European Statistical Training Programme

CATALOGUE 2024

eurostat

Important Notice to Readers:

Please be aware that the course listings and descriptions provided in this catalogue are published for informational purposes only. While we strive to ensure accuracy and completeness, the details of courses — including schedules, availability, and requirements — are subject to change.

For the most current and definitive information regarding courses, we strongly encourage you to visit our official website. Regularly checking the website will provide you with the latest updates and revisions to course offerings, and it is the best resource for planning your educational journey with ESTP.

We appreciate your understanding and are committed to providing you with the most accurate and up-to-date information.

Foreword

In an era where fake news are proliferating, the role of Official Statistics becomes even more crucial. It is not only about responding to emerging statistical information needs but also about keeping the trust in a rapidly evolving digital landscape. This underscores the necessity for the European Statistical System to adapt and evolve, acquiring new skills and qualifications aligned with current realities.

The European Statistical Training Programme (ESTP) stands at the forefront of this evolution, offering European statisticians a comprehensive set of training courses, workshops, and seminars. These are designed to train those who are preparing high quality statistics in Europe. A core component includes a deep dive into the realms of Artificial Intelligence and Machine Learning, as well as Blockchain technology and modern data analysis techniques ensuring that our statistical methodologies are robust against the complexities of the digital age.

As a cornerstone for improving the quality of both national and European statistics, the ESTP Programme fosters a vibrant community of statistical experts. It is a space for them to converge, share experiences, and exchange best practices, all while building a network that transcends borders. This aspect is critical, as a dynamic and relevant training programme plays a significant role in attracting and retaining new talent, ensuring a continuous influx of fresh perspectives and ideas.

To stay in line with the professional needs of today, the ESTP curriculum undergoes regular updates and revisions. It spans an extensive array of subjects, from traditional topics like methodology, quality, dissemination, business, economic, and social statistics, to cutting-edge courses on new data sources, programming languages, and communication strategies. Acknowledging the ever-changing landscape, the programme also embraces a blend of classroom and webinars, broadening its reach and accessibility.

The 2024 ESTP Programme represents a harmonious blend of theory and practical application. Its proven didactic approach is set to ensure the highest quality of training for the National Statistical Offices that will hopefully leverage the opportunities provided by these courses, preparing their staff members to meet the professional challenges ahead with confidence and expertise.

Mariana Kotzeva
Director-General, Eurostat

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What you need to know

ESTP: What does it stand for?

ESTP stands for the European Statistical Training Programme. The purpose of the programme is to provide European statisticians with continuous training in new methods, techniques and best practices and integrate the application of European concepts and definitions.

The programme is tailored to meet the specific needs of the European Statistical System (ESS)[1] by taking into account the different levels of statistical knowledge and working experience. The training offer ranges from Information Models and Standards for Data and Processes (including Quality), Modernisation of ESS Business Architecture to Dissemination and Communication, Environmental Statistics and Accounts, and Economic Statistics. Through a balanced combination of theory and practice and a variety of didactical approaches, such as workshops, group discussions, lectures and exercises, the training intends to provide adequate solutions, including, in some cases, the simulation of real work situations. Courses tend to focus on harmonised European concepts and legislation as well as implementation practices at national level.

The ESTP offers statistical training that complements national training schemes and meets the challenges of comparable statistics at European and international level.

The overall programme is coordinated by Eurostat and courses are delivered either internally in Eurostat premises in Luxembourg or at other training sites in the EU and European Free Trade Association (EFTA) countries.

In 2024 the ESTP programme is based on an offer even more adapted to the new challenges of the ESS. The programme comprises alternative didactical approaches (such as webinars) and new subject areas. The aim is to respond to new requirements and developments in an appropriate way.

Who may apply?

Officials and employees of National Statistical Institutes or corresponding Other National Authorities (ONAs) of the EU Member States, EFTA countries, Eurostat and, candidate countries and potential candidates are the core target group for this programme.

Occasionally, on an individual basis, applicants from other administrations, international organisations and statistical offices of non-European countries may be admitted.

What are the general conditions for admission?

The nature of the ESTP and its target group determine the admission of candidates to individual courses.

As all ESTP courses are delivered in English, applicants should have a good command of the English language. They should be prepared to give presentations and actively participate in discussions.
A selection procedure is carried out for all courses where more applications are received than places available. This selection is done on the basis of the information provided in the prerequisite application form. The quality of the information provided in the application form plays therefore a very important role. Also, the correspondence between the applicant's profile and the target group indicated in the course description, as well as the relevance of the training for the applicant's job will be taken into consideration. Finally, a homogeneous geographical distribution of the course participants is assured where possible.

Candidates will usually receive a reply to their application within two weeks after the deadline has expired and at least six weeks before the course takes place.

[1] The European Statistical System (ESS) comprises Eurostat and the statistical offices, ministries, agencies and central banks that collect official statistics in EU Member States and EFTA countries. It was legally recognised as such by the Statistical Law (Regulation (EC) No 223/2009 on European Statistics).

How to apply?

Interested candidates are requested to send their completed application form to the ESTP contact point in their NSI before the indicated deadline (see Overview of ESTP courses). The application form can be downloaded from the ESS ESTP website https://ec.europa.eu/eurostat/web/ess/about-us/estp.

Applications received after the deadline may be refused by the course organisers.

What are the costs involved?

Participation in all ESTP training courses is free of charge since the programme is financed and supported by the European Commission (Eurostat) and the European Free Trade Association (EFTA).

Therefore, no registration or other fees are charged to participants. Travel and daily allowances are to be paid for by the participant's home organisation.

Candidates are strongly advised not to make any arrangements for travel and accommodation until written confirmation has been received. No costs incurred in relation with the participation or non-participation in the courses will be covered by the European Commission.

Whom to contact?

For all further questions concerning the programme and the registration procedure, please refer to the contact point in the National Statistical Institute of your home country.

The annual course programme

The selection of courses included in the annual core programme is based on the training needs expressed by Eurostat and the National Statistical Institutes forming part of the European Statistical System, as well as on an assessment of courses delivered in the past.

The annual programme comprises a core of general and specialised courses in important fields. Newly emerging needs from key users are also addressed by the programme. All national contact points will be informed in case of a change of date or venue of an ESTP course.

For more detailed information, consult the ESS ESTP website.

Overview of 2024 ESTP courses

DATE	COURSE TITLE	VENUE	COURSE ORGANISER	APPLICATION DEADLINE
6, 13, 20 February 2024 **3 days**	Introduction to Big data in official statistics – 3 webinars	**ONLINE, ZOOM**	ICON INSTITUTE Public Sector GmbH	**03.01.24**
26 February--01 March 2024 **5 days**	Basics for the use of Python in Official Statistics 1st edition	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**03.01.24**
March/April 2024	Tidying Up Official Statistics with R and GSBPM - 2024	**ONLINE**	Statistics Iceland	**TBC**
5, 6, 7 March 2024	Seasonal Adjustment for Trusted Smart Statistics with JDemetra+ and RJDemetra	**WEBINARS**	ICON INSTITUTE Public Sector GmbH	**29.01.24**
11, 13, 15 March 2024 **3 sessions, 2h each**	R, Python and Julia: do you know them all? 1st edition	**ONLINE**	ICON INSTITUTE Public Sector GmbH	**29.01.24**
13-14 March 2024 **2 days**	Balance of payments - Introductory course	**Paris, France**	ICON INSTITUTE Public Sector GmbH	**15.01.24**
18-22 March 2024 **5 days**	Introduction to Blockchain for official statistics	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**22.01.24**
19-21 March 2024 **3 days**	Machine and Statistical Learning	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**22.01.24**
19-22 March 2024 **3,5 days**	Enterprise Architecture (EA) for official statistics 1st edition	**Rome, Italy**	ICON INSTITUTE Public Sector GmbH	**22.01.24**

DATE	COURSE TITLE	VENUE	COURSE ORGANISER	APPLICATION DEADLINE
25-28 March 2024 **4 days**	Theory and practise of harmonised indices of consumer prices (HICP) - 1st Edition	**Helsinki,** **Finland**	ICON INSTITUTE Public Sector GmbH	**05.02.24**
4, 11, 18 April 2024 **3 days**	Monetary environmental accounts – Part I (webinars)	**3 webinars**	ICON INSTITUTE Public Sector GmbH	**19.02.24**
10-12 April 2024 **3 days**	Statistical Cartography	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**12.02.24**
16-19 April 2024 **3,5 days**	Statistical disclosure control	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**19.02.24**
16-18 April 2024 **3 days**	Advanced course on Quality Reporting	**Rome, Italy**	ICON INSTITUTE Public Sector GmbH	**19.02.24**
16-17 April 2024 **2 days**	Writing statistical texts with an impact	**ONLINE**	ICON INSTITUTE	**19.02.24**
17-18 April 2024 **2 days**	Waste Statistics	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**05.02.24**
22-24 April 2024 **3 days**	Privately Held Data – Tools and Techniques 1st edition	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**26.02.24**
23-25 April 2024 **3 days**	Social Statistics by Gender with Cognitive Interviewing	**Cologne, Germany**	ICON INSTITUTE	**26.02.24**
07-09 May 2024 **2,5 days**	Quality Framework, Process and Product Quality Measurement – Advanced course	**Rome, Italy**	ICON INSTITUTE Public Sector GmbH	**11.03.24**

DATE	COURSE TITLE	VENUE	COURSE ORGANISER	APPLICATION DEADLINE
13-16 May 2024 **4 days**	National Accounts - Introductory course	**Helsinki,** **Finland**	ICON INSTITUTE Public Sector GmbH	**18.03.24**
13-15 May 2024 **3 days**	Economic and social classifications: methodology and application	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**18.03.24**
14-16 May 2024 **3 days**	Symbolic data analysis	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**18.03.24**
15-17 May 2024 **3 days**	The ESS – its structure and ways of working	**Slangerup, Denmark**	ICON INSTITUTE	**18.03.24**
13-17 May 2024 **5 days**	Scraping online data: sources, tools and methodologies. Hands-on analysis of Online Job Advertisements 1st edition	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**18.03.24**
27-30 May 2024 **3,5 days**	Physical Environmental Accounts	**ONLINE**	ICON INSTITUTE Public Sector GmbH	**02.04.24**
28-31 May 2024 **4 days**	Information Standards and Technologies for Describing, Exchanging and Disseminating Data and Metadata	**Rome, Italy**	ICON INSTITUTE Public Sector GmbH	**02.04.24**
04-07 June 2024 **4 days**	Introduction to statistics production with the use of geographical information systems	**Oslo, Statistics Norway**	Statistics Norway	**04.05.24**
04-06 June 2024 **3 days**	Open data, Open source and reproducibility of statistical algorithms	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**08.04.24**

DATE	COURSE TITLE	VENUE	COURSE ORGANISER	APPLICATION DEADLINE
05-06 June 2024 **2 days**	Monetary environmental accounts – Part II	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**15.04.24**
11-13 June 2024 **3 days**	Water Statistics and Accounts	**ONLINE**	ICON INSTITUTE	**15.04.24**
11-13 June 2024 **3 days**	Introduction to Seasonal Adjustment and JDEMETRA+	**Cologne, Germany**	ICON INSTITUTE	**15.04.24**
12-13 June 2024 **2 days**	Planning and producing simple statistical products to improve statistical literacy for a wide audience	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**15.04.24**
17-21 June 2024 **5 days**	The Use of R in Official Statistics: model based estimates 1st edition	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**22.04.24**
25-26 June 2024 **2 days**	Low response rate: what to do?	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**29.04.24**
09-11 July 2024 **3 days**	Big Data tools for advanced users 1st edition	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**13.05.24**
03-05 September 2024 **3 days**	Presentation, facilitation and consultation skills for statistical trainers Introductory course	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**08.07.24**
10-12 September 2024 **3 days**	Balance of payments - Advanced course	**Paris, France**	ICON INSTITUTE Public Sector GmbH	**15.07.24**

DATE	COURSE TITLE	VENUE	COURSE ORGANISER	APPLICATION DEADLINE
10-12 September 2024 **3 days**	Rapid estimates and nowcasting	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**15.07.24**
16, 18, 20 September 2024 **3 Sessions, 2h each**	R, Python and Julia: do you know them all? Second edition	**ONLINE**	ICON INSTITUTE Public Sector GmbH	**05.08.24**
17-19 September 2024 **3 days**	Digital dissemination of statistics: Focus on data visualisation	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**22.07.24**
17-19 September 2024 **3 days**	Advanced Earth observation processing for official statistics	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**22.07.24**
18-19 September 2024 **2 days**	ESSPROS – links with national accounts	**ONLINE**	EUROSTAT	**09.08.24**
23-26 September 2024 **4 days**	Theory and practise of harmonised indices of consumer prices (HICP) - 2nd edition	**Helsinki,** **Finland**	ICON INSTITUTE Public Sector GmbH	**30.08.24**
24-27 September 2024 **4 days**	Disseminating Official Statistics as Linked Open Data	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**29.08.24**
25-26 September 2024 **2 days**	Data acquisition with respect to privately held data based on partnerships	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**29.08.24**
25-27 September 2024 **3 days**	Sampling Issues in mixed mode data collection	**The Hague, The Netherlands**	ICON INSTITUTE	**29.08.24**
15-17 October 2024 **3 days**	Quality management in statistical agencies – Introductory course	**Lisbon, Portugal**	ICON INSTITUTE Public Sector GmbH	**05.08.24**

DATE	COURSE TITLE	VENUE	COURSE ORGANISER	APPLICATION DEADLINE
07-11 October 2024 **5 days**	Scraping online data: sources, tools and methodologies. Hands-on analysis of Online Job Advertisements 2nd edition	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**18.08.24**
09-10 October 2024 **2 days**	Output Checking in Research Data Centres	**Helsinki, Finland**	ICON INSTITUTE Public Sector GmbH	**12.08.24**
15-17 October 2024 **3 days**	Advanced Seasonal adjustment and JDemetra+ with R	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**19.08.24**
21-23 October 2024 **3 days**	Developing mixed mode questionnaires for household surveys	**Oslo, Statistics Norway**	Statistics Norway	**06.09.24**
21-25 October 2024 **5 days**	The Use of R in Official Statistics: model based estimates Second edition	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**12.08.24**
22-24 October 2024 **3 days**	Supply, use and input-output tables and analysis	**Budapest, Hungary**	ICON INSTITUTE	**26.08.24**
22-25 October 2024 **3,5 days**	Enterprise Architecture (EA) for official statistics 2nd edition	**Rome, Italy**	ICON INSTITUTE Public Sector GmbH	**26.08.24**
05-14 November 2024 **8 days**	National Accounts - Advanced course	**Helsinki,** **Finland**	ICON INSTITUTE Public Sector GmbH	**09.09.24**
05-07 November 2024 **3 days**	Equality and Diversity statistics with a focus on data dissemination	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**09.09.24**

DATE	COURSE TITLE	VENUE	COURSE ORGANISER	APPLICATION DEADLINE
05-07 November 2024 **3 days**	Presentation, facilitation and consultation skills for statistical trainers Advanced course	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**09.09.24**
05-07 November 2024 **5 days**	Introduction to experimental Ecosystem Extent and Services Accounting based on SEEA-EA	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**09.09.24**
26-28 November 2024 **3 days**	Tourism Satellite Accounts (TSA)	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**30.09.24**
12-14 November 2024 **3 days**	From annual to quarterly to monthly data: introduction to temporal disaggregation and benchmarking	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**16.09.24**
18-22 November 2024 **5 days**	Basics for the use of Python in Official Statistics Second edition	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**23.09.24**
19-21 November 2024 **3 days**	Big Data tools for advanced users 2nd edition	**The Hague, The Netherlands**	ICON INSTITUTE Public Sector GmbH	**23.09.24**
20-22 November 2024 **3 days**	Advanced sampling	**Cologne, Germany**	ICON INSTITUTE	**23.09.24**
27-29 November 2024 **3 days**	Privately Held Data – Tools and Techniques 2nd edition	**Cologne, Germany**	ICON INSTITUTE	**30.09.24**

ADVANCED EARTH OBSERVATION PROCESSING FOR OFFICIAL STATISTICS	
COURSE LEADER	**Artur Laczynski**
TARGET GROUP	NSIs and Other National Authorities (with lower priority), working in the field of Earth observation, geographic information systems and statistics. Participants are expected to have knowledge of Earth observations and Scripting
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Experienced user of GIS software
OBJECTIVE(S)	▪ Providing knowledge
CONTENTS	• An introduction to Earth Observation • Examples using EO for statistical reporting • Processing and analyse of EO data • Practical exercises on receiving EO data • Advanced analytics • Reporting statistical values • Question and Answer Session
EXPECTED OUTCOME	Increasing knowledge of EO data, use in statistics, methods of processing analysis and presentation.
TRAINING METHODS	*Example (please insert what applies to your course):* ▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Discussion ▪ Exercises
REQUIRED READING	Information on COPERNICUS programme
SUGGESTED READING	▪ *Information of different satellite systems e.g. LANDSAT, MODIS, PLEIADES, SPOT or others* *https://sentinel.esa.int/web/sentinel/home* *https://landsat.gsfc.nasa.gov* *https://modis.gsfc.nasa.gov*

	https://earth.esa.int/web/eoportal/satellite-missions ▪ *Vegetation indicators e,g NDVI, FAPAR, NDWI, TFI* https://land.copernicus.eu/global ▪ Machine learning techniques e.g random forest, ANN, support vector machine https://link.springer.com/chapter/10.1007/978-3-319-65633-5_8 https://blogs.esa.int/philab/files/2018/07/Towards-a-European-AI-for-Earth-Observation-Research-Innovation-Agenda-.pdf
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Artur Laczynski (Independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
17–19.09.2024	3 days	Cologne, Germany	ICON INSTITUTE Public Sector GmbH	**Deadline: 22.07.2024**

ADVANCED METHODS FOR SAMPLE SURVEYS

COURSE LEADER	**Rémy Mariétan** (Swiss Federal Statistical Office - SFSO)
TARGET GROUP	Junior or senior staff of methodology divisions using sample survey techniques in the production of statistics or staff with comparable knowledge.
ENTRY QUALIFICATIONS	Good knowledge of basic sampling techniques and survey methodology and of the corresponding mathematical language.
OBJECTIVE(S)	The objective of the course is to introduce participants to some advanced techniques of non-response treatment, variance estimation, calibration and sample coordination. Theoretical concepts and findings will be illustrated by examples and practical exercises. The course starts with an introduction to the R software, which will allow participants to better understand practical applications of presented survey techniques and their successful implementation in practice.
CONTENTS	▪ Introduction to the R software ▪ Non-response; Calibration; Variance estimation ▪ Sample coordination techniques
EXPECTED OUTCOME	At the end of the course, participants are expected to have a deeper understanding of the techniques they have learned and be able to apply successfully the new methodology in their daily practice.
TRAINING METHODS	The course is based on lectures and practical exercises with the R software.
REQUIRED READING	▪ Särndall C.E., Swensson B. and Wretman J. (1992). Model Assisted Survey Sampling. PART I: Principles of Estimation for Finite; Populations and Important Sampling Designs (Chapters 1 to 5)
SUGGESTED READING	▪ Groves, R.M., Dillman, D.A., Eltinge, J.L. and Little, R.J.A. Editors (2002). Survey nonresponse, John Wiley, New York. ▪ Ohlsson, E. (1995). Coordination of samples using permanent random numbers. In Cox, B.G. et al., editors, Business Surveys Methods, chapter 9, pages 153-169. Wiley inc., New York, USA. ▪ Tillé, Y. (2020). Sampling and estimation from finite populations, John Wiley & Sons Ltd.
REQUIRED PREPARATION	Free "R" software already installed on the participants' computer. There is no further required preparation for the course.
TRAINER(S)/ LECTURER(S)	The lecturers are highly qualified methodologists from SFSO who are used to teaching courses in statistics.

