Select the data you need in LUSTAT, click on the Developer API icon located above the data table. This will display the API queries for both the Data and its Structure.

To use them, simply click Copy code and include the syntax in your API calls.

The Data query retrieves the dataset's actual data, while the Structure query provides descriptive details, such as the dataset's dimensions and attributes, also known as structural metadata.

The screenshot shows the LUSTAT API query builder interface. At the top, there are filters for Gravité (Total), Catégorie (Toutes catégories d'usagers - Victimes au total), Fréquence (Annuelle), Période (Début: 2015, Fin: 2024), and a 'Supprimer tout' button. Below the filters are three tabs: 'Vue d'ensemble' (selected), 'Tableau', and 'Graphique'. To the right are buttons for 'Libellés', 'Disposition', 'Télécharger', 'API pour développeur' (highlighted in yellow), and 'Plein écran'. A close button 'x' is in the top right corner of the main content area. The main content area has a header 'Générateur de requêtes API' with a sub-header explaining the SDMX interface. It contains two sections: 'Requête des données' (with a red border) and 'Requête de la structure'. Each section has a 'Copier le code' button at the bottom right. Below these sections is a note about generated filters. At the bottom, there is a table titled 'Victimes des accidents par catégorie d'usagers de la route selon la gravité, le sexe et l'âge' with columns for Période (2015-2024) and Sexe (Sexe, Ann, Tous, Autre *). The 'Catégorie' filter is set to 'Toutes catégories d'usagers - Victimes au total' and the 'Fréquence' filter is set to 'Annuelle'.

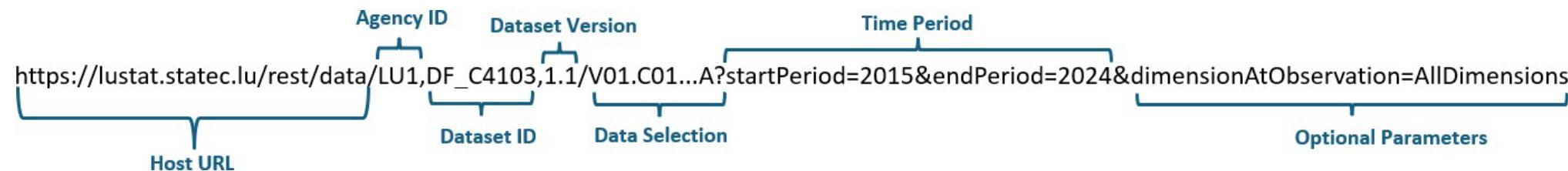


Appendix 2: Retrieving content from LUSTAT via the API query builder

The API data query is a URL composed by the following elements:

https://lustat.statec.lu/rest/data/{Agency identifier},{Dataset identifier},{Dataset version}/{Data selection}?{other optional parameters}

For example:



For further information:

<https://sis-cc.gitlab.io/dotstatsuite-documentation/using-api/restful/>

In order to transform into data tables, one may use specific interfaces that help working with sdmx data, such as rsdmx (in R) or pysdmx (in python).



General Licensing Terms – STATEC Hackathon

1. Intellectual Property

Each team **retains ownership** of its code, models, and deliverables. By participating, the team **grants STATEC a non-exclusive, worldwide, royalty-free, perpetual license to use, reproduce, display, evaluate, and publicly present** the project (demos, slides, videos, website), including after the event.

2. Source Code License

Submitted code must include an **open-source license** with an SPDX identifier in the repo (e.g., a LICENSE file).

Recommended licenses: **EUPL-1.2** (preferred for EU public sector), **Apache-2.0**, or **MIT**.

Teams ensure **third-party dependencies** respect their licenses and are **compatible** with the chosen license (beware strong copyleft constraints).

3. Data

No personal or confidential data may be stored in repositories or exported from secure environments.

External open data must **keep its original license** (cite sources and license in the "Data Card").

Deliverables should contain only **non-sensitive samples** and **approved aggregated results**.

4. Models/Weights and AI-Generated Content

Model weights and trained artifacts follow the **same license** as the code, unless explicitly stated otherwise in the repository.

Teams are responsible for **rights compliance** on prompts, training data, base models, and any generated text/images.

5. Brand and Communications

Use of **STATEC name, logo, and visual identity** is limited to hackathon materials provided/approved by STATEC.

STATEC may **record/photograph** the event and publish project excerpts; participants consent to appearing in such materials.

6. Security, Compliance, and Ethics

Compliance with **applicable laws** (data protection, IP, cybersecurity) and **access rules** for technical environments is required.

Prohibited: extraction of personal data, security bypass, illegal or discriminatory content.

7. Warranties and Liability

Deliverables are provided "**as is.**" Each team warrants it has the rights to use and license what it submits.

STATEC is not liable for damages arising from the use of deliverables.

8. Governing Law

Luxembourg law; competent courts in Luxembourg.