PRACTICAL INFORMATION

WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NCP
25-29.11.2024	5 days	Neuchâtel, Switzerland	FSO Switzerland	**Deadline: 02.09.2024**

ADVANCED SEASONAL ADJUSTMENT AND JDEMETRA+ WITH R	
COURSE LEADER	**Jean Palate**
TARGET GROUP	Advanced users of seasonal adjustment methods involved in regular/massive data production and/or developers involved in the integration of SA methods in their IT environment wishing to enhance their knowledge of the JDEMETRA+ tool and/or using or potentially developing relative plug-ins. Ideal participants are either young statisticians with some interest in IT or young IT specialist with some interest in statistics. People currently using TRAMO/SEATS and/or X12 family product and/or old version of DEMETRA/JDEMETRA+ family products aiming at implementing the latest JDEMETRA+ version.
ENTRY QUALIFICATIONS	Solid command of English. Participants should be able to make short interventions and to actively participate in discussions. Practical experience in using recent version of JDEMETRA+ for the general purpose of time-series analysis and application of seasonal adjustment methods Some knowledge on R programming or a minimum the knowledge in any programming language.
OBJECTIVE(S)	To provide participants with a specific knowledge of the features recently included within JDEMETRA+ and run the tool within the R environment To train the participants to use JDEMETRA+ for purposes different from seasonal adjustment, such as estimation of missing values temporal disaggregation, benchmarking, forecasting and analysis of revisions To prepare and to motivate the participants to become integral part of the extended network in charge of testing (software releases), maintaining (fixing bugs) and extending the tool.
CONTENTS	Handling of the main concepts of JDEMETRA+ (with focus on time series) Use of the R libraries around JDEMETRA+ Overview of the implementation of the main SA methods. The finalised content of the course will be adapted ad-hoc to the actual audience of registered and accepted participants
EXPECTED OUTCOME	Participants will have a good overview of existing routines available in the latest version of JDEMETRA+ and will be able to run the related routine in R. Participants will be able to use the SA methods implemented in JDEMETRA+ for the purposes of mass production. More specifically, they will be able to call directly the methods in R and to retrieve the main results using the workspaces. Participants will develop an interest in writing small extensions in R to customize the tools to their specific needs.

TRAINING METHODS	Presentations and lectures Case studies on real data sets (also provided by the participants) "Show and tell" by the participants
REQUIRED READING	Participants should be familiar with the content of the website https://ec.europa.eu/eurostat/cros/content/seasonal-adjustment_en
SUGGESTED READING	Revised ESS guidelines on seasonal adjustment https://ec.europa.eu/eurostat/cros/content/methodological-notes_en
REQUIRED PREPARATION	Participants are requested to write a short summary of their activities in their organisation. They are requested to express the reasons and motivation for applying to this training activity and to describe the practices, problems and experiences they face in the field of the course. Participants are strongly invited to practice with recent version of JD+.
TRAINER(S)/ LECTURER(S)	Jean PALATE (Independent expert) Dominique LADIRAY (Independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
15–17.10.2024	3 days	**Cologne, Germany**	ICON-INSTITUT Public Sector GmbH	**Deadline: 19.08.2024**

ADVANCED COURSE ON QUALITY REPORTING	
COURSE LEADER	**Giorgia Simeoni**
TARGET GROUP	▪ Staff of National Statistical Institutes (NSIs) and Other National Authorities (ONAs) producing Official Statistics directly involved in the compilation of quality reports or working in quality management and/or quality reporting coordination units.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Basic knowledge of statistics and quality in official statistics.
OBJECTIVE(S)	▪ The course will enhance participants' methodological and technical knowledge of Quality reporting in the European Statistical System (ESS). Participants will understand and have practical experience on how to prepare detailed quality reports for the different types of statistical processes according to the Single Integrated Metadata Structure (SIMS) V.2.0 and its derived structures ESMS (Euro-SDMX Metadata Structure) and ESQRS (ESS Standard for Quality Report Structure), including how to calculate ESS Quality and Performance indicators. The ESS Metadata Handler, the web application used by Eurostat to collect metadata and quality report from National Statistical Institutes and Other National Authorities producing European statistics, will be presented.
CONTENTS	▪ Overview of the ESS quality framework; legislation on quality reporting ▪ Introduction to reference metadata and quality reporting ▪ ESS standards for quality reporting (SIMS, ESMS, ESQRS, ESS Handbook for Quality and metadata Reports – 2020 Edition, ESS Quality and Performance Indicators); ▪ Types of statistical processes and differences in quality reporting requirements ▪ SIMS and GSBPM ▪ Quality reports contents: 1. Conceptual and methodological metadata (e.g.: statistical presentation, statistical processing, etc.) 2. Quality dimensions (Relevance, Accuracy and reliability, Timeliness and punctuality, Coherence and comparability, Accessibility and clarity) 3. Quality indicators; ▪ ESS technical standards and tools for quality reporting (ESS metadata handler, hints on the use of SDMX for metadata exchange,).
EXPECTED OUTCOME	▪ Participants will be aware of ESS standards for quality reporting and will have some experience in drafting quality reports compliant with such standards.
TRAINING METHODS	▪ Presentations and lectures; ▪ Case studies and examples;

	▪ Exchange of views and experiences on national practices; ▪ Practical exercises on quality reporting.
REQUIRED READING	None
SUGGESTED READING	▪ ESS Handbook for Quality and metadata reports - 2021 RE-Edition ▪ https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/ks-gq-21-021
REQUIRED PREPARATION	Participants could be asked to prepare a short presentation on their experience on quality reporting
TRAINER(S)/ LECTURER(S)	Giorgia Simeoni Andrea Bruni Gabriele Ascari

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
16-18.04.2024	3 days	**Rome, Italy**	ICON-INSTITUT Public Sector GmbH	**Deadline: 19.02.2024**

ADVANCED SAMPLING	
COURSE LEADER	**Rosanna Verde**
TARGET GROUP	Junior or senior staff of methodology divisions using sample survey techniques in the production of statistics.
ENTRY QUALIFICATIONS	Good knowledge of basic sampling techniques and survey methodology.
OBJECTIVE(S)	The objective of the course is to introduce participants to some advanced techniques for treatment of non-response, variance estimation, calibration and sample coordination. Some of the theory will be illustrated by examples and some exercises will follow. The course starts with an introduction to the R software which will allow the participants to better understand the practical applications of these survey techniques and implement them successfully in practice.
CONTENTS	▪ Introduction to the R software (lecture + practicals) ▪ Non-response (lecture) ▪ Calibration (lecture + practicals) ▪ Variance estimation (lecture + practicals) ▪ Sample coordination techniques (lecture + practicals)
EXPECTED OUTCOME	At the end of the course participants are expected to have a deeper understanding of the techniques they have learned and be able to apply successfully the new methodology in their daily practice.
TRAINING METHODS	The course is based mainly on lectures, which for all the courses except for Non-response, will be followed by practical exercises on PC using the R software.
REQUIRED READING	▪ Särndall C.E., Swensson B. and Wretman J. (1992). Model Assisted Survey Sampling. PART I: Principles of Estimation for Finite ▪ Populations and Important Sampling Designs (Chapters 1 to 5)
SUGGESTED READING	▪ Thompson, S. K. (1990). Adaptive cluster sampling. Journal of the American Statistical Association, 85(412), 1050-1059. ▪ Thompson, S. K. (1991). Stratified adaptive cluster sampling. Biometrika, 78(2), 389-397 ▪ Sixia Chen, Graham Kalton, Geographic Oversampling for Race/Ethnicity Using Data from the 2010 U.S. Population Census, Journal of Survey Statistics and Methodology, Volume 3, Issue 4, December 2015, Pages 543–565, https://doi.org/10.1093/jssam/smv023 ▪ Roger Vaughan, 2017: Oversampling in Health Surveys: Why, When, and How? American Journal of Public Health 107, 1214_1215, https://doi.org/10.2105/AJPH.2017.303895

REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Rosanna Verde (Independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
20–22.11.2024	3 days	**Cologne, Germany**	ICON-INSTITUT Public Sector GmbH	**Deadline: 23.09.2024**

ARTIFICIAL INTELLIGENCE FOR DATA SCIENCE	
COURSE LEADER	**Christian Kauth**
TARGET GROUP	Statistical production units and methodologist of NSIs.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ No programming knowledge is necessary for lab sessions 1-3. Active or passive knowledge of Python, R or Julia is a plus for Lab sessions 4-5, but not a requirement to follow and benefit from these sessions: they can either be passively followed via the provided code snippets or optionally actively implemented by the participants.
OBJECTIVE(S)	This course is an eye-opener, democratizing the ethical development and use of AI to empower every human to achieve more ▪ Understand the working principles of Artificial Intelligences (AI) ▪ Get to know the processes and tools involved in creating an AI ▪ Get to know impactful use cases of AI ▪ Understand the risks and challenges related to AI ▪ Unlock entirely new data sources for science by ▪ Leveraging existing AIs (without coding) ▪ Training new custom AIs (with some coding)
CONTENTS	▪ Demystification of AI and its relation to machine & deep learning ▪ The cookbook recipe of creating an AI ▪ Real-world applications of state-of-the-art AIs ▪ Access to data, bias, ethics, regulatory frameworks ▪ Development of no-code/low-code AI
EXPECTED OUTCOME	The participants will understand what AI is and how it is trained. They can balance its potential and risks. Participants will feel comfortable identifying custom use-cases for AI and creating their own prototypes on new sources of data.
TRAINING METHODS	Mornings are dedicated to executive briefings and deep dives, afternoons to guided hands-on lab sessions. ▪ Presentations and lectures (40%) ▪ Exchange of views/experiences (10%)

	▪ Guided Hands-on Lab sessions (50%)
REQUIRED READING	None
SUGGESTED READING	None
REQUIRED PREPARATION	• Register for free to the Microsoft Power Platform https://make.powerapps.com/ (with work login) *used during lab afternoons 1 & 2* • Register for free to the Google Colaboratory https://colab.research.google.com/ (with personal login) *used during lab afternoons 4 & 5* • Install Lobe.ai free software on PC (done by ICON Institute) https://www.lobe.ai/ *used during lab afternoon 1* • Install KNIME free software on PC (done by ICON Institute) https://www.knime.com/ *used during lab afternoon 3*
TRAINER(S)/ LECTURER(S)	Christian Kauth (Independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
29 January – 02 February 2024	5 days	**Cologne, Germany**	ICON INSTITUTE Public Sector GmbH	**Deadline: 04.12.2023**

MACHINE AND STATISTICAL LEARNING	
COURSE LEADER	**Herbert Kruitbosch**
TARGET GROUP	Python programmers with ambitions to apply machine and deep learning in software engineering and research questions.
ENTRY QUALIFICATIONS	• Sound command of English. Participants should be able to make short interventions and to actively participate in discussions • Programming in Python • Some experience looking at tabular data with scatter plots and histograms
OBJECTIVE(S)	• Validation and reporting results of machine learning methods. • Mathematical concepts of supervised and unsupervised machine and deep learning models, like PCA, SVM, trees, ensembles and neural networks. • Use of scikit-learn, matplotlib, pandas, tensorflow, keras to design models and perform machine learning experiments • Understanding of symbolic computation for backpropagation and gradient descent • Model selection, Hyper-parameter tuning and practical considerations • Understanding the *lego bricks* of neural networks (deep learning) and the numerical issues, in particular vanishing gradients. • Use pretrained models for text and vision applications with libraries like deeppavlov and detectron2.
CONTENTS	• Recap of tabular data, scatter plots and histograms • Cross validation, overfitting and data sets • The field: Unsupervised and supervised learning, and reinforcement learning (RL is not discussed in detail). Regression and classification. Dimensionality reduction and clustering. Machine Learning and official statistics, misclassification Bias. • Data types: tabular, visual (images), textual, time series, audio, etc. • Neural networks, back propagation, logistic sigmoid, (cat.) cross entropy, optimization, vanishing gradients, weight initialisation, ReLU (and others) softmax, loss and metrics, gradient descent flavours, learning rate, learning curves, regularisation • Practical tips, prioritize problems, orthogonalisation, categorize misclassifications, shortcut pipelines. loss and metrics considerations, multiple objectives, existing libraries, models and APIs. • Convolutional neural networks, residual layers, deconvolutions. • Lecture: models for text: TFIDF and Word2Vec, recurrent networks, Transformer Networks, CTC loss

EXPECTED OUTCOME	Practical skills to use scikit-learn and similar libraries to answer (research) questions with machine learning Understanding of different machine learning models and neural networks Overview and coarse skills w.r.t. neural networks text mining and computer vision
TRAINING METHODS	• Lectures • Programming exercises
REQUIRED READING	None
SUGGESTED READING	Suggestions for when you like a structured overview of Machine or deep learning. They are not required at all. • *Python Machine Learning - Effective algorithms for practical machine learning and deep learning, Sebastian Raschka, Vahid Mirjalili* • *Deep Learning with Keras, Antonio Gullì, Sujit Pal (practical)* • *Deep Learning,* Ian Goodfellow, Yoshua Bengio, Aaron Courville (theoretical) Interesting papers which improved the field of deep learning significantly: • *Understanding the difficulty of training deep feedforward neural networks,* Xavier Glorot, Yoshua Bengio • *Batch Normalization: Accelerating Deep Network Training by Reducing Internal Covariate*, Shift Sergey Ioffe, Christian Szegedy • *Deep Residual Learning for Image Recognition*, Kaiming He, Xiangyu Zhang, Shaoqing Ren, Jian Sun
REQUIRED PREPARATION	You'll be sent two exercises a few weeks in advance to avoid issues with logging in to Google Colaboratory and browser problems at the course.
TRAINER(S)/ LECTURER(S)	Herbert Kruitbosch (University of Groningen) Marco Puts (Statistics Netherlands)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
19-21.03.2024	3 days	**The Hague, Netherlands**	ICON-INSTITUT Public Sector GmbH	**Deadline: 22.01.2024**

BALANCE OF PAYMENTS - ADVANCED COURSE	
COURSE LEADER	**Rafaël CEZAR**
TARGET GROUP	Staff members in the field of National Accounts (NA) and Balance of Payment (BoP) departments in National Statistical Offices and National Banks.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Basic knowledge of Economics and Statistics
OBJECTIVE(S)	▪ The course aims at providing an advanced knowledge of the elaboration and use of statistics on: trade in goods, services, financial flows, trade in value added and IIP statistics
CONTENTS	The course will aim at providing participants with advanced knowledge and classifications regarding: ▪ Goods and services account ▪ Primary income account ▪ Secondary income account ▪ Capital account ▪ Putting all accounts together – complete balance of payments, errors and omissions ▪ International investment position and financial account ▪ Compiling aggregates for currency unions and economic union ▪ Main data sources and data compilation issues ▪ Data quality issues: quality report, consistency with the national accounts, bilateral asymmetries with partner statistics (intra-EU, external) ▪ Economic analysis of BoP statistics: trade in value added, measurement of Global value chain; CO2 content in trade, effect of pandemics
EXPECTED OUTCOME	Participants acquire an advanced knowledge of the overall framework and main items in the elaboration of BoP data, the articulation with national accounts, and main usages of BoP and IIP data for economic analysis
TRAINING METHODS	Formal presentation, practical exercises, roundtable, workshops
REQUIRED READING	None
SUGGESTED READING	• International Monetary Fund, *Balance of Payments and International Investment Position Manual*, 6th edition (BPM6) ; • International Monetary Fund, *BPM6 Compilation Guide* ; • European Central Bank, *European Union Balance of Payments and International Investment Position statistical sources and methods*, 2016. Euro area balance

	of payments press releases (https://www.ecb.europa.eu/press/pr/stats/bop/html/index.en.html); • Eurostat, "Services Trade Statistics by Modes of Supply"(https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Services_trade_statistics_by_modes_of_supply); • Eurostat, "Impact of Covid-19 on international trade in goods statistics" (https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Impact_of_COVID-19_on_international_trade_in_goods_statistics); • Eurostat, *Globalisation Patterns in EU Trade and Investment*, 2017 (https://ec.europa.eu/eurostat/documents/3217494/8533590/KS-06-17-380-EN-N.pdf/8b3e000a-6d53-4089-aea3-4e33bdc0055c) ; • Eurostat, "Transatlantic trade in services: Investigating bilateral asymmetries in EU-US trade statistics", 2017 (https://ec.europa.eu/eurostat/documents/7870049/8544118/KS-GQ-17-016-EN-N.pdf/eaf15b03-5dcf-48dd-976f-7b4169f08a9e). • Bê Duc, L. (2008), Mayerleen F. and Sola P., "The Monetary presentation of the balance of payments". Occasional paper of the ECB n° 37 • Picon Aguilar, C., Oliveira Soares R. and Adalid M. (2020), "Revisiting the monetary presentation of the balance of payments". Occasional paper of the ECB n° 238 • Cezar, R. & Polge, T. (2020)· "CO_2 emissions in French international trade" *Bulletin Banque de France* issue 229, article 4 • Cezar, R. & Polge, T. (2020)· "CO_2 emission in international trade" *Bulletin Banque de France,* issue 226, article 1 • Cartelier, F. & Cezar, R. (2019) "Price and non-price competitiveness: lessons from global value chains" *Bulletin Banque de France*, issue 224, pages 1-16 • Cezar, R. & Fegar, G. (2018) "French trade in services by mode of supply" (2018) *Bulletin Banque de France QSA,* issue 49 pages 25-40 • Golfier (C.), 2018, « Going further than ITRS to draw up the French BOP: three tailor-made surveys", Ninth Irving Fisher Committee (IFC) conference on central banks statistics "Are post-crisis statistical initiatives completed?", 30-31 August; upload document and presentation.
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Rafaël CEZAR (independent expert) Cécile GOLFIER (independent expert) Florian LE GALLO (independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
10-12.09.2024	3 days	Paris, France	ICON INSTITUT Public Sector GmbH	**Deadline: 15.07.2024**

BALANCE OF PAYMENTS - INTRODUCTORY COURSE	
COURSE LEADER	**Rafaël CEZAR**
TARGET GROUP	Staff members in the field of National Accounts (NA) and Balance of Payment (BoP) departments in National Statistical Offices and National Banks.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Basic knowledge of Economics and Statistics
OBJECTIVE(S)	▪ The course aims at providing a sound knowledge on the elaboration and use of statistics on : trade in goods, services, travel, financial flows, trade in value added, use of bop and IIP statistics
CONTENTS	The course will aim at providing participants with basic concepts and classifications regarding : ▪ Goods and services account ▪ Primary income account ▪ Secondary income account ▪ Capital account ▪ Putting all accounts together – complete balance of payments, errors and omissions ▪ International investment position and financial account ▪ Compiling aggregates for currency unions and economic union ▪ Main data sources and data compilation issues ▪ Data quality issues: consistency with the national accounts, bilateral asymmetries with partner statistics (intra-EU, external) ▪ Economic analysis of BoP statistics: trade in value added, measurement of GVC ; CO2 content in trade, effect of pandemics
EXPECTED OUTCOME	Participants acquire an advanced knowledge of the overall framework and main items in the elaboration of BoP data, the articulation with national accounts, and main usages of BoP and IIP data for economic analysis
TRAINING METHODS	Formal presentation, practical exercises, roundtable, workshops
REQUIRED READING	None
SUGGESTED READING	• International Monetary Fund, *Balance of Payments and International Investment Position Manual*, 6th edition (BPM6) ; • International Monetary Fund, *BPM6 Compilation Guide* ; • European Central Bank, *European Union Balance of Payments and International Investment Position statistical sources and methods*, 2016. • Euro area balance of payments press releases (https://www.ecb.europa.eu/press/pr/stats/bop/html/index.en.html); • Eurostat, "International Trade in Services statistics – background"

	(https://ec.europa.eu/eurostat/statistics-explained/index.php?title=International_Trade_in_Services_statistics_-_background#Definition); • Eurostat, "International Trade in Goods – A Statistical Picture " (https://ec.europa.eu/eurostat/statistics-explained/index.php?title=International_trade_in_goods_-_a_statistical_picture); • Eurostat, "Impact of Covid-19 on international trade in goods statistics" (https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Impact_of_COVID-19_on_international_trade_in_goods_statistics)
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Rafaël CEZAR (independent expert) Cécile GOLFIER (independent expert) Florian LE GALLO (independent expert)

PRACTICAL INFORMATION

WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
13–14.03.2024	2 days	Paris, France	ICON INSTITUT Public Sector GmbH	**Deadline: 15.01.2024**

Basics for the use of Python in Official Statistics	
COURSE LEADER	**Christian Kauth**
TARGET GROUP	Official statisticians (including managers) involved in Big Data and Data Science activities having no specific knowledge on this subject; Official statisticians (including managers) who, without being directly involved in Big Data and Data Science activities, need basic knowledge on the use of the Python language
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions
OBJECTIVE(S)	The main objectives of the course are: ▪ Introducing the participants to the Python language and ecosystem ▪ Make the participants able to read and write basic Python programs for common data processing tasks (data analysis, exploration and visualization)
CONTENTS	▪ Presentations and lectures Introduction to Python, Preparatory concepts, Documentation, Numbers and variables, Strings and sequences, Lists, tuples, sets, dictionaries, Booleans and conditional statements, Iteration and flow control, Comprehensions, Functions, Errors and exceptions, Modules, Working with files, Classes, Jupyter notebook, Package Numpy, Package Pandas, Package Scipy, Data visualizazion with matplotlib, Introduction to Scikit-learn ▪ Exercises and evaluation test
EXPECTED OUTCOME	The participants should have a good understanding of Python language basics and its ecosystem in order to proficiently use it for Official Statistics purposes. Familiarity with the syntax of Python Knowledge about the individual aspects of a data processing pipeline: reading a file, processing data, modelling, aggregation, visualization and saving results. Experience with creation, manipulation and conversion of common data structures Experience with writing functions and using (pre-existent) functions Basic knowledge of important packages like Numpy, Pandas, Matplotlib, Seaborn,

	Scikit-learn, Geopandas
TRAINING METHODS	The course consists of alternately: ▪ Interactive presentations to introduce topics ▪ Exercises (learning by doing) For the practical hands-on parts of the course Jupyter notebook will be used and there will be a discussion regarding possible solutions to the exercises that will be assigned to participants. The participants will be stimulated to write Python code from scratch under the tutors supervision.
REQUIRED READING	None
SUGGESTED READING	▪ Python Introduction *https://www.w3schools.com/python/python_intro.asp* ▪ Python official site *https://www.python.org/about/gettingstarted/* ▪ Python 3 Installation & Setup *https://realpython.com/installing-python/* ▪ Jupyter Notebook: An Introduction *https://realpython.com/jupyter-notebook-introduction/* ▪ Python IDEs and Code Editors *https://realpython.com/python-ides-code-editors-guide/* ▪ Python Statistics Fundamentals: How to Describe Your Data *https://realpython.com/python-statistics/* ▪ Using Pandas and Python to Explore Your Dataset *https://realpython.com/pandas-python-explore-dataset/*
REQUIRED PREPARATION	Register for free to the Google Colaboratory https://colab.research.google.com/ (with personal login)
TRAINER(S)/ LECTURER(S)	Christian Kauth (independent expert)

2nd edition

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
18–22.11.2024	5 days	**Cologne, Germany**	ICON-INSTITUT Public Sector GmbH	**Deadline: 23.09.2024**

Big Data tools for advanced users	
COURSE LEADER	**Marco Puts**
TARGET GROUP	IT professionals whose role is to support statisticians with big data infrastructure, either via local big data clusters or via cloud solutions, and the engineering of big data processing. Methodologists and statisticians with a strong IT background who are expected to handle big data infrastructures and unstructured data.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ The participants should be computer literate and able to programme in R and/or Python
OBJECTIVE(S)	▪ Learn how to extract relevant information for statistical purposes from huge amounts of data
CONTENTS	▪ Big data clusters; ▪ Cloud computing; ▪ Hadoop and MapReduce; ▪ Analyzing data in Hadoop with SQL: Hive; ▪ Distributed programming with Spark; ▪ NoSQL databases; ▪ Techniques and tools for extracting data from the web
EXPECTED OUTCOME	Participants will have a broad overview of modern state of the art techniques for managing and analyzing big data, its tools and infrastructure.
TRAINING METHODS	▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Exercises
REQUIRED READING	None
SUGGESTED READING	▪ https://www.python.org/about/gettingstarted/ ▪ Singh D, Reddy CK. A survey on platforms for big data analytics. *Journal of Big Data*. 2015;2(1):8. doi:10.1186/s40537-014-0008-6. ▪ https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4505391/
REQUIRED PREPARATION	Participants should have at least some basic programming knowledge, especially in Python and R languages. Knowledge of relational databases are strongly suggested.

TRAINER(S)/ LECTURER(S)	Marco PUTS (CBS Netherlands) Martijn Tennekes (CBS Netherlands) Bjoern Ole Mussmann (eScience Center) Donato SUMMA (ISTAT)

1st edition

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
9 – 11 July 2024	3 days	The Hague, Netherlands	ICON INSTITUTE Public Sector GmbH	Deadline**: 13.05.2024**

2nd edition

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
19-21 November	3 days	The Hague, Netherlands	ICON INSTITUTE Public Sector GmbH	Deadline**: 23.09.2024**

DATA ACQUISITION WITH RESPECT TO PRIVATELY HELD DATA BASED ON PARTNERSHIPS

COURSE LEADER	**Barteld Braaksma**
TARGET GROUP	Staff from NSIs who are involved or wish to become involved in the acquisition of privately held data (PHD) as a source for official statistics. This engagement may come in different shapes, such as involvement at a legal or policy level, in negotiations with holders of PHD or stakeholders engagement.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions. ▪ Academic level.
OBJECTIVE(S)	▪ Make the participants aware of what is involved in the acquisition of PHD for use in official statistics, including the European legal and policy background and what is needed for developing partnerships. ▪ The course should enable the participants to apply the acquired knowledge in roles such as developing policies concerning the acquisition and use of PHD and developing partnerships.
CONTENTS	The main subjects covered are: ▪ PHD compared to other data sources for official statistics, from the national and European perspective. ▪ The need for acquisition of PHD for official statistics, including from the perspective of the users of these statistics. ▪ The European legal and policy context of acquisition and use of PHD. ▪ The current state of acquisition and use of PHD at the national and international level. ▪ Considerations and principles that are relevant in the context of the acquisition and use of PHD, including legal provisions. ▪ The development of partnerships aimed at exploring and exploiting PHD: conditions and sustainability, the business perspective, required skills, identification of win-win posibilities, costs aspects, scope of collaboration, national and international approaches, communication, good practices. ▪ Practical examples of acquisition and use of PHD, such as scanner data, web scraping and data from mobile network operators (MNOs).
EXPECTED OUTCOME	Having acquired a background that is adequate for involvement in the acquisition of PHD as a source for official statistics (e.g. at a legal or policy level or in negotiations with holders of

	PHD).
TRAINING METHODS	▪ Presentations and lectures. ▪ Discussions and exchange of views; exchange of experiences on (inter)national practices. ▪ Exercises involving acting in assigned roles.
REQUIRED READING	▪ ESSC doc 2020/43/8/EN – Actions enabling the use of privately held data for official statistics (May 2020).
SUGGESTED READING	▪ PG Task Force on access to privately held data – ESS use cases for privately held data (21 September 2020). ▪ ESSnet Big Data – Guidelines for the access to mobile phone data within the ESS. Deliverable 5.2 of Work Package 5, Mobile Phone Data (20 June 2017). ▪ CBS – Big Data Strategies for Official Statistics. Paper prepared for the 2018 DGINS Conference (2018). ▪ European Commission – Towards a European strategy on business-to-government data sharing for the public interest. Final report prepared by the High-Level Expert Group on Business-to-Government Data Sharing (19 February 2020). ▪ European Commission – A European strategy for data. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions (19 February 2020).
REQUIRED PREPARATION	Acquire some knowledge of the national situation and experience concerning the acquisition and use of PHD for statistical purposes.
TRAINER(S)/ LECTURER(S)	Barteld Braaksma (CBS Netherlands) Gert Buiten (CBS Netherlands) Matthias Offermans (CBS Netherlands) Dr. Florian Henning (CBS Netherlands) Lianne Ippel (CBS Netherlands) Daniël von Berg (guest speaker from CBS)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
25–26.09.2024	2 days	Statistics Netherlands	ICON INSTITUTE	Deadline: **29.08.2024**

DEVELOPMENT AND USE OF INDICATOR SYSTEMS FOR EVIDENCE-BASED DECISION MAKING IN THE CONTEXT OF SDG MONITORING AND OTHER AREAS

COURSE LEADERS	**Anne Bösch, Moritz Schönbächler (FSO) & Friderike Oehler (EUROSTAT)**
TARGET GROUP	Staff members working in the field of monitoring the UN Sustainable Development Goals (SDGs) or of economic, social or environmental statistics or who need to extend their knowledge on how to use indicators and indicator systems
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ University degree and/or significant experience in the field of statistics
OBJECTIVE(S)	▪ To provide participants with a theoretical and methodological background on the development of indicator systems, especially in the context of monitoring SDGs ▪ To build up a common understanding of terms, definitions, as well as the role and limits of official statistics in the construction and maintenance of indicator systems ▪ To provide knowledge about the links between policy makers and other users of indicators and the statistical community providing data and indicators, ▪ The course will not address the following topics: ○ Construction of individual indicators ○ Construction of data platforms and reporting procedures for SDGs monitoring ○ Use of indicators in statistical models
CONTENTS	▪ Why indicators? What are indicators? Definition and typology ▪ Purposes for which indicators can be used and for which not (monitoring, controlling, evaluation) ▪ Establishment of an indicator system, role of the conceptual framework ▪ Selection criteria and quality profile of indicators, especially in the context of monitoring SDGs ▪ Interaction NSI <-> stakeholders, how to guarantee the independence of the NSI, especially in the context of monitoring SDGs ▪ Communication through indicators, target audiences, how to communicate complex and cross cutting topics such as SDGs ▪ Indicator-based assessment methodologies, examples applied for SDGs
EXPECTED OUTCOME	The participants will be familiar with the steps required to develop an indicator system The participants will be familiar with the use of statistical indicators in evidence-based decision making and monitoring SDGs as well as the role of NSIs in this field
TRAINING METHODS	▪ Presentations/exchange of views and experiences on national practices in building indicator systems and measuring sustainable development ▪ Exercises
REQUIRED READING	- Getting messages across using indicators. A handbook based on experiences from assessing Sustainable Development Indicators – Eurostat, 2014 edition

	- Towards a harmonised methodology for statistical indicators — Part 3: Relevance for policy making – Eurostat, 2017 edition
SUGGESTED READING	- Swiss Federal Statistical Office (2013): Revision of the indicator system for the Federal Council and the Parliament – Concept, methods and processes (PDF) - Towards harmonised methodology for statistical indicators - Part 1: Indicator typologies and terminologies – Eurostat, 2014 edition - Towards a Harmonised Practice in Using Statistical Indicators – Part 2: Communicating through indicators – Eurostat, 2017 edition - Sustainable development in the European Union – Monitoring report on progress towards the SDGs in an EU context – 2023 edition
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Trainers: Anne Bösch, Moritz Schönbächler (FSO) and Friderike Oehler (Eurostat) Lecturers : FSO and Eurostat staff

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
02-04.10.2024	3 days	Neuchâtel, Switzerland	EFTA / FSO & EUROSTAT	**Deadline: 05.08.2024**

DEVELOPING MIXED MODE QUESTIONNAIRES FOR HOUSEHOLD SURVEYS	
COURSE LEADER	**Dag F GRAVEM**
TARGET GROUP	Pretesting, data collection and subject matter specialists conducting or planning mixed mode data collection for social surveys covered by the IESS framework regulation.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ An interest in mixed mode data collection and quality improvement
OBJECTIVE(S)	▪ To create an awareness of the possibilities and challenges of mixed mode questionnaire design generally, and for IESS surveys specifically.
CONTENTS	▪ A presentation of key terms and approaches in mixed mode data collection and questionnaire design, including question characteristics associated with measurement differences ▪ A presentation and discussion of IESS model questionnaires and methodological guidelines concerning question and questionnaire requirements, with emphasis on the LFS and EU-SILC. ▪ Methods for evaluating and testing mixed mode questionnaires ▪ Group work evaluating and adapting questions for mixed mode
EXPECTED OUTCOME	The ability to critically evaluate, test and develop questionnaires for mixed mode data collection. The ability to critically evaluate and improve model questionnaires, variable descriptions and other documentation for Eurostat and other cross-national surveys to be conducted in mixed mode.
TRAINING METHODS	▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Group work
REQUIRED READING	▪ Gravem, D., & Berg, N (2019): Recommendations for key questionnaire elements, questions and question types in mixed mode settings. Related to the European Statistical System's personal and household surveys. Grant agreement 07112.2017.010-2017.786, WP4, Deliverable 3. https://www.istat.it/it/files//2011/07/WP4-deliverables.zip
SUGGESTED READING	▪ DeLeeuw, E. D. (2018). Mixed-Mode: Past, Present, and Future. *Survey Research Methods*, *12*(2), 75-

	89. https://doi.org/10.18148/srm/2018.v12i2.7402 ▪ Horwitz, R., Lesser, V., Marken, S., Mathiowetz, G. N., Opsomer, J., Steiger, W. D., & Sterrett, W. D. (2019). Report of the AAPOR Task Force on Transitions from Telephone Surveys to Self-Administered and Mixed-Mode Surveys. Especially chapters 4 and 5. https://tinyurl.com/2vder8vc ▪ Schouten, B., Brakel, J.V.D., Buelens, B., Giesen, D., Luiten, A., & Meertens, V. (2021). Mixed-Mode Official Surveys: Design and Analysis (1st ed.). Chapman and Hall/CRC. Chapter 6. https://doi.org/10.1201/9780429461156 ▪ Methodological guidelines and model questionnaires for IESS surveys
REQUIRED PREPARATION	Bring examples of questions from IESS surveys currently used or intended to be used in mixed mode data collection.
TRAINER(S)/ LECTURER(S)	Dag F. GRAVEM (Statistics Norway) Other experienced staff from Statistics Norway's Department of methods and data collection

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
21-23.10.2024	3 days	Oslo, Norway	Statistics Norway	Deadline: **06.09.2024**

Digital dissemination of statistics: Focus on data visualisation	
COURSE LEADER	**Thomas Ruigrok**
TARGET GROUP	ESS staff with some basic knowledge of data visualisation
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions
OBJECTIVE(S)	Providing participants with a better understanding of the principles of creating, developing and disseminating data visualisations to a wide audience: • Various means of content visualisation (infographic, video, animation, etc.); • Different ways of using infographic, video, animation • The do's and don'ts of content visualisation • How to display your own content and organise it effectively • How the media use visual material • Familiarize participants with open-source data visualization tools commonly used in statistics. • Equip participants with the necessary skills to effectively analyze and present statistical data using open-source tools.
CONTENTS	Pictures often say more than 100 words. But pictures can also be superficial and fail to convey the nuances inherent in good statistics. How can you display your news in a way that does justice to the professionalism of a statistical organisation? ▪ Data visualisation: introduction ▪ Crafting data visualisations ▪ Hands-on session ▪ Online data publishing and animation ▪ Introduction to popular open-source data visualization tools for statistical analysis (e.g., R, Python libraries like Matplotlib, Plotly, seaborn
EXPECTED OUTCOME	Understanding of what distinguishes good data visualisations Be able to apply the rules of good data visualisation. Tools to create visualisations. Be able to develop and tailor visualisations and data stories to different audiences and publication channels.
TRAINING METHODS	▪ Presentations and lectures

	▪ Exchange of views/experiences on national practices ▪ Exercises/Livecharts ▪ Creation of social media-messages ▪ Tour of the floor and studio
REQUIRED READING	None
SUGGESTED READING	Frederic Clarke, (2017), Visualising Big Data for Official Statistics: The ABS Experience (Australian Bureau of Statistics, Australia) and Chien-Hung Chien (Australian Bureau of Statistics, Australia)
REQUIRED PREPARATION	In order to apply the learning materials to the participants' own work and experience, each participant should bring a visualisation (or publication containing visualisations) of their own production to class, preferably digital.
TRAINER(S)/ LECTURER(S)	Thomas Ruigrok (CBS Netherlands)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
17–19.09.2024	3 days	The Hague, Netherlands	ICON INSTITUTE Public Sector GmbH	**Deadline: 22.08.2024**

DISSEMINATING OFFICIAL STATISTICS AS LINKED OPEN DATA	
COURSE LEADER	**Mirosław Migacz**
TARGET GROUP	Official statisticians (including process managers) with data management skills, who are interested in exposing data and metadata assets using linked data principles. The course is not meant to be targeted exclusively at IT specialists but can also be useful for staff involved in dissemination.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Experienced in data management.
OBJECTIVE(S)	▪ Present the essentials concepts of open data and linked open data.. ▪ Improve data management skills in exploring feasible data sources, finding publications, data portals and how to publish them.
CONTENTS	The course should present the essentials concepts of open data and linked open data, covering the following topics: ▪ Introduction and principles for open data; ▪ Introduction to the semantic web and linked data, its main use cases and the expected benefits; ▪ Overview of semantic web standards and software available to use them; ▪ Semantic web and official statistics: Overview of some vocabularies relevant to official statistics (RDF Data Cube Vocabulary for representing multi-dimensional "data cubes" in RDF, StatDCAT-Application Profile for the description of statistical datasets, XKOS extending the Simple Knowledge Organization System for the needs of statistical classifications,…); ▪ Overview of existing open data portals (including national and European data portals); ▪ Overview of the use of linked data/metadata to produce innovative product for end users product (apps); ▪ Examples of data sources and of publication of official statistics as LOD (national and European); ▪ Hands on producing and publishing Linked Open Statistical Data (LOSD) from CSV and JSON-stat to RDF (using the ESSnet LOSD platform); ▪ Hands on designing apps based on linked data; ▪ Issues and challenges, future trends and projects.
EXPECTED OUTCOME	Support official to improve their data management skills in exploring feasible data sources, finding publications, data portals and how to publish them.
TRAINING METHODS	▪ Presentations and lectures ▪ Exchange of views/experiences on national practices

	▪ Exercises
REQUIRED READING	Linked Open Data at Eurostat https://ec.europa.eu/eurostat/web/nuts/linked-open-data
SUGGESTED READING	▪ ESSNet Linked Open Statistical Data: https://ec.europa.eu/eurostat/cros/content/essnet-linked-open-statistics_en ▪ International Open Data Charter: https://opendatacharter.net/principles/
REQUIRED PREPARATION	Prepare management own management tasks form experience and problems faced.
TRAINER(S)/ LECTURER(S)	Miroslaw Migacz (Independent expert) Eoin McCuric (Independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
24–27.09.2024	4 days	Cologne, Germany	ICON INSTITUTE	Deadline**: 29.08.2024**

ESSPROS – LINKS WITH NATIONAL ACCOUNTS	
COURSE LEADER	**Gilberto Gambini**
TARGET GROUP	Data providers in national administrations involved in the production of ESSPROS (European System of integrated Social Protection Statistics) data, with an interest in understanding the links between ESSPROS and national accounts and their potential use in the compilation of the ESSPROS data.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Staff of national statistical institutes and other public administrations (e.g. ministries, social security funds, …etc.) involved in the production of ESSPROS data ▪ Understanding of the concept of social protection and of related statistics and accounting systems at national level
OBJECTIVE(S)	▪ The course will provide participants with a solid understanding of the links between ESSPROS and national accounts, related concepts and how to implement/exploit these links to identify and understand differences/similarities between the data produced by the two statistical systems.
CONTENTS	▪ Introduction to National accounts for ESSPROS data producers ▪ Scope and accounting methods ▪ Social protection expenditure and receipts in ESSPROS and national accounts ▪ Practical considerations for establishing links
EXPECTED OUTCOME	Participants are expected to become familiar with the links between ESSPROS and national accounts. This means being enabled to exploit the conceptual links between ESSPROS and national accounts.
TRAINING METHODS	▪ Presentations and lectures ▪ Practical interactive exercises (e.g. case studies) ▪ Group discussion ▪ Exchange of views/experiences on national cases/practices
REQUIRED READING	Training materials
SUGGESTED READING	Introductory chapter of the latest edition of the ESSPROS Manual and user guidelines. Other chapters may also be read in advance, but this is not a

	prerequisite to the training. The first three chapters of the latest edition of "Links and differences between Social Protection statistics (ESSPROS) and National Accounts". Other chapters may also be read in advance, but this is not a prerequisite to the training.
REQUIRED PREPARATION	Participants should attempt to familiarise themselves with the social protection system in their countries and the main sources which are already used (or could be potentially used) to compile ESSPROS data for their country. In doing so participants can identify national examples whose treatment can be discussed and clarified during the training.
TRAINER(S)/ **LECTURER(S)**	▪ Mr Flavio Bianconi (independent expert) ▪ Mr Duncan Coughtrie (independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
18-19.09.2024	2 days	ONLINE	EUROSTAT	Deadline**: 09.08.2024**

ECONOMIC AND SOCIAL CLASSIFICATIONS: METHODOLOGY AND APPLICATION	
COURSE LEADER	**Clotilde MASSON**
TARGET GROUP	▪ Any statistician of a National Statistical Institute (including newcomers) dealing with any statistical domain and wishing to understand better the system of classifications used.
ENTRY QUALIFICATIONS	▪ Sound command of English (passive and actively). Participants should be able to make short interventions and to actively participate in discussions and group exercises (e.g. PowerPoint or flip chart presentations).
OBJECTIVE(S)	▪ The course should provide participants with a better understanding of the underlying principles and concepts of European and international economic and social classifications, their content and use.
CONTENTS	▪ Basic principles of classifications ▪ International system of linked economic classifications and family of international economic classifications ▪ International and European economic classifications and their ongoing revisions: - ISIC Rev. 4 and NACE Rev. 2 - CPC Version 2.1, CPA 2.1 ▪ Harmonised system, Combined Nomenclature, PRODCOM ▪ Functional/purpose classifications: COICOP and EU-COICOP, COPNI, COFOG and COPP ▪ Social classifications: ISCO, ESeG project, ISCED, ICATUS ▪ Geographical classifications: ISO, UN-codes, NUTS ▪ Interpretation and classification guidelines and rules ▪ Tools and sources: RAMON, CIRCABC, the UN classification registry and other classification databases The course content focuses on the principles, concepts and applications of the main economic, social and geographical classifications that are applied in the European Statistical System. Reference is also given to the international classifications from which the European classifications are derived.

EXPECTED OUTCOME	▪ Participants will be familiarized with statistical classifications, their correspondences and their applications. ▪ Improved knowledge and understanding of the main issues related to classifications and their use.
TRAINING METHODS	▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Exercises, Group discussions
REQUIRED READING	None
SUGGESTED READING	None
REQUIRED PREPARATION	▪ Participants are required to write a short summary of their own activity as well as that of the organization regarding practices, problems and experiences in the subject.
TRAINER(S)/ LECTURER(S)	Clotilde MASSON (independent expert) Hans VAN HOOFF (independent expert) Sue WESTERMAN (CBS Netherlands) Peter KRUISKAMP (CBS Netherlands)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
13-15.05.2024	3 days	The Hague, Netherlands	ICON-INSTITUT Public Sector GmbH	**Deadline: 18.03.2024**

ENTERPRISE ARCHITECTURE (EA) FOR OFFICIAL STATISTICS

COURSE LEADER	**Nadia Mignolli**
TARGET GROUP	Business architects; IT managers responsible for the design of new processes and innovative IT systems; Statistical survey managers; Statisticians and Technicians involved in statistical production processes.
ENTRY QUALIFICATIONS	▪ Trainees should have a sound command of English and should be able to make short interventions and to participate in discussions actively, sharing experiences and best practices. ▪ Trainees should be able to illustrate examples from their respective experiences, with a focus on *Trusted Smart Statistics* in their NSIs.
OBJECTIVE(S)	This Course aims at: ▪ defining the reference framework of data generated by smart devices, technologies, networks and their relations with official statistics, also comparing NSIs' different situations (different level of integration, etc.); ▪ introducing the main concepts, frameworks and artefacts to carry out *Enterprise Architecture* for official statistics; ▪ focussing on the *Business Architecture Model/Activity model* within NSIs, orientating it to ongoing modernisation changes and related mainly to innovative data sources, Big Data, new data; ▪ explaining how to apply and map *GAMSO* to new business models for official statistics, innovative sources and Big Data; ▪ explaining how to map *GSBPM* to the statistical processes related to innovative data sources; ▪ providing an overview of the main statistical and technical guidelines, best practices, and standards as pre-requisites for the implementation of *EA* and *BREAL*; ▪ focussing on the context of *Big data REference Architecture and Layers – BREAL*; ▪ providing theoretical training to develop *BREAL*; ▪ promoting group discussions on topics such as setting up a capability assessment and roadmaps for acquiring and benefiting from ESS shared investments.
CONTENTS	The course will focus on essentials of EA approaches covering the following topics: ▪ Definition of the reference framework of data generated by smart devices, technologies, networks and their relations with official statistics. ▪ Business-outcome driven Enterprise Architecture: why and how. ▪ Enterprise Architecture layers in brief:

	• Business Architecture; • Information Architecture; • Application Architecture; • Technology Architecture. ▪ Introduction to the *ArchiMate* modelling structures and their practical usages. ▪ *Business Architecture* (BA) concepts and components, focussing on modernisation changes related mainly to innovative data sources, Big Data, new data: • BA Business Lines; • BA Activity Model. ▪ *GAMSO* shared infrastructures and guiding principles: - instrument for standardisation, quality enhancing and modernisation; • mapping new business models for official statistics, innovative sources and Big Data; • sharing experiences in using architectural frameworks ▪ *Generic Statistical Business Process Model* (*GSBPM*): standard model and use case. ▪ *GSIM*: introduction and use case. ▪ *Common Statistical Production Architecture (CSPA)*: overview and templates for sharing services. ▪ The ESS EA Reference Framework (EARF) for *Trusted Smart Statistics*. ▪ *BREAL* (*Big data REference Architecture and Layers*): • Business layer; • Application and Information layers; • Examples of solution architectures. ▪ Enterprise Architecture: open challenges and perspectives for official statics and trusted smart statistics.
EXPECTED OUTCOME	At the end of the Course, trainees will be able to: ▪ propose the adoption of *EA* and *BREAL* within their respective organisations; ▪ facilitate the development of an *EA* compliant with the *ESS EA Reference Framework*; ▪ understand some best practices, standards and guidelines that facilitate modernisation processes and the change of paradigm represented by *Trusted Smart Statistics*.
TRAINING METHODS	▪ Power point presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Comments and discussion on schemes and other digital materials ▪ Exercises ▪ Work in pairs and in small sub-groups
REQUIRED READING	None

SUGGESTED READING	https://ec.europa.eu/eurostat/cros/content/trusted-smart-statistics-motivations-and-principles_en https://statswiki.unece.org/display/GAMSO/Generic+Activity+Model+for+Statistical+Organizations https://statswiki.unece.org/display/GSBPM/Generic+Statistical+Business+Process+Model https://ec.europa.eu/eurostat/cros/content/ess-enterprise-architecture-reference-framework_en https://statswiki.unece.org/display/CSPA/Common+Statistical+Production+Architecture http://www.opengroup.org/archimate/ http://www.archimatetool.com/
REQUIRED PREPARATION	Trainees should be able to illustrate examples from their respective experiences and practices, with a focus on *Trusted Smart Statistics* in their NSIs.
TRAINER(S)/ LECTURER(S)	Nadia Mignolli; Mauro Bruno; Mauro Scanu; Giorgia Simeoni, Donato Summa (all from Istat).

1st edition

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
19 – 22.03.2024	3,5 days	Rome, Italy	ICON INSTITUTE Public Sector GmbH	Deadline**: 22.01.2024**

Equality and Diversity statistics with a focus on data dissemination	
COURSE LEADER	**Lilla, Farkas**
TARGET GROUP	Representatives of the NSIs interested in Equality and Diversity
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Sound knowledge of statistical data collection
OBJECTIVE(S)	▪ The course will provide an insight about equality and diversity with a focus on the official statistics available at ESS level
CONTENTS	The following topics will be covered: Introduction to law and policies related to equality and diversity • Sources of equal treatment law in Europe: UN, Council of Europe, EU • Applicable legal framework with a focus on key concepts, such as protected grounds (sex/gender, race/ethnicity, disability, age, religion or belief, sexual orientation and nationality), direct and indirect discrimination • Using the law to define and operationalise key concepts • EU policies, including the Anti-racism Action Plan Data sources and official statistics • From grounds to statistical categories • Quantitative measures of discrimination • Data sources at ESS level • Review of existing indicators • Quick overview on main techniques for collecting equality and diversity data • Identifying challenges and good practice examples in the collection of equality and diversity data at the national level Involving minority stakeholders and fostering coalitions Disseminating equality and diversity statistics to employers, service providers, governments, the general public and minority groups
EXPECTED OUTCOME	Participants will be able to (re)design statistical categories for the collection of

	equality data and actively participate in the review of indicators adequate for the relevant EU policy processes. They will also be able to disseminate equality data to diverse audiences.
TRAINING METHODS	▪ Presentations and lectures ▪ Debate and brainstorming: Exchange of views/experiences on national and EU level practices ▪ Interactive group work on case studies (creating an equality and diversity indicator and disseminating it) and role play (involving minority stakeholders, fostering coalitions)
REQUIRED READING	• European Handbook on Equality Data (2016 revision), European handbook on equality data - Publications Office of the EU (europa.eu) • Guidelines on improving the collection and use of equality data, 2018, Guidelines on improving the collection and use of equality data - Publications Office of the EU (europa.eu) • Guidelines on scientific research, European Data Protection Board (not yet published) • Simon Patrick, Piché Victor, A. Gagnon Amélie (2015) *Social statistics and Ethnic Diversity: Cross-National perspectives in classifications and identity politics*, Springer, http://link.springer.com/book/10.1007%2F978-3-319-20095-8
SUGGESTED READING	• *Analysis and comparative review of equality data collection practices in the European Union: Equality data indicators : methodological approach overview per EU Member State, technical annex, 2017, Analysis and comparative review of equality data collection practices in the European Union - Publications Office of the EU (europa.eu)* Data collection in the field of ethnicity, 2017 Data collection in relation to LGBTI people, 2017 • Committee on the Elimination of All Forms of Racial Discrimination General Recommendation No. XXIX, XXIV and VIII, Treaty bodies Download (ohchr.org) • ECRI General Policy Recommendations No. 1, 4 and 5, 16808b7945 (coe.int) • Anthony Heath, Silke L. Schneider & Sarah Butt, Developing a Measure of Socio-cultural Origins for the European Social Survey, GESIS – Leibniz-Institut für Sozialwissenschaften 2016 • Julie Ringelheim (2011) Ethnic categories and European human rights law, Ethnic and Racial Studies, 34:10, 1682-1696, DOI: 10.1080/01419870.2010.542249
REQUIRED PREPARATION	Participants should familiarise themselves with the required reading, as well as the national chapter in the first recommended reading

TRAINER(S)/ LECTURER(S)	Lilla Farkas (Independent expert), Patrick Simon (Independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
05–07.11.2024	3 days	Cologne, Germany	ICON INSTITUTE Public Sector GmbH	**Deadline: 09.09.2024**

FROM ANNUAL TO QUARTERLY TO MONTHLY DATA: INTRODUCTION TO TEMPORAL DISAGGREGATION AND BENCHMARKING	
COURSE LEADER	**Francesca Di Iorio**
TARGET GROUP	Statistical officers in charge to regular production of National Accounts quarterly series.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Previous knowledge: Basics of time series analysis and regression model
OBJECTIVE(S)	Introducing to the theory and practice of temporal disaggregation, balancing and statistical reconciliation of systems of time series.
CONTENTS	▪ Flow, index and stock series ▪ Deriving high frequency data with and without proxies ▪ Temporal and Accounting constraints ▪ Theory and practice of temporal disaggregation and data reconciliation: ▪ The univariate case (main field of application: Quarterly National Accounts) ▪ benchmarking and temporal disaggregation by related series of a temporally constrained time series; ▪ two-step adjustment and optimal regression based techniques: Denton's benchmarking, Chow-Lin, Fernández, Litterman. ▪ The statistical reconciliation of systems of time series (main field of application: Quarterly National Accounts, Labour Force, Industrial Production Indices) ▪ practice using JDemetra+ plug-ins.
EXPECTED OUTCOME	Being able to produced high frequency data (quarterly/monthly) consistent with the respective low frequency data (annual/quarterly)
TRAINING METHODS	Presentations, lectures and exchange of views Presentations and lectures
REQUIRED READING	None
REQUIRED PREPARATION	Participants are requested to write a short summary of their activities in their organisation. They are requested to express the reasons and motivation for applying to this training activity and to describe the practices, problems and experiences they face in the field of the course. Participants can also bring a set of time-series related to their interest, should they wish to do so.
TRAINERS	Francesca Di Iorio (Independent expert) Duncan Elliott (Independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
12-14.11.2024	3 days	**Cologne, Germany**	ICON-INSTITUT Public Sector GmbH	**Deadline: 16.09.2024**

INFORMATION STANDARDS AND TECHNOLOGIES FOR DESCRIBING, EXCHANGING AND DISSEMINATING DATA AND METADATA

COURSE LEADER	**Alessio Cardacino**
TARGET GROUP	Subject-matter experts (domains, dissemination and metadata management staff) without specialist IT knowledge
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions
OBJECTIVE(S)	The main objectives of the course are: ▪ Illustrate "standardisation" activities within the European Statistical System and, more in general, within the statistical community. ▪ Explain how to define a standardization strategy to improve the statistical business processes ▪ Focus on the main conceptual, logical and technical statistical standards detailed in the ESS Enterprise Architecture Reference Framework (GSBPM, GSIM, SDMX, DDI) ▪ Introduce open data (DCAT) and spatial (INSPIRE) standards ▪ Highlight the relationships between conceptual and implementation standards ▪ Experiment with tools in implementing a standards-based metadata-driven architecture for more efficient processes related to metadata management, data dissemination and data reporting
CONTENTS	The main topics are: ▪ Standardization activities within the statistical community ▪ Introduction to Information Models and Standards: ▪ Basic notions ▪ Relevance in the context of the statistical production ▪ Metadata-driven statistical business process ▪ Conceptual statistical standards: ▪ Generic Statistical Business Process Model (GSBPM) ▪ Generic Statistical Information Model (GSIM) ▪ Main implementation-level statistical standards: ▪ Statistical Data and Metadata eXchange (SDMX): information model, content oriented guidelines, IT architecture and implementation scenarios ▪ Data Documentation Initiative (DDI): questionnaires, unit-record data archiving and metadata exchange ▪ Data Catalog Vocabulary (DCAT) ▪ Introduction to INSPIRE ▪ Hands-on sessions:

	▪ Creating a data catalog using DCAT standard ▪ Developing structural metadata to model multidimensional statistical tables ▪ Building a dissemination/reporting database based on the SDMX Information Model ▪ Publishing statistical datasets for dissemination or reporting
EXPECTED OUTCOME	At the end of the course, participants will be able to: ▪ propose and encourage standardization processes, within their respective organisations, in line with the ESS experiences ▪ compare capabilities between different standards ▪ drive the data/metadata reporting towards International Organisations ▪ facilitate harmonized data/metadata sharing exercises
TRAINING METHODS	▪ Case studies analysis. Participants will be invited to share their own thoughts and experiences. ▪ Building the foundations through theoretical lectures on standards, information models and metadata ▪ Learning the essence of tools and products through the hands-on session based on real use-cases ▪ Design-thinking after users' use cases presentations ▪ "Q&A" session at the end of each day
REQUIRED READING	None
SUGGESTED READING	▪ SDMX user Guide: http://sdmx.org/?page_id=38 ▪ SDMX guidelines: http://sdmx.org/?page_id=11 ▪ Getting started with DDI: http://www.ddialliance.org/getting-started ▪ GSIM communication paper: http://www1.unece.org/stat/platform/display/gsim/GSIM+Communication+Paper ▪ Profiles of GSBPM: http://www1.unece.org/stat/platform/display/GSBPM/Profiles+of+GSBPM ▪ Inspire knowledge base: https://inspire.ec.europa.eu/ ▪ Data Catalog Vocabolary: https://www.w3.org/TR/vocab-dcat-2/
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Alessio Cardacino (Istat), Francesco Rizzo (Istat), Giorgia Simeoni (Istat), Mauro Scanu (Istat)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
28-31.05.2024	4 days	**Rome, Italy**	ICON-INSTITUT Public Sector	**Deadline: 02.04.2024**

INTRODUCTION TO BIG DATA IN OFFICIAL STATISTICS – 3 WEBINARS	
COURSE LEADER	**Donato Summa**
TARGET GROUP	Official statisticians (including managers) to be involved in big data activities and having no specific knowledge on this subject; Official statisticians (including managers) who, without being directly involved in big data activities, need basic knowledge on the use of big data in official statistics.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions
OBJECTIVE(S)	Main objectives of the course are: ▪ Introducing the participants to the concept of Big Data, the associated challenges and opportunities, and the statistical methods and IT tools needed to make the use of Big Data effective in official statistics. ▪ Overviewing statistical methods and IT tools available for Big Data usage in Official Statistics
CONTENTS	Webinar 1: The big data phenomenon and the role of official statistics • Big data and the digital traces people leave • The implication of big data for official statistics • Big Data initiatives in official statistics at international level • Trust Smart Statistics Webinar 2: Methodological challenges of big data for official statistics • The curse of dimensionality • From captured big data to statistical units (unit-error) • Selectivity and overview of methods to correct it • Over-fitting, multiple inference, and model based inference Webinar 3: Applications of big data to official statistics • Online job Advertisment (OJA) data • Automatic identification system (AIS) data • Mobile network (MNO) data • Webscraping enterprises websites data The EU big data test infrastructure (BDTI)

EXPECTED OUTCOME	To have a good understanding of Big Data technologies and methods to process Big Data for Official Statistics purposes.
TRAINING METHODS	▪ Presentations and lectures ▪ Exchange of views/experiences on national practices, if any ▪ Exercises
REQUIRED READING	None
SUGGESTED READING	• EMOS Webinar "What is Trusted Smart Statistics" 25 February 2020: https://emos2020events.ec.unipi.it/what-is-a-trusted-smart-statistics/ • Big Data – Shaping Europe's digital future, CROS, 23 March 2020, https://ec.europa.eu/digital-single-market/en/big-data • ISTAT Big Data Committee Annual Report 2017 (2018): https://www.istat.it/it/files//2018/09/Big-data-committee.pdf • UNECE Blue Sky Group Report, 2018, The use of machine learning in official statistics: https://statswiki.unece.org/download/attachments/ • Big Data – Shaping Europe's digital future, CROS, 23 March 2020, https://ec.europa.eu/digital-single-market/en/big-data
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	ISTAT: Donato SUMMA, Alessio GUANDALINI CBS: Piet DAAS, Marco PUTS

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
6, 13 and 20.02.2024	3 webinars	On-line, Zoom	ICON INSTITUTE Public Sector GmbH	Deadline: 03.01.2024

INTRODUCTION TO BLOCKCHAIN FOR OFFICIAL STATISTICS	
COURSE LEADER	**Christian Kauth**
TARGET GROUP	Official statisticians/data scientists/IT experts
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Active or passive knowledge of Python is a plus, but not a requirement to follow and benefit from this course: Participants may choose to either actively code scripts, web3 and smart contracts or to passively learn from the provided solutions.
OBJECTIVE(S)	This course shall democratize the understanding and use of blockchain technology, showcasing how decentralized, asynchronous data economies leveraging micro-data, official statistics, verifiable credentials and the European blockchain, change the way we live and work – blockchains have so much more to offer than just cryptocurrencies. ▪ Understand the cryptographic principles behind blockchains ▪ Understand the components of blockchains ▪ Get to know impactful use cases of diverse blockchains ▪ Get to know the ecosystems of available blockchains and tools ▪ Develop an application and its smart contracts on the blockchain for Official Statistics
CONTENTS	▪ Demystification of the Blockchain technology and its relation to cryptography and the web ▪ Transactions, blocks, consensus mechanisms, faucets, wallets, smart contracts, coins, fungible and non-fungible tokens ▪ The diversity of blockchains and their real-world applications ▪ The Ethereum platform, smart contracts, web3, distributed applications and the European Blockchain Services Infrastructure (EBSI) ▪ Development, deployment and monitoring of an application with smart contracts for Official Statistics using Ethereum/Ganache blockchains, Vyper/Solidity smart contracts, Remix IDE, MetaMask wallet, Etherscan, web3 in Python and OpenSea market place.
EXPECTED OUTCOME	The participants will know the building components of blockchains and understand the cryptographic principles that make them trustworthy. They will master the blockchain vocabulary and understand real-world use cases which are changing our lives. Participants will have gained hands-on experience with tools involved in the

	development of blockchain applications and smart contracts for official statistics (either through active coding or passive understanding of the provided solutions).
TRAINING METHODS	▪ Presentations and lectures (50%) ▪ Exchange of views/experiences (20%) ▪ Exercises (30%)
REQUIRED READING	None
SUGGESTED READING	None
REQUIRED PREPARATION	• Register for free to the Google Colaboratory (use personal login) https://colab.research.google.com/ • Install Ganache blockchain on PC (done by ICON Institute) https://trufflesuite.com/ganache/ • Install MetaMask wallet plugin in web-browser (done by ICON Institute) https://metamask.io/
TRAINER(S)/ LECTURER(S)	Christian Kauth

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
18 – 22.03.2024	5 days	Cologne, Germany	ICON INSTITUTE Public Sector GmbH	Deadline**: 22.01.2024**

INTRODUCTION TO SEASONAL ADJUSTMENT AND JDEMETRA+	
COURSE LEADER	**Francesca Di Iorio**
TARGET GROUP	Junior users of seasonal adjustment methods involved in regular/massive data production wishing to enhance their knowledge of the methods and to use the JDEMETRA+ tool in an efficient way. People currently using TRAMO/SEATS and/or X13 family product and/or old version of DEMETRA/JDEMETRA+ family products aiming at implementing the latest JDEMETRA+ version.
ENTRY QUALIFICATIONS	Solid command of English. Participants should be able to make short interventions and to actively participate in discussions. Basic experience in using recent version of JDEMETRA+ or other seasonal adjustment tools.
OBJECTIVE(S)	To provide participants with a basic knowledge of the seasonal adjustment methods and tools included in JDEMETRA+ To understand the basic principles of the ESS seasonal adjustment guidelines and to be able to apply them using JDEMETRA+, including for mass production. To motivate the participants to acquire and advanced knowledge in the various seasonal adjustment methods and in other time series algorithms.
CONTENTS	Overview of the ESS guidelines. Description of the main SA methods. Step by step use of the SA methods with the graphical interface of JDEMETRA+. Use of JDEMETRA+ and related tools for mass production Application to real data
EXPECTED OUTCOME	Participants will be able to use the SA methods implemented in JDEMETRA+ for the purposes of mass production. They will understand the basic principles of the ESS guidelines and they will be able to apply them correctly using JDemetra+
TRAINING METHODS	Presentations and lectures Case studies on real data sets (also provided by the participants) “Show and tell” by the participants
REQUIRED READING	Participants should be familiar with the content of the website https://ec.europa.eu/eurostat/cros/content/seasonal-adjustment_en
SUGGESTED READING	Revised ESS guidelines on seasonal adjustment https://ec.europa.eu/eurostat/cros/content/methodological-notes_en
REQUIRED PREPARATION	Participants are requested to write a short summary of their activities in their organisation. They are requested to express the reasons and motivation for applying

	to this training activity and to describe the practices, problems and experiences they face in the field of the course. Participants are strongly invited to practice with recent version of JD+.
TRAINER(S)/ LECTURER(S)	Francesca Di Iorio (Independent Expert) Duncan Elliott (Independent Expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
11–13.06.2024	3 days	**Cologne, Germany**	ICON-INSTITUT Public Sector GmbH	**Deadline: 15.04.2024**

INTRODUCTION TO EXPERIMENTAL ECOSYSTEM EXTENT AND SERVICES ACCOUNTING BASED ON SEEA-EA	
COURSE LEADER	**Sjoerd SCHENAU**
TARGET GROUP	NSIs and Other National Authorities (with lower priority), working in the field of ecosystem accounting.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions; ▪ Knowledge of national statistics, such as measures of economic output and performance (e.g. GDP).
OBJECTIVE(S)	▪ Provide an overview of the key concepts of SEEA ecosystem accounting; ▪ Provide an overview of how national ecosystem accounts are constructed, and how they relate to 'mainstream' environmental and national accounting, ▪ Provide understanding the data and tools used to construct the component parts of the accounts (e.g. spatial and environmental data in GIS for ecosystem extent; ecosystem services evidence; monetary valuation techniques).
CONTENTS	**Session 1: Introduction to SEEA ecosystem accounting** ▪ Short introduction into policy context: MAES, New Biodiversity Strategy for 2030 ▪ Overview of concepts and methodology as set out in SEEA-EA. ▪ Description of SEEA-EA ecosystem core accounts ▪ SEEA-EA vs. national accounts (SNA): differences and consistencies ▪ SEEA EA vs. SEEA CF: differences and overlaps ▪ Developments at Eurostat ▪ ▪ **Session 2: Spatial units for ecosystem accounting** ▪ Types of spatial units ▪ Delineating ecosystem assets ▪ Classifications for ecosystem types ▪ Data criteria for ecosystem accounting (i.e. spatial reference, format, etc.) ▪ ▪ **Session 3: Introduction to data needs, GIS spatial analysis and map production** ▪ Core datasets for the production of ecosystem extent and some ecosystem services accounts ▪ The following GIS working steps will be presented an discussed: Data loading, integration of different data sets (e.g. raster and vector) using GIS tools, production of maps ▪ Exercise **Session 4: compiling ecosystem extent accounts** ▪ SEEA-EA extent accounts: key concepts. ▪ Policy uses and indicators for the ecosystem extent accounts ▪ Country example how to build ecosystem extent accounts: data extraction from GIS, building accounts from extracted datasets

	▪ Practical exercise **Session 5: Compiling ecosystem service accounts** ▪ SEEA-EA service accounts: key concepts ▪ Policy uses and indicators for the ecosystem service accounts ▪ Introduction to the SEEA EA reference list for ecosystem services and CICES (Common International Classification of Ecosystem Services) ▪ Introduction to the concepts of potential flow, unmet demand ▪ Overview of existing tools and models for mapping and accounting for ecosystem services (at different levels of ambition; in this course only the most simple tools are applied, with preference to Free and Open Source tools). ▪ Country example how to compile ecosystem service maps and build ecosystem services accounts for a few selected services ▪ Practical exercise **Session 6: Condition accounts** ▪ Condition accounts: key concepts ▪ Potential indicators ▪ Possible applications ▪ Outstanding issues **Session 7: Monetary ecosystem accounts** ▪ Key concepts for monetary valuation ▪ SEEA EA Monetary accounts for ecosystem services and monetary asset accounts ▪ Key challenges in monetary valuation ▪ Exercise **Session 8: Thematic accounts** ▪ SEEA-EA thematic accounts: concepts ▪ Carbon accounts, biodiversity accounts, marine accounts **Session 9: Country specific case study on ecosystem service accounting - application of learned concepts and methods to local or regional case** ▪ Participants to propose datasets, accounting variables, etc. for a specific and locally or regionally relevant ecosystem accounts and to prepare a mock-up ecosystem services account in excel. ▪ Short presentation of selected case + discussion of challenges, selected indicators, data availability at national/ regional level, resulting analytical options. ▪ Group discussion
EXPECTED OUTCOME	The course will provide participants with training on the compilation of SEEA-ecosystem accounts. This will support countries to develop these accounts in detail – how to develop specific studies on components of the accounts (e.g. for specific ecosystems and/or services) that will build up the national picture.
TRAINING	▪ Presentations and lectures

METHODS	▪ Exchange of views/experiences on national practices. Debate with participants of which are their challenges, putting in common possible solutions, discuss strengths and weaknesses, identify the solution that works best for each participant. ▪ Exercises and quizzes
REQUIRED READING	Extracts of SEEA EA (the revised document will become available in de beginning of 2021) – to be announced
SUGGESTED READING	▪ Background information on SEEA EEA revision: https://seea.un.org/content/seea-experimental-ecosystem-accounting-revision ▪ Ecosystem accounts in the Netherlands https://www.sciencedirect.com/science/article/pii/S2212041620300607?via%3Dihub ▪ Ecosystem accounts in the United Kingdom https://www.ons.gov.uk/economy/environmentalaccounts/bulletins/uknaturalcapitalaccounts/2019
REQUIRED PREPARATION	▪ Understand objectives of the SEEA-EA guidelines. ▪ Knowledge of relevant national approach/priorities/timescale to develop national ecosystem accounts.
TRAINER(S)/ LECTURER(S)	Sjoerd SCHENAU (Statistics Netherlands) Patrick BOGAART (Statistics Netherlands) Linda de JONGH (Statistics Netherlands) Rixt de JONGH (Statistics Netherlands) Jocelyn van BERKEL (Statistics Netherlands)

PRACTICAL INFORMATION

WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
05-07.11.2024	3 days	The Hague, Netherlands	ICON-INSTITUT Public Sector GmbH	**Deadline: 09.09.2024**

INTRODUCTION TO STATISTICS PRODUCTION WITH THE USE OF GEOGRAPHICAL INFORMATION SYSTEMS (GIS)

COURSE LEADER	**Svein Reid**
TARGET GROUP	The course is introductory, for persons with none to some practical experience in GIS/ GI/ cartography, wanting to learn the basics in using GIS for statistics production and analysis.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions. ▪ Basic computer skills. ▪ None to a little knowledge of GIS, but with plans to use GIS in their work.
OBJECTIVE(S)	▪ To provide the participants with a basic understanding of how to produce statistics with the use of geocoded statistical registers and map databases. Emphasis is on the use of Vector data and Vector tools, but we will also touch into the use of Raster tools and Raster data. We will be using the Open Source GIS-tool QGIS.
CONTENTS	▪ Introduction to geodata and GIS - What is GIS? Spatial data models (Vector/Raster), Coordinate systems, Topology, Quality ▪ Getting to know QGIS ▪ Statistics and Geodata, the greater picture ▪ Thematic mapping: - Map elements and cartographic theory - Creating a thematic map in QGIS - Interactive <> static maps ▪ Vector Grid statistics: - Basics and Production line for aggregated approach ▪ Introduction to Spatial Analysis: - Geoprocessing, Network analysis, Raster analysis. ▪ Automating our GIS-processes, introduction: - Scripting in Python - Graphic Modeler
EXPECTED OUTCOME	The participants should have a good understanding on how to integrate geography in the statistical production.

TRAINING METHODS	▪ Lectures and Presentations ▪ Hands-on exercises in QGIS using pre-recorded video tutorials. ▪ Assignment ▪ Exchange of views/experiences
REQUIRED READING	"A gentle introduction to GIS" :chapters 2, 3 & 4 English version https://docs.qgis.org/3.28/en/docs/gentle_gis_introduction/
SUGGESTED READING	"A gentle introduction to GIS" :chapters 5 - 11 English version https://docs.qgis.org/3.28/en/docs/gentle_gis_introduction/ *Explore* http://www.efgs.info/ *and especially "information base"*
REQUIRED PREPARATION	We recommend that participants bring and use their own laptops at the course, with QGIS already installed. • QGIS software is completely free. • Download and install version 3.28.x or newer (**L**ong **T**erm **R**elease version), from https://qgis.org/en/site/forusers/download.html# • All course data and video tutorials (~2 Gb) will be shared with the participants before the course, and must be downloaded before course start. Detailed instructions will be sent to the participants. Statistics Norway will provide course laptops for participants if need be, but will need prior notice.
TRAINER(S)/ LECTURER(S)	Svein Reid, Statistics Norway Erik Engelien, Statistics Norway

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
04-07.06.2024	4 days	Oslo, Statistics Norway	Statistics Norway	**Deadline: 04.05.2024**

LOW RESPONSE RATE: WHAT TO DO?	
COURSE LEADER	**Barry Schouten**
TARGET GROUP	▪ All NSIs staff dealing with data collection facing non-response, either unit non-response where entire units intended to be collected are missing or item non-response where some items of otherwise responding units are missing.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ An academic degree with some knowledge of statistics (social science, statistics, economics), especially multivariate statistics ▪ Some basic knowledge of survey sampling and statistical modelling.
OBJECTIVE(S)	▪ The main objective of the courses is to enhance the theoretical and practical knowledge related to the treatment of unit non-response and item non-response. In particular, participants will gain knowledge on weighting techniques in order to deal with unit non-response and imputation techniques in order to deal with item non-response. For unit-nonresponse, participants will also learn about up to date monitoring of data collection and application of adaptive survey designs.
CONTENTS	▪ The course covers both person and household surveys and business surveys; ▪ The non-response problem. Definition of non-response, causes of non-response, types of non-response (unit, item), calculation of response rates; ▪ Some mathematical background, models for non-response, effects of non-response on bias, confidence intervals, MCAR (Missing Completely at Random), MAR (Missing at Random), NMAR (Not Missing at Random); ▪ How to detect non-response bias, role of auxiliary information. Selection of important auxiliary variables; ▪ Monitoring of unit-nonresponse and adaptive survey designs; ▪ Correcting afterwards for unit non-response, weighting adjustment techniques (post-stratification, linear weighting, multiplicative weighting, calibration, propensity score method), central-question-approach, re-sampling non-respondents; ▪ Correcting afterwards for item non-response: mean/mode imputation, (hot-deck and cold-deck) donor imputation, regression imputation, predictive mean matching, longitudinal imputation (panel data), last information carry forward; ▪ Communication to different user groups on the level of non-response, on the correction methods applied and on the impact on accuracy of results. ▪ Integration of the treatment of unit- and item-nonresponse methods

	▪ Gaining experience through realistic, practical computer exercises
EXPECTED OUTCOME	▪ Good understanding of the non-response problem. Knowledge of correction methods for unit and item non-response, and the ability to apply these methods in practice.
TRAINING METHODS	▪ Lectures about non-response problems and correcting methods for unit and item non-response ▪ Some practical cases ▪ Practical exercises based on real data sets ▪ Reading material (course books + additional papers)
REQUIRED READING	None
SUGGESTED READING	▪ Jelke Bethlehem, Fannie Cobben & Barry Schouten (2011), Handbook of Non-response in Household Surveys. Wiley & Sons, Hoboken, NJ ▪ Little, R.J.A. and D.B. Rubin (2002), Statistical Analysis with Missing Data (second edition). John Wiley & Sons, New York. ▪ Schouten, B., Peytchev, A., Wagner, J. (2017), Adaptive Survey Design, Chapmann & Hall
REQUIRED PREPARATION	Participants are invited to sketch non-response in their own organisation, both unit non-response as well as item non-response: magnitude, treatment, etc. Participants are also invited to present their own survey case studies and list questions they may have. These will receive extra attention in the course.
TRAINER(S)/ LECTURER(S)	Prof. dr. Barry Schouten (Statistics Netherlands) Prof. dr. Ton de Waal (Statistics Netherlands)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
25-26.06.2024	2 days	**The Hague, Netherlands**	ICON-INSTITUT Public Sector	**Deadline: 29.04.2024**

Monetary environmental accounts – Part I (webinars)	
COURSE LEADER	**Sjoerd SCHENAU**
TARGET GROUP	1. Junior statisticians of environmental statistics or environmental accounts departments involved in compiling data on Environmental Goods and Services Sector (EGSS) Accounts, Environmental protection expenditure accounts (EPEA), environmental taxes or environmental subsidies and other transfers. 2. Specialists in one of the areas listed above who need to improve their knowledge of the other areas listed above. 3. Managers with responsibility on several or all the areas listed above.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Responsibilities include environmental statistics and/or accounts
OBJECTIVE(S)	The course will provide participants with training on the compilation of SEEA-CF monetary environmental accounts as requested by Regulation 691/2011 on European environmental economic accounts (amended by Regulation 538/2014). It's an overall introduction to the different accounts, including relevant definitions, classifications, and approaches to compilation will be covered.
CONTENTS	**Webinar 1: Session overview and common methodology (90 minutes)** ▪ Brief introduction to SEEA CF and monetary environmental accounts ▪ Policy needs and applications of environmental accounts, headline indicators ▪ Introduction to the reporting framework and priorities: Regulation 691/2011, Voluntary data reporting, the European Strategy for Environmental Accounts and eDAMIS and SDMX reporting ▪ Overview of the existing monetary environmental accounts in the EU by module. ▪ Quality assurance and reporting ▪ Eurostat's data validation **Webinar 2: Session overview and common methodology (90 minutes)** ▪ Key national accounts concepts and definitions and accounting rules relevant for monetary environmental accounts ▪ Relevant standard statistical classifications ▪ Generic definition of environmental activities and their classification(s) ▪ Environmental products and environmental producers – definitions and typology **Webinar 3: Introduction to EPEA and EGSS and work towards an integrated framework for monetary environmental accounts (90 minutes)**

	▪ EPEA and EGSS accounts : Purpose and scope, Basic definitions and aggregates, Reporting frameworks, Key common points and differences ▪ Possible integrated data compilation and work towards an integrated framework ▪ Key indicators, links to other environmental accounting modules ▪ Country examples
EXPECTED OUTCOME	Better understanding of monetary environmental accounts and their concepts and classifications.
TRAINING METHODS	▪ Webinar: presentations, Q&A, interactive quizzes
REQUIRED READING	▪ Regulation 691/2011 on European environmental economic accounts and Regulation 538/2014 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:192:0001:0016:EN:PDF http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0538&from=EN ▪ SEEA-CF Chapter IV https://unstats.un.org/unsd/envaccounting/seeaRev/SEEA_CF_Final_en.pdf • Relevant Eurostat questionnaires https://ec.europa.eu/eurostat/web/environment/methodology
SUGGESTED READING	▪ For the integrated framework, reference documents are: https://seea.un.org/sites/seea.un.org/files/briefing_note_for_unceea_-_integrated_framework_sv_002.pdf and https://seea.un.org/sites/seea.un.org/files/seea_paper_integrated_framework_estat_v5.pdf ▪ Draft UNSD technical notes on EGSS and EPEA: https://seea.un.org/sites/seea.un.org/files/seea_technical_note_-_egss_july_8_2016_draft.pdf

	https://seea.un.org/sites/seea.un.org/files/seea_techncial_note_-_epea_jan_2017_draft.pdf ▪ Relevant Eurostat compilation manuals EPEA: https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-GQ-17-004 EGSS: https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-GQ-16-008 Environmental subsidies and transfers: https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-GQ-15-005-EN-N Environmental taxes: https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-GQ-13-005
REQUIRED PREPARATION	none
TRAINER(S)/ LECTURER(S)	Sjoerd SCHENAU (Statistics Netherlands) Niels SCHOENAKER (Statistics Netherlands) Jocelyn van BERKEL (Statistics Netherlands)

PRACTICAL INFORMATION

WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
04, 11, 18.04.2024	3 webinars	Webinar	ICON-INSTITUT Public Sector GmbH	**Deadline: 19.02.2024**

MONETARY ENVIRONMENTAL ACCOUNTS – PART II

COURSE LEADER	**Sjoerd SCHENAU**
TARGET GROUP	1. Junior statisticians of environmental statistics or environmental accounts departments involved in compiling data on Environmental Goods and Services Sector (EGSS) Accounts, Environmental protection expenditure accounts (EPEA), environmental taxes or environmental subsidies and other transfers. 2. Specialists in one of the areas listed above who need to improve their knowledge of the other areas listed above 3. Managers with responsibility on several or all the areas listed above.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Responsibilities include environmental statistics and/or accounts
OBJECTIVE(S)	The course will provide participants with training on the compilation of SEEA-CF monetary environmental accounts as requested by Regulation 691/2011 on European environmental economic accounts (amended by Regulation 538/2014). Both a brief, overall introduction to the different accounts, including relevant definitions, classifications, and approaches to compilation will be covered. Introductions to each of the 3 main accounts, Environmental Taxes, EGSS, EPEA, plus some relevant extensions such as environmental subsidies and related transfers and ReMEA (resource management expenditure accounts) will be in focus. The course will make emphasis in putting together the practical difficulties that participants have in their offices to produce the monetary environmental accounts and discussing solutions and best practices.
CONTENTS	**Session on EGSS** ▪ Recap of the webinar: Framework for EGSS: purpose, basic definitions and units of measure, key indicators, Defining the scope of the environmental goods and services sector, Eurostat data requirements ▪ Basic approaches to measure EGSS. Source data and compilation methods ▪ Country example (prepared by one of the participants) ▪ Practical challenges and how to address them (group discussion) ▪ How to fill in the Eurostat EGSS questionnaire, pre-validation checks and key references (recap) ▪ Exercise and/or quiz ▪ Q&A **Session on EPEA** ▪ Recap of the webinar: Framework for EPEA. Objectives. Definitions. Methodologies, Eurostat data requirements ▪ Basic approaches to compile EPEA. Source data for EPEA. Compilation methods. Balancing of the supply and use side.

	▪ Country example (prepared by one of the participants) ▪ Practical challenges and how to address them (group discussion) ▪ How to fill in the Eurostat EPEA questionnaire, validation checks (including with EGSS) and key references (recap) ▪ Compilation of the main aggregate NEEP ▪ Exercise and/or quiz ▪ Q&A **Session on Environmental taxes, subsidies and other transfers** ▪ Environmental taxes: Concepts, definitions and breakdowns, Eurostat's questionnaire, CO2 taxes and reporting of government revenue relating to emissions permits, Sources and compilation methods, Practical challenges. ▪ Environmental subsidies and other transfers: Concepts, definitions and breakdowns, Eurostat's questionnaire, Sources and compilation methods for env. subsidies and other transfers. Practical challenges. ▪ Exercise and/or quiz
EXPECTED OUTCOME	Better understanding of monetary environmental accounts and basic knowledge on how to compile international questionnaires. Identification of possible solutions to practical challenges in the participants' home offices
TRAINING METHODS	▪ Presentations and lectures ▪ Exchange of views/experiences on national practices. Debate with participants of which are their challenges, putting in common possible solutions, discuss strengths and weaknesses, identify the solution that works best for each participant. ▪ Exercises and quizzes
REQUIRED READING	▪ Regulation 691/2011 on European environmental economic accounts and Regulation 538/2014 http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:192:0001:0016:EN:PDF http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0538&from=EN ▪ SEEA-CF Chapter IV https://unstats.un.org/unsd/envaccounting/seeaRev/SEEA_CF_Final_en.pdf • Relevant Eurostat questionnaires https://ec.europa.eu/eurostat/web/environment/methodology

SUGGESTED READING	▪ For the integrated framework, reference documents are: https://seea.un.org/sites/seea.un.org/files/briefing_note_for_unceea_-_integrated_framework_sv_002.pdf and https://seea.un.org/sites/seea.un.org/files/seea_paper_integrated_framework_estat_v5.pdf ▪ Draft UNSD technical notes on EGSS and EPEA: https://seea.un.org/sites/seea.un.org/files/seea_technical_note_-_egss_july_8_2016_draft.pdf https://seea.un.org/sites/seea.un.org/files/seea_techncial_note_-_epea_jan_2017_draft.pdf ▪ Relevant Eurostat compilation manuals EPEA: https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-GQ-17-004 EGSS: https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-GQ-16-008 Environmental subsidies and transfers: https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-GQ-15-005-EN-N Environmental taxes: https://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-GQ-13-005
REQUIRED PREPARATION	▪ Bring description of the EU required reporting for EGSS, EPEA, environmental taxes that your country does and identify at least one thing that needs improvement in each of these accounts (Hint: see quality reports!) ▪ Bring a list of conceptual and compilation challenges in each participant's country for the monetary environmental accounts covered in the course.
TRAINER(S)/ LECTURER(S)	Sjoerd SCHENAU (Statistics Netherlands); Niels SCHOENAKER (Statistics Netherlands); Jocelyn van BERKEL (Statistics Netherlands)

PRACTICAL INFORMATION

WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
05-06.06.2024	2 days	The Hague, Netherlands	ICON-INSTITUTE	**Deadline: 15.04.2024**

NATIONAL ACCOUNTS - ADVANCED COURSE	
COURSE LEADER	**Tuomas ROTHOVIUS and Katri SOINNE**
TARGET GROUP	▪ Junior statisticians of National Accounts (NA) departments or statisticians of other statistical departments dealing with NA statistics.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Some experience in economic statistics (at least one year).
OBJECTIVE(S)	▪ The course aims at enhancing participants' theoretical and practical knowledge of National Accounts. They should become familiar with the system framework, the integration and balancing of source data and the presentation of national accounts data.
CONTENTS	▪ General features of the System of National Accounts (SNA, ESA) ▪ History of National Accounts ▪ Basic concepts ▪ Supply and Use Tables ▪ Volume measurement ▪ Non-financial sector accounts ○ Introduction ○ S11 ○ S12 ○ S13 ○ S14 ○ S15 ○ S2 (+ Balance of Payments) ▪ Financial sector accounts ▪ Productivity ▪ Quarterly national accounts ▪ Regional Accounts ▪ Satellite Accounts ▪ Administrative use of NA in the EU ▪ Future of National Accounts ▪ International Databases ▪ Presentations by main users of NA in Finland (Ministry of Finance, Bank of Finland, ETLA Economic Research, University of Helsinki) ▪ Introduction of some main data sources and their IT-systems as well as the NA data processing system in Statistics Finland
EXPECTED OUTCOME	▪ Good understanding of the System of National Accounts as well as relations between data sources and national accounts.
TRAINING METHODS	▪ Lectures and examples ▪ Exercises, discussions ▪ Group work

	▪ Exchange of experiences on national practices ▪ Presentations by visitors
REQUIRED READING	None
SUGGESTED READING	▪ ESA2010 Chapter 1 ▪ SNA2008 Chapters 1 and 2
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Mr Tuomas Rothovius (Statistics Finland) Ms Katri Soinne (Statistics Finland) Mr Timo Ristimäki (Statistics Finland) Mr Ville Lindroos (Statistics Finland) Mr Pekka Tamminen (Statistics Finland) Ms Nata Kivari (Statistics Finland) Mr Tapio Kuusisto (Statistics Finland) Mr Teemu Koskiniemi (Statistics Finland) Mr Jukka Pyylampi (Statistics Finland) Ms Marja Sauli (Statistics Finland)) Ms Riikka Tupala (Statistics Finland) Ms Katriina Tiainen (Statistics Finland) Mr Hans Wouters (Statistics Netherlands) Mr Sixto Muriel de la Riva (INE Spain) Mr Carlos J. Valero Rodríguez (INE Spain) Mr Andrés García Carreira (INE Spain)

PRACTICAL INFORMATION

WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
05-14.11.2024	8 days	Helsinki, Finland	ICON-INSTITUT Public Sector GmbH	**Deadline: 09.09.2024**

NATIONAL ACCOUNTS - INTRODUCTORY COURSE	
COURSE LEADER	**Tuomas ROTHOVIUS and Katri SOINNE**
TARGET GROUP	▪ Junior statisticians of National Accounts (NA) departments or statisticians of other statistical departments dealing with NA statistics.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions
OBJECTIVE(S)	▪ The course aims at enhancing participants' theoretical and practical knowledge of National Accounts. They should become familiar with the system framework, the integration and balancing of source data and the presentation of national accounts data.
CONTENTS	▪ General features of the System of National Accounts (SNA, ESA) ▪ History and future of National Accounts ▪ Basic concepts ▪ Supply and Use Tables ▪ Volume measurement ▪ Non-financial sector accounts ▪ Financial sector accounts ▪ Quarterly national accounts ▪ Regional Accounts ▪ Satellite Accounts ▪ Administrative use of NA in the EU
EXPECTED OUTCOME	▪ Good understanding of the System of National Accounts as well as relations between data sources and national accounts.
TRAINING METHODS	▪ Lectures and examples ▪ Exercises, discussions ▪ Group work ▪ Exchange of experiences on national practices
REQUIRED READING	None
SUGGESTED READING	▪ ESA2010 Chapter 1 ▪ SNA2008 Chapters 1 and 2
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Mr Tuomas Rothovius (Statistics Finland) Ms Katri Soinne (Statistics Finland) Mr Ville Lindroos (Statistics Finland)

	Mr Pekka Tamminen (Statistics Finland) Mr Teemu Koskiniemi (Statistics Finland) Mr Timo Ristimäaki (Statistics Finland) Mr Samu Hakala (Statistics Finland) Mr Ville Huhtala (Statistics Finland) Mr Tapio Kuusisto (Statistics Finland) Leo Hiemstra (CBS Netherlands) Antonia Martínez Luengo (INE Spain) Carlos Valero Rodríguez (INE Spain) Sixto Muriel de la Riva (INE Spain) Andrés García Carreira (INE Spain)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
13-16.05.2024	4 days	Helsinki, Finland	ICON-INSTITUT Public Sector GmbH	**Deadline: 18.03.2024**

OPEN DATA, OPEN SOURCE AND REPRODUCIBILITY OF STATISTICAL ALGORITHMS

COURSE LEADER	**Puts, Marco & Mussmann, Ole**
TARGET GROUP	Data Scientists, Statisticians, IT.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Basic programming knowledge in Python
OBJECTIVE(S)	▪ Objective is to teach the participants how to use open source and open data.
CONTENTS	- Using open data: standards and tools to link open data - Using and creating open source - Licencing types - Introduction to GIT - Code versioning and Markdown Language - Introduction to notebooks - Running environments
EXPECTED OUTCOME	The participants should be able to use open data, know how to use open source and understand the different licences under which open data and open source are published. The participants should be able to use GIT and know environments like gitlab and github. They also know how to document using markdown languages.
TRAINING METHODS	▪ Presentations, lectures and Exercises
REQUIRED READING	None
SUGGESTED READING	None
REQUIRED PREPARATION	Basic knowledge of Git and Python are necessary. If not present, the participant should follow the basic courses on git and python on codecademy
TRAINER(S)/ LECTURER(S)	Ole Mussmann, Marco Puts

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
4-6.06.2024	3 days	The Hague, Netherlands	ICON INSTITUTE Public Sector GmbH	**Deadline: 08.04.2024**

OUTPUT CHECKING IN RESEARCH DATA CENTRES	
COURSE LEADERS	**Annu Cabrera**
TARGET GROUP	The course is intended for staff checking output that was created by external researchers or output from varying statistical analyses created by colleagues in statistical offices.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions
OBJECTIVE(S)	▪ The objective of this course is to introduce participants to the practice of output checking for confidentiality risks. The course focuses on output that is generated by researchers from official microdata. In most cases researchers will have had access to microdata through the Research Data Centre of the data producer to produce the output. The participants will be invited to bring their own case studies for discussion in the training.
CONTENTS	▪ Review of statistical disclosure control methodology; ▪ Approaches for checking tabular output and non-tabular output; ▪ Researcher training; ▪ Practical case studies from MS; ▪ Software example
EXPECTED OUTCOME	Better understanding of theory and methods used when statistical output that has been created by researchers is checked for statistical confidentiality.
TRAINING METHODS	▪ The course programme is a mix of theory and practice with an emphasis on the practical use of the tools. The following training methods will be used: ▪ Presentations and lectures ▪ Demonstration of the recommended software tools ▪ Hands-on software session allowing participants going through the whole census protection process ▪ Exchange of views/experiences on national practices
REQUIRED READING	None
SUGGESTED READING	Guidelines for Output Checking Statistical Disclosure Control (2012) by A. Hundepool, J. Domingo-Ferrer, L. Franconi, S. Giessing, E. Schulte Nordholt, K. Spicer and P.P. de Wolf, Wiley Series in Survey Methodology, ISBN 978-1-1199-7815-2

REQUIRED PREPARATION	Participants will be required to bring and present two examples of output for discussion in the training. These should be two outputs that they themselves or colleagues have checked in their Statistical Institute and found challenging or interesting or that illustrate a rule of output checking.
TRAINER(S)/ **LECTURER(S)**	Annu Cabrera (Statistics Finland) Eric Schulte Nordholt (Statistics Netherlands) Peter-Paul de Wolf (Statistics Netherlands)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
09–10.10.2024	2 days	Helsinki, Finland	ICON INSTITUTE Public Sector GmbH	**Deadline: 12.08.2024**

PHYSICAL ENVIRONMENTAL ACCOUNTS	
COURSE LEADER	**Jasmin Gülden-Sterzl**
TARGET GROUP	• Statisticians involved in compiling data on economy-wide material flow accounts (EW-MFA), air emission accounts (AEA) or physical energy flow accounts (PEFA) under Regulation (EU) 691/2011. • Specialists in one of the areas listed above who need to improve their knowledge of the other areas listed above. • Managers with responsibility on several or all the areas listed above
ENTRY QUALIFICATIONS	• Sound command of English (passive and actively). Participants should be able to make short interventions and presentations and to actively participate in discussions and group exercises (e.g. PowerPoint or flip chart presentations). • Basic knowledge on energy statistics, national accounts, environmental economic accounting on national level
OBJECTIVE(S)	The course will provide participants with information on theory (methodological framework) and practical challenges in the context of the compilation of Physical Environmental Accounts (Eurostat questionnaires).
CONTENTS	Session overview (circa ½ day) • Introduction to the international statistical standard 'System of Environmental Economic Accounting (SEEA CF)' with an emphasis on physical environmental accounts. • Applications and political needs of environmental accounts. • Existing physical environmental accounts in the EU: EW-MFA, PEFA, AEA. Brief reference to water accounts. Brief reference to asset accounts (e.g. water, subsoil assets). • European Strategy for Environmental Accounts. Regulation 691/2011 and voluntary data in Eurostat data collections. Session on air emissions accounts - AEA (circa ½ day) • Methodological framework for AEA. Definitions • Classifications • Eurostat data requirements: AEA questionnaire and how to fill it, obligatory parts for Regulation 691/2011 and voluntary parts. • Basic approaches to compile AEA. Source data. • Compilation methods: inventory-first approach, energy first approach. Bridge tables. Practical challenges. • Practical examples

	Session on physical energy flow accounts - PEFA (circa ½ day) • Methodological framework for PEFA. Overview of set of tables. Definitions. Methodologies • Classifications. Delegated act 2016/172 on energy products for PEFA • Eurostat data requirements: questionnaire on PEFA and how to fill it, obligatory parts for Regulation 691/2011 and voluntary parts • Source data for PEFA (IEA/Eurostat annual questionnaires for energy statistics). Introduction to compilation tools (PEFA-Builder). Practical challenges • Practical examples Session on economy-wide material flow accounts - EW-MFA (circa 1 day) • Methodological framework for EW-MFA. Overview of set of tables. Concept, definitions, methods, challenges. • Classifications • Eurostat data requirements: questionnaire on EW-MFA accounts and how to fill it, obligatory parts for regulation 691/2011 and voluntary parts • Concepts, methods, data, estimations, and challenges on the compilation of DE, trade, RME, and DPO. • Basic approaches to compile the EW-MFA questionnaire tables. • Practical challenges • Practical examples • Introduction to MFA-RME Session on common elements and compilation challenges (circa ½ day) • Footprints (consumption-based accounting) • Accounting of international flows • Allocation of emissions and energy uses to NACE industries and households Session on communication and dissemination (circa ½ day) • Using environmental accounts data for policy needs • Presentations and interpretations of physical environmental accounts data • Environmental accounts data complementing other data sources about environment.
EXPECTED OUTCOME	Better understanding of Physical Environmental Accounts and basic knowledge on how to compile international questionnaires.

TRAINING METHODS	• Presentations and lectures • Exchange of views/experiences on national practices • Exercises
REQUIRED READING	Copies of the presentation materials.
SUGGESTED READING	Reference material (handbooks, questionnaires, etc.) is found in: http://ec.europa.eu/eurostat/web/environment/methodology
REQUIRED PREPARATION	n/a
TRAINER(S)/ LECTURER(S)	Jasmin Gülden Sterzl (Statistics Austria) Sacha Baud (Statistics Austria) Milla Neubauer (Statistics Austria)

PRACTICAL INFORMATION

WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
27–30.05.2024	3,5 days	On-line	ICON-INSTITUT Public Sector GmbH	**Deadline: 02.04.2024**

Planning and producing simple statistical products to improve statistical literacy for a wide audience

COURSE LEADER	**Thomas Ruigrok**
TARGET GROUP	Staff drafting /writing statistical texts and articles for publications, the web or any other type of product. Staff working in the communication/dissemination/press departments with the role of promoting the widest possible dissemination and use of official statistics.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions
OBJECTIVE(S)	The content produced by a statistical organisation is essentially facts and figures. This course will explain how you can translate it to a more understandable and simple way and reach everybody outside the statistical world. Writing in a clear, concise and simple manner while avoiding statistical jargon
CONTENTS	• How to write a simple text, understandable for a wide audience with limited knowledge of statistics based on the figures that your organisation produces • You will learn how to produce your organisation's content in a platform-independent and simple newsworthy way, ensuring that a wide audience understands statistical content. This will be done using content produced by CBS • How do I write an attractive headline which explains the statistical text in a nutshell • Learn how to plan statistical news far in advance • You will learn about the various means of content visualisation (infographic, video, animation, etc.) • How can we involve social media in dissemination of statistics in a simple way • Role of spokesperson
EXPECTED OUTCOME	Participants will have more knowledge of how to design and write texts about official statistics addressed to a wide audience in a way that everybody reading understands statistics.
TRAINING METHODS	▪ Presentations with lively examples ▪ Exchange of views/experiences on national practices ▪ Exercises ▪ Tour on the Floor and Studio
REQUIRED READING	None

SUGGESTED READING	None
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Thomas Ruigrok (Course leader)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
12–13.06.2024	2 days	The Hague, Netherlands	ICON INSTITUTE Public Sector GmbH	Deadline**: 15.04.2024**

PRESENTATION, FACILITATION AND CONSULTATION SKILLS FOR STATISTICAL TRAINERS – ADVANCED COURSE	
COURSE LEADER	**Duncan Miles**
TARGET GROUP	Designed for all those who are engaged in providing statistical, technical and analytical training, giving statistical, technical and analytical presentations, providing statistical, technical and analytical consulting and facilitating group sessions with statistical and non-statistical audiences
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Participation on the 'Introductory' programme is strongly recommended prior to attending this advanced course. Participants will be expected to prepare a couple of short training presentations prior to the course.
OBJECTIVE(S)	▪ To provide participants engaged in statistical, technical and other analytical training, presentations, consulting and facilitating group discussions with enhanced levels of competence and the expertise required to be effective in understanding and managing groups and individuals. It provides excellent insights into 'statistical consulting' which is frequently part of the statistical trainers' role.
CONTENTS	The course will focus on: ▪ The theory of Group Dynamics ▪ Personal impact and understanding processes to address situations which we find challenging ▪ Methods and techniques for improving training, presentation, consultation and facilitation skills ▪ Key strategies that will increase effectiveness, engagement and participation ▪ Managing anxiety in ourselves and others ▪ Strategies for managing upsets that occur ▪ Developing an outline action plan to implement their learning
EXPECTED OUTCOME	By the end of the course participants will be able to: ▪ Understand Group Dynamics theory ▪ Enhance personal impact by understanding processes to address situations which we find challenging ▪ Identify further ways of improving training, presentation, consultation and facilitation skills

	▪ Understand six insightful perspectives (lenses) of facilitation and training ▪ Identify strategies that will increase effectiveness, engagement and participation ▪ Understand how to manage anxiety in ourselves and others ▪ Identify additional strategies for managing upsets that occur ▪ Develop an outline action plan to implement their learning ▪ Network and share best practice among different countries ▪ Encourage both the theoretical and practical learning and development and encourage the exchange of know-how and experience ▪ Harmonisation of approaches and methodology for presenting and training statistical and non-statistical client groups ▪ Help meet the challenges of comparable statistics at European and international level by enhancing the way statistical information is communicated and presented
TRAINING METHODS	This highly interactive programme includes a variety of learning processes and techniques including: presentation / lecture, group work, self-directed individual and group learning, exchange of views/experiences on national practices, reading, presentation practice and feedback, and coaching. Teaching aids and methods will include a wide range of interactive training aids, tools and methodologies eg presentation, pre-prepared flip-charts; mind maps; notes; DVD recordings etc.
REQUIRED READING	None
SUGGESTED READING	None. (Additional reading materials will be supplied post course to enhance on-going developmental opportunities and encourage on-going networking and support between participants. Free on-going verbal implementation of learning coaching will be provided by the trainers to participants).
REQUIRED PREPARATION	Participants will be expected to prepare a couple of short training presentations prior to the course. Further details will be sent to participants in advance of the course.
TRAINER(S)/ LECTURER(S)	Duncan Miles (Inspire); Denis Greer (Inspire)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
05–07.11.2024	3 days	Cologne, Germany	ICON INSTITUTE	Deadline**: 09.09.2024**

PRESENTATION, FACILITATION AND CONSULTATION SKILLS FOR STATISTICAL TRAINERS – INTRODUCTORY COURSE	
COURSE LEADER	**Duncan Miles**
TARGET GROUP	Designed for all those who are engaged in providing statistical, technical and analytical training, giving statistical, technical and analytical presentations, providing statistical, technical and analytical consulting and facilitating group sessions with statistical and non-statistical audiences
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ No previous knowledge is required for attendance of this course.
OBJECTIVE(S)	▪ Designed for all those who are engaged in providing statistical, technical and analytical training, giving statistical, technical and analytical presentations, providing statistical, technical and analytical consulting and facilitating group sessions with statistical and non-statistical audiences. Courses will provide attendees with the competences required to be effective when training/teaching colleagues in statistical, technical and analytical topics. Specific details can be seen under 'Outcomes' below.
CONTENTS	The course will focus on: ▪ Principles of adult learning ▪ The training cycle ▪ The key principles of effective course design, delivery and evaluation ▪ Understand how to manage your own anxiety ▪ Engaging participants/trainees ▪ Identify strategies for managing upsets that occur ▪ Develop of an outline action plan to implement their learning including on-going areas for development
EXPECTED OUTCOME	▪ Understanding of the key principles of adult learning and staff development ▪ Understanding the different learning styles and learning theories ▪ Understanding the training cycle ▪ Understanding the principles of an effective needs' analysis ▪ Implementation of the key principles of effective course and presentational design, delivery and evaluation ▪ Creative thinking and delivery methods

	▪ Strategies to help manage your own anxiety and anxiety in others ▪ Strategies to ensure participation of trainees ▪ Strategies for managing upsets that occur ▪ A network of international colleagues to support / coach and challenge ▪ Training presentation skills practise and individual feedback ▪ An outline action plan to implement their learning including ongoing areas for development ▪ Networking and sharing of best practice among different countries ▪ Encouraging both the theoretical and practical learning and development and encouraging the exchange of know-how and experience ▪ Harmonisation of approaches and methodology for presenting and training statistical and non-statistical client groups ▪ Help meet the challenges of comparable statistics at European and international level by enhancing the way statistical information is communicated and presented
TRAINING METHODS	This highly interactive programme includes a variety of learning processes and techniques including: presentation / lecture, group work, self-directed individual and group learning, exchange of views/experiences on national practices, reading, presentation practice and feedback, and coaching. Teaching aids and methods will include a wide range of interactive training aids, tools and methodologies eg presentation, pre-prepared flip-charts; mind maps; notes; DVD recordings etc.
REQUIRED READING	None
SUGGESTED READING	None. (Additional reading materials will be supplied post course to enhance on-going developmental opportunities and encourage on-going networking and support between participants. Free on-going verbal implementation of learning coaching will be provided by the trainers to participants).
REQUIRED PREPARATION	Participants will be expected to prepare a couple of short training presentations prior to the course. Further details will be sent to participants in advance of the course.
TRAINER(S)/ LECTURER(S)	Duncan Miles (Inspire) and Denis Greer (Inspire)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
03–05.09.2024	3 days	Cologne, Germany	ICON INSTITUTE Public Sector GmbH	**Deadline: 08.07.2024**

PRIVATELY HELD DATA – TOOLS AND TECHNIQUES	
COURSE LEADER	**Christian Kauth**
TARGET GROUP	Official Statisticians wishing to develop a toolbox for data acquisition with respect to privately held data at national level.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Active or passive knowledge of Python and HTML/CSS is beneficial. Participants may choose to either actively code the exercises or to passively learn from the provided solutions.
OBJECTIVE(S)	This course shall democratize the accessibility of privately held data and valorisation thereof ▪ Get to know the techniques and tools to access privately held data ▪ Understand the stages of data valorisation pipelines, including data storage and accessibility ▪ Familiarize with the European Data Strategy and Digital Strategy ▪ Experiment with web-crawling, web-scraping, web-automation and API interfacing techniques ▪ Gain hands-on experience with diverse data mining techniques from privately held data sources
CONTENTS	▪ Demystification of the techniques and tools involved in data access ▪ Data valorisation pipeline, stages, architectures and accessibility (MongoDB database, Swagger& OpenAPI design) ▪ Pillars, instruments, stakeholders and enablers of the European Data Strategy ▪ Introduction to web-crawling (Scrapy), web-scraping (Beautiful Soup), web-automation (Selenium) and API interfacing (Swagger) ▪ Lab sessions: Data mining from privately held data sources ▪ Development of data miners for news (rtl.lu), reviews (yelp.com), tourism (airbnb.com), and social media (twitter.com)
EXPECTED OUTCOME	The participants will understand the current data landscape and undertakings of the European data and digital strategies. They will know the techniques and tools involved in the stages of a data processing pipeline, from privately held data access to data valorization. Participants will have witnessed how artificial intelligence,

	blockchain and storage infrastructure benefit data management and have acquired hands-on experience (either through active coding or passive understanding of the provided solutions) with privately held data on news sites (rtl.lu), review sites (yelp.com), tourism (airbnb.com), and social media (twitter.com). Participants will learn how to store scraped data to databases (MongoDB) and make it accessible (REST API).
TRAINING METHODS	▪ Presentations and lectures (50%) ▪ Exchange of views/experiences (10%) ▪ Guided Hands-on Lab sessions (40%)
REQUIRED READING	None
SUGGESTED READING	None
REQUIRED PREPARATION	• Register for free to the Google Colaboratory (use personal login) https://colab.research.google.com/
TRAINER(S)/ LECTURER(S)	Christian Kauth

1st edition

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
22–24.04.2024	3 days	Cologne, Germany	ICON INSTITUTE	Deadline**: 26.02.2024**

2nd edition

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
27–29.11.2024	5 days	Cologne, Germany	ICON INSTITUTE	Deadline**: 30.09.2024**

QUALITY FRAMEWORK, PROCESS AND PRODUCT QUALITY MEASUREMENT – ADVANCED COURSE

COURSE LEADER	**Gabriele ASCARI**
TARGET GROUP	Staff of national statistical institutes involved in statistical production processes and in quality management.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions. ▪ Entry competences required: University degree or equivalent. ▪ Basic knowledge of survey process and survey errors ▪ Basic knowledge of the ESS quality framework (or participation in the "Quality management in statistical agencies - introductory course").
OBJECTIVE(S)	To provide participants with theory and practice of quality in Official Statistics, in particular process and product quality. To this purpose, a brief overview of the ESS quality framework is given. Then, the focus of the course shifts on process and product quality measurement. The statistical process is described and tools for preventing and reducing the errors are presented and discussed. Methods and tools to assess the effect of non-sampling errors such as coverage, measurement and nonresponse errors in statistical products are widely described.
CONTENTS	▪ ESS quality framework ▪ Process description and quality ▪ Quality and performance indicators ▪ Quality issues in statistics derived from survey data, administrative data or from multiple sources ▪ Product quality: ESS quality dimensions and their evaluation, Accuracy and errors, models for estimating the impact of non-sampling errors on estimates ▪ Quality assessment and reporting
EXPECTED OUTCOME	Increased knowledge on ESS quality management practices. Participants should become aware of the type of quality problems affecting statistical data and should develop the ability to plan a set of interventions in order to prevent, control and evaluate the errors that affect the accuracy of the statistics, taking into account other dimensions of quality as well. A strong network among colleagues within the same field for future cooperation and exchange of experiences.

TRAINING METHODS	▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Group works
REQUIRED READING	▪ European Statistics Code of Practice: https://ec.europa.eu/eurostat/documents/4031688/8971242/KS-02-18-142-EN-...
SUGGESTED READING	▪ Biemer P.P., Lyberg L.E. (2003) Introduction to Survey Quality. Wiley, New York. ▪ Quality Assurance Framework (QAF) of the European Statistical System. Version 2.0. https://ec.europa.eu/eurostat/documents/64157/4392716/ESS-QAF-V1-2final.pdf/bbf5970c-1adf-46c8-afc3-58ce177a0646 ▪ European Statistical System (ESS) handbook for quality and metadata reports — 2021 re-edition https://ec.europa.eu/eurostat/documents/3859598/13925930/KS-GQ-21-021-EN-N.pdf/143394de-e5a0-31ac-2c90-2aa9c15803f0?t=1639042312202 ▪ The Generic Statistical Business Process Model (GSBPM) v. 5.1 https://statswiki.unece.org/display/GSBPM/GSBPM+v5.1
REQUIRED PREPARATION	Although not mandatory, participants are invited to prepare in advance a short presentation on quality approaches, activities and tools adopted within their organisation. Some or all presentations (depending on the time available) will be selected to be discussed by the authors during the course.
TRAINER(S)/ LECTURER(S)	Course leader: Gabriele Ascari (Istat) G. Simeoni, M. Di Zio, D. Filipponi (Istat)

PRACTICAL INFORMATION

WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
07–09.05.2024	2,5 days	**ISTAT, Rome**	ICON-INSTITUT Public Sector GmbH	**Deadline: 11.03.2024**

QUALITY MANAGEMENT IN STATISTICAL AGENCIES

INTRODUCTORY COURSE

COURSE LEADER	**Maria João Zilhão**
TARGET GROUP	Employees of national statistical agencies involved in quality management, measurement and reporting.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Knowledge of basic quality issues and statistics production
OBJECTIVE(S)	▪ Participants will understand different quality concepts, European Statistical System (ESS) quality criteria, the European Statistics Code of Practice and its Common Quality Framework and know how to apply methods to measure quality concepts.
CONTENTS	The course explains the quality framework of the European Statistical System and studies the European quality tools and their implementation. It focuses on commonly accepted and widely used quality methods in the European context to enable the development to harmonize the statistics production in the European Statistical System. ▪ Definition of quality in statistics ▪ European Statistics Code of Practice (CoP) ▪ Main concepts of quality dimensions ▪ Product quality and quality reporting ▪ Tools for measuring product quality ▪ Process quality ▪ Tools for measuring process quality components (current methods, technical tools, auditing) ▪ Quality management and quality frameworks: Quality Assessment Framework (QAF), Common Assessment Framework (CAF), Total Quality Management (TQM)/ European Foundation for Quality Management (EFQM), International Standards Organisation (ISO 9001) ▪ Tools for measuring perceptions of various actors (self-assessments, customer satisfaction, public opinion, and staff opinion) ▪ Strategic management and policy
EXPECTED OUTCOME	Participants will understand different quality concepts, the European Statistics Code of

	Practice, and quality criteria, and know how to apply methods to measure quality concepts.
TRAINING METHODS	▪ Lectures and examples ▪ Group works, discussions ▪ Participant presentations (a few) and discussion together ▪ Exchange of experiences on national practices
REQUIRED READING	None
SUGGESTED READING	▪ European Statistics Code of Practice ▪ ESS Quality Assurance Framework ▪ ESS quality definition ▪ (see http://ec.europa.eu/eurostat/web/quality/overview)
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Maria João Zilhão (INE Portugal) Magda Ribeiro (INE Portugal) and Pedro Campos (INE Portugal)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
15-17.10.2024	3 days	**Lisbon, Portugal**	ICON-INSTITUT Public Sector GmbH	**Deadline: 05.08.2024**

R, PYTHON AND JULIA: DO YOU KNOW THEM ALL?	
COURSE LEADER	**Christian Kauth**
TARGET GROUP	Statistical production units and methodologists of NSIs, having an interest in data science tools and a basic understanding of development.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions
OBJECTIVE(S)	This course will enable you to pick your next top data-science programming language ▪ Know the characteristics of R, Python, Julia ▪ Understand the advantages of each language for different use-cases ▪ Ability read and modify a small program in each language
CONTENTS	▪ R, Python, Julia language, environment and tools ▪ Use-case specific comparisons (library maturity, community, speed, production) ▪ Implementation demo in each language of one same use-case that fetches, analyses and visualizes Eurostat data ▪ Demo of machine & deep learning use-case in each language
EXPECTED OUTCOME	The participants will know the main characteristics of each language and understand their respective advantages. They will know the common tools and are able to read and modify a small provided data-science related code.
TRAINING METHODS	▪ Presentations lectures (80%) ▪ Exercises (20%)
REQUIRED READING	None
SUGGESTED READING	None
REQUIRED PREPARATION	• Register for free to the Google Colaboratory https://colab.research.google.com/

TRAINER(S)/ LECTURER(S)	Christian Kauth (Independent expert)

1st Edition

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
11, 13 and 15 March 2024	3 sessions, 2h each	**ONLINE**	ICON-INSTITUT Public Sector GmbH	Deadline**: 29.01.2024**

2nd Edition

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
16, 18, 20.09.2024	3 sessions, 2h each	**ONLINE**	ICON-INSTITUT Public Sector GmbH	**Deadline: 05.08.2024**

RAPID ESTIMATES AND NOWCASTING	
COURSE LEADER	**Pim OUWEHAND**
TARGET GROUP	Staff of national statistical institutes involved in the production process who want to acquire a good understanding of nowcasting methods and practices
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Basic knowledge of time series analysis and statistics ▪ Basic knowledge of programming language R
OBJECTIVE(S)	▪ To provide the participants with a state of the art knowledge of the methodology and practice of nowcasting ▪ To introduce the participants to the use of R to produce nowcasts for their own series.
CONTENTS	▪ Overview of nowcasting: purpose, difference with forecasting, flash estimates, coincident and leading indicators, mixed frequency data, practical examples ▪ Brief review of time series analysis, including main concepts as trend cycle, seasonal, and regression components and related time-series issues such as stationarity, overfitting, outlier detection and cointegration ▪ Nowcasting process: data related issues, model selection, auxiliary data selection, cross validation, quality measures, trade-off between timeliness and accuracy, ▪ Nowcasting methods: naïve, Exponential Smoothing, (S)ARIMA(X)-models, bridge models, structural time series models, dynamic factor models, multivariate analysis, combining forecasts techniques ▪ Practical exercises using R
EXPECTED OUTCOME	Participants are expected to become familiar with the main methodologies used Nowcasting, understanding their potential and their limitations. After attending the course, they should also be able to implement those methods and cope with the issues that may arise in the practice of nowcasting, such as quality issues and data related issues.
TRAINING METHODS	▪ Presentations and lectures, practical examples ▪ Exchange of views/experiences on national practices ▪ Exercises

REQUIRED READING	None
SUGGESTED READING	▪ Hyndman,R.J., Athanasopulos, G., Forecasting, Principles and Practice, Chapter 8, https://otexts.com/fpp2/arima.html ▪ Commandeur, J.F. and S.J. Koopman (2007), An introduction to state space time series analysis, Oxford University Press ▪ Eurostat and United Nations (2017), Handbook on rapid estimates
REQUIRED PREPARATION	Participants should supply a brief document with information about their education, position, organisation and expectations of the course (max 200 words)
TRAINER(S)/ LECTURER(S)	Pim OUWEHAND (Statistics Netherlands) Bob LODDER (Statistics Netherlands) Frank P. PIJPERS (Statistics Netherlands)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
10-12.09.2024	3 days	**The Hague, The Netherlands**	ICON-INSTITUT Public Sector GmbH	**Deadline: 15.07.2024**

Sampling Issues in mixed mode data collection: from CAPI to CATI to CAWI

COURSE LEADER	**José Gouweleeuw and Kees van Berkel**
TARGET GROUP	NSI statisticians dealing with surveys faced with the challenge to change data collection methods such as mixed mode strategies and adaptive survey designs. Additionally they face the use of administrative data and big data in the survey design and weighting stage.
ENTRY QUALIFICATIONS	▪ Basic knowledge of statistics. ▪ Basic knowledge of programming in R. ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions.
OBJECTIVE(S)	▪ To learn state of the art techniques in survey sampling.
CONTENTS	▪ Sampling theory ▪ Errors in sample surveys ▪ Mixed mode strategies ▪ Adaptive survey design ▪ Use of administrative data and big data ▪ Estimating target variables with complex sampling designs
EXPECTED OUTCOME	Participants will understand different sampling techniques, the use of several data sources in survey designs; they can identify errors in sample surveys, and are able to estimate target variables.
TRAINING METHODS	▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Exercises
REQUIRED READING	None
SUGGESTED READING	▪ Särndal, Swensson and Wretman, Model Assisted Survey Sampling, Chapters 1, 2, 3. ▪ Schouten, Peytchev and Wagner, Adaptive Survey Design, Chapters 1, 2, 3.
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Kees van Berkel, José Gouweleeuw, Harm Jan Boonstra, Jan Van den Brakel, Joep Burger Arnout van Delden

PRACTICAL INFORMATION				
WHEN	**DUYRATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
25-27.09.2024	3 days	**The Hague, Netherlands**	ICON-INSTITUT Public Sector	**Deadline: 29.08.2024**

SCRAPING ONLINE DATA: SOURCES, TOOLS AND METHODOLOGIES. HANDS-ON ANALYSIS OF ONLINE JOB ADVERTISEMENTS	
COURSE LEADER	**Mauro Pelucchi**
TARGET GROUP	Official statisticians working on big data methodology, data science and in employment and education statistics, as well as other statistical domains which can profit from this data source.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Domain knowledge on Labour Market Intelligence ▪ Preliminary Big Data knowledge ▪ Familiarity with base analytical techniques ▪ Familiarity with base programming knowledge
OBJECTIVE(S)	▪ Understand how to collect Web Data regarding Online Job Vacancies and store them ▪ Understand of data processing techniques ▪ Understand the challenges and the issues of web data ▪ Base understand of data classification techniques on standard taxonomies and base understand of advanced techniques on taxonomies improvement
CONTENTS	▪ Landscaping the online job market ▪ OJV data ingestion (e.g.: source selection, ingestion techniques) ▪ Overview of web technology (HTML, CSS, JS, XPATH, ...); ▪ Scraping vs Crawling vs Search (including URLs discovery via surveys, search engines and crowdsourcing); ▪ Data extraction via API (HTTP messages, requests and response codes, POST, REST, JSON format, R package 'httr'); ▪ Data extraction via scraping tools; ▪ OJV data processing (e.g.: pipeline, vacancy detection, deduplication) ▪ Automatic classification of OJV data (e.g.: multi- language environment, feature extraction, classifiers) ▪ Text processing and multi-language environment ▪ Classification processes, feature extraction and machine learning ▪ Focus on occupation's categorization ▪ Focus on skill's categorization

	▪ Analysis of OJV data with the Big Data Science Workbench tools
EXPECTED OUTCOME	Sample script that extract Job Vacancies and other data from a web source, cleans them and prepare for analytical path
TRAINING METHODS	▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Exercises/DataLab
REQUIRED READING	None
SUGGESTED READING	None
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Mauro Pelucchi Colombo Ettore

2nd edition

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
07–11.10.2024	5 days	Cologne, Germany	ICON INSTITUTE Public Sector GmbH	Deadline**: 12.08.2024**

SEASONAL ADJUSTMENT FOR TRUSTED SMART STATISTICS WITH JDEMETRA+ AND RJDEMETRA (3 WEBINARS)	
COURSE LEADER	**Anna Smyk**
TARGET GROUP	Official statisticians (including managers) interested in seasonal adjustment methods and have no specific knowledge on this subject.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Sound knowledge of Time series analysis would be an advantage ▪ Familiarity with the seasonal adjustment methods and software is not required
OBJECTIVE(S)	▪ To provide the participants with a basic understanding of the main concepts of seasonal and calendar adjustment, trend cycle, irregular components and related time-series issues ▪ To introduce the participants to the use of software JDEMETRA+ via the graphical interface and R.

CONTENTS	**Webinar 1**
	• Brief review of time series analysis, and ARIMA modelling
	• Seasonality and its determinants
	• Calendar effect and its components
	• Intro to JDEMETRA+
	• Examples with JDEMETRA+
	Webinar 2
	• Why seasonal and calendar adjustment?
	• Identification of type of outliers
	• Use of additive and multiplicative decomposition
	• Intro to RJDEMETRA
	Webinar 3
	• ESS guidelines on:
	  ○ Seasonal Adjustment
	  ○ Temporal disaggregation and benchmarking
	• More introductory sessions with RJDEMETRA
	Didactic examples to be provided on Trusted Smart Statistic

EXPECTED OUTCOME	Trained people will be able to identify outliers, decompose time series, adjust series

	for the seasonal and calendar effects. They will be able to recognise series needing calendar and/or seasonal adjustment and carry out the related procedures by using the latest version of JDEMETRA+ tool.
TRAINING METHODS	▪ Presentations and lectures ▪ Case studies on real data sets (also provided by the participants)
REQUIRED READING	Participants should be familiar with the content of the website https://ec.europa.eu/eurostat/cros/content/seasonal-adjustment_en
SUGGESTED READING	Revised ESS guidelines on seasonal adjustment https://ec.europa.eu/eurostat/cros/content/methodological-notes_en
REQUIRED PREPARATION	Participants are requested to write a short summary of their activities in their organisation. They are requested to express the reasons and motivation for applying to this training activity and to describe the practices, problems and experiences they face in the field of the course. Participants are further requested to indicate their knowledge of the statistical programming language R. Participants can also bring a set of time-series related to their interest, should they wish to do so.
TRAINER(S)/ LECTURER(S)	Anna Smyk (Independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
5th, 6th and 7th March 2024	2 delivery days	On-line, Zoom	ICON INSTITUTE Public Sector GmbH	Deadline: **29.01.2024**

Social Statistics by Gender with Cognitive Interviewing

COURSE LEADER	**Pamela CAMPANELLI**
TARGET GROUP	The course is targeted at NSI methodologists and social scientists whose work involves conducting surveys.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to actively participate in discussions and understand the subtleties of questionnaire wording. ▪ Background in survey research.
OBJECTIVE(S)	To enable participants: ▪ To have an understanding of the range of techniques which make up a cognitive interview ▪ To have increased their own ability to do cognitive interviewing ▪ To have insight into selecting and recruiting respondents ▪ To have insight into analysing cognitive interview data and creating better survey questions ▪ To have awareness of a broad range of uses for cognitive interviewing ▪ To have awareness of the contribution of cognitive interviewing in comparison to other testing methods ▪ To understand how cognitive interviewing can improve questionnaires on gender topics and thus the associated social statistics
CONTENTS	Cognitive interviewing is a powerful and efficient method of testing survey questions. The course content covers: ▪ Problems with the standard field pilot; cognitive interviewing as the solution ▪ What is cognitive interviewing? ▪ Some tips on writing survey questions ▪ **Workshop 1: Putting the questionnaire design tips into practice** ▪ **Workshop 2: Evaluating questions through use of the Question Appraisal System (QAS-99)** ▪ Cognitive interviewing techniques ▪ **Workshop 3: 1st Cognitive interviewing exercise** ▪ Recruiting and sampling respondents ▪ Analysis of cognitive interview data ▪ **Workshop 4: Analysis of cognitive interviews** ▪ From cognitive interviewing analysis to question changes ▪ Reporting ▪ **Workshop 5: Designing a probing protocol for your survey questions** ▪ **Workshop 6: 2nd Cognitive interviewing exercise** ▪ Other issues in cognitive interviewing ▪ Variations and other uses of cognitive interviewing

	▪ Cognitive interviewing with questionnaires on gender topics ▪ Examples of cognitive interviewing results and revised questions ▪ **Workshop 7: Revising questions** ▪ Cognitive interviewing in comparison to other testing methods
EXPECTED OUTCOME	At the end of the course, participants will be able to understand and conduct cognitive interviews, analyse the cognitive interview data and communicate the results in the production of questionnaires in their NSIs.
TRAINING METHODS	▪ Trainer presentations (with questions and comments encouraged throughout) ▪ 7 Workshops taking participants through all the steps of conducting cognitive interviews
REQUIRED READING	Willis, G.B. (1999), Cognitive Interviewing: A "How To" Guide https://www.hkr.se/contentassets/9ed7b1b3997e4bf4baa8d4eceed5cd87/gordonwillis.pdf
SUGGESTED READING	Suggested reading for after the course ▪ Willis, G.B. (2005), Cognitive Interviewing: A Tool for Improving Questionnaire Design, Thousand Oaks, CA: Sage. THIS IS THE KEY BOOK - HIGHLY RECOMMENDED ▪ Collins, D. (ed.) (2015), Cognitive Interviewing Practice, Sage. EXTREMELY THOROUGH VERSION OF COGNITIVE INTERVIEWING AS A "QUALITATIVE" METHOD ▪ Willis, G.B. (2015), Analysis of the Cognitive Interview in Questionnaire Design, New York: Oxford University Press. VERY GOOD - PRESENTS DIFFERENT TYPES OF METHODS Other reading suggestions given in the course itself
REQUIRED PREPARATION	Participants need to bring to 3 survey questions they would like to test.
TRAINER(S)/ LECTURER(S)	Dr. Pamela CAMPANELLI (independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
23-25.04.2024	3 days	Cologne, Germany	ICON-INSTITUTE	**Deadline: 26.02.2024**

STATISTICAL CARTOGRAPHY	
COURSE LEADER	**Mirosław MIGACZ**
TARGET GROUP	Statisticians working in the field of Earth observation, geographic information systems and statistics, who would like to gain knowledge and practical skills on using cartographic representation methods to visualize statitiscal data.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Basic computer skills, basic skills in working with tabular data (e.g. MS Excel). ▪ Basic skills in working with GIS (e.g. QGIS Desktop software) are required for exercises.
OBJECTIVE(S)	▪ Provide an introduction to cartographic design principles for statistical map design. ▪ Introduce basic and advanced cartographic representation methods with practical examples on statistical data. ▪ Provide guidelines for creating maps for online publication and for printout.
CONTENTS	▪ Geographic information systems (GIS) for statistics ▪ Basics of statistical map design ▪ Overview of tools for statistical mapping ▪ Integrating statistical data with geospatial information for mapping purposes ▪ Geographies for representing statistics ▪ Basic cartographic representation methods and their uses ▪ Basic principles for representing statistical data on maps ▪ Data classification methods ▪ Advanced cartographic representation methods and their uses ▪ Online maps vs maps for publications: good practices for preparing map printouts
EXPECTED OUTCOME	Participants will gain understanding of cartographic design principles for statistical map design. Participants will gain knowledge on cartographic representation methods and principles for using them with the correct type of data and parameters. Participants will gain hands-on experience with online and/or desktop (e.g. QGIS) tools for creating statistical maps.

TRAINING METHODS	▪ Presentations and lectures (incl. live demonstrations) ▪ Exchange of views/experiences on national practices ▪ Exercises
REQUIRED READING	None
SUGGESTED READING	▪ *"Statistical maps. Data visualisation methods." M. Pieniążek, M. Zych, Statistics Poland:* *https://stat.gov.pl/statystyka-regionalna/publikacje-regionalne/podreczniki-atlasy/podreczniki/statistical-maps-data-visualisation-methods,3,1.html*
REQUIRED PREPARATION	Prepare tables with statistical data from your domain or of your choosing to use for thematic mapping during the course.
TRAINER(S)/ LECTURER(S)	Mirosław Migacz (independent expert) Amelia Wardzinska-Sharif (independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
10 - 12 April 2024	3 days	Cologne, Germany	ICON INSTITUTE Public Sector GmbH	**Deadline: 12.02.2024**

STATISTICAL DISCLOSURE CONTROL (SDC) METHODS AND TOOLS FOR CENSUS 2021

COURSE LEADERS	**Eric Schulte Nordholt and Peter-Paul de Wolf**
TARGET GROUP	Statisticians working on census 2021 statistical disclosure control (SDC) implementation
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ At least basic knowledge of statistical disclosure control methods (prior participation in the Statistical Disclosure Control course is recommended) ▪ Knowledge of census design (methods, variables)
OBJECTIVE(S)	▪ The objective of this course is to facilitate the application of methods and tools recommended for census 2021 protection
CONTENTS	▪ Presentation of recommended methods for census 2021 protection ▪ Presentation of tools to be used to define and protect confidential cells; Practical case studies from participants
EXPECTED OUTCOME	Better understanding of the recommended SDC methods for census 2021 and ability to use the tools
TRAINING METHODS	▪ The course programme is a mix of theory and practice with an emphasis on the practical use of the tools. The following training methods will be used: ▪ Presentations and lectures ▪ Demonstration of the recommended software tools ▪ Hands-on software session allowing participants going through the whole census protection process ▪ Exchange of views/experiences on national practices
REQUIRED READING	Recommendations for the protection of Census data: https://ec.europa.eu/eurostat/cros/content/recommendations-protection-census-data_en
SUGGESTED READING	Handbook on SDC: https://ec.europa.eu/eurostat/cros/system/files/SDC_Handbook.pdf Manuals and software libraries available on: https://sdctools.github.io/UserSupport/
REQUIRED PREPARATION	It is recommended to follow a course on statistical disclosure control (for example the ESTP

	course on SDC)
TRAINER(S)/ **LECTURER(S)**	Eric Schulte Nordholt (Statistics Netherlands) Peter-Paul de Wolf (Statistics Netherlands)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
29–31.01.2024	2,5 days	The Hague, Netherlands	ICON INSTITUTE Public Sector GmbH	Deadline**: 04.12.2023**

STATISTICAL DISCLOSURE CONTROL	
COURSE LEADERS	**Eric Schulte Nordholt and Peter-Paul de Wolf**
TARGET GROUP	Staff dealing with statistical confidentiality
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions
OBJECTIVE(S)	▪ The objective of this course is to provide the participants with an overview of Statistical disclosure theory and methods related to tabular data protection and microdata protection, as well as the respective software. Participants will be asked to bring case studies that will be discussed in the training.
CONTENTS	▪ Main theoretical principles of SDC concerning tabular data and microdata protection and output checking ▪ Methods of tabular data protection ▪ Methods of microdata protection ▪ Output checking issues ▪ Software SDC tabular data and microdata protection ▪ Practical case studies from MS
EXPECTED OUTCOME	Better understanding of the theory, methods and software used in statistical disclosure for tabular data and microdata protection.
TRAINING METHODS	▪ The course programme is a mix of theory and practice with an emphasis on the practical use of the tools. The following training methods will be used: ▪ Presentations and lectures ▪ Demonstration of the recommended software tools ▪ Hands-on software session allowing participants going through the whole census protection process ▪ Exchange of views/experiences on national practices
REQUIRED READING	None
SUGGESTED READING	Statistical Disclosure Control (2012) by A. Hundepool, J. Domingo-Ferrer, L. Franconi, S. Giessing, E. Schulte Nordholt, K. Spicer and P.P. de Wolf, Wiley Series in Survey Methodology, ISBN 978-1-1199-7815-2 Tau Argus manual;

	Mu Argus manual; Manuals and software libraries are available on: https://github.com/sdcTools
REQUIRED PREPARATION	Participants will be required to prepare a presentation of practical or methodological problems with micro data or tabular data protection or output checking (so called User cases from Member States) for discussion during the training.
TRAINER(S)/ **LECTURER(S)**	Eric Schulte Nordholt (Statistics Netherlands) Peter-Paul de Wolf (Statistics Netherlands) Annu Cabrera (Statistics Finland)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
16–19.04.2024	3,5 days	The Hague, Netherlands	ICON INSTITUTE Public Sector GmbH	Deadline**: 19.02.2024**

SUPPLY, USE AND INPUT-OUTPUT TABLES AND ANALYSIS

COURSE LEADER	**Ildiko RITZLNE KAZIMIR**
TARGET GROUP	The course is targeted at ESS staff interested in the principles of compiling supply and use tables according to ESA2010 and in understanding the main concepts and the potentials of input-output analysis for empirical investigations of high political relevance; Sound command of English
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to participate actively in discussions ▪ Familiarity with Input-Output Statistics ▪ Experience in National Accounts
OBJECTIVE(S)	The main objective of this course is to offer an overview on the various necessary steps to compile a supply-and-use system and for the transformation of the resulting data in matrices, focusing on practical examples on how that compilation is made. The second objective is to provide an introduction into input-output analysis and to show how this technique may be used for structural analyses. In particular the course aims at illustrating in which fields input-output analysis can be used to address questions of high political relevance.
CONTENTS	• The supply and use system as integral part of national accounts: the three approaches of GDP, data sources for supply and use tables. • Treatment of exports and imports according to changes introduced by ESA2010. Role of imports, globalization and input-output analysis (e.g. goods processed abroad, merchanting, R&D). • Steps necessary to arrive at a consistent set of supply and use tables. • Balancing the supply and use tables • Compiling supply and use tables in volume terms • Derivation of symmetric input-output tables. • The static open Leontief model; theoretical background, assumptions. • Practical exercises on: Compilation of supply and use tables • Valuation matrices • Compiling imports and domestic use table • Balancing • Calculating factor content by products. • Calculating factor content by final demand categories.

	• Calculating final use of value added by components • Calculating various types if "multipliers". • The price (cost-push) model. • Overview of main input-output extensions. • Globalisation and input-output analysis – overview of available Inter-Country Input-Output tables. • Overview of policy relevant exercises.
EXPECTED OUTCOME	Participants will gain in-deep understanding of the conceptual framework of the supply and use system underpinning National Accounts, together with the main sources and methods used to do input-output analysis. There will be a mixture of presentation and practical work for participants to reinforce their learning
TRAINING METHODS	Combination of theoretical lessons, practical training with the computer, and discussion of practical problems.
REQUIRED READING	Copies of the presentation materials.
SUGGESTED READING	ESA 2010
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Ildiko RITZLNE KAZIMIR (MNB Hungary)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
22-24.10.2024	3 days	CSO Hungary, Budapest	ICON INSTITUTE Public Sector GmbH	**Deadline: 26.08.2024**

Symbolic data analysis	
COURSE LEADER	**Rosanna Verde**
TARGET GROUP	Staff involved in preparing quality reports
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ A good knowledge of quality management is a prerequisite for attending the course.
OBJECTIVE(S)	▪ Gain a comprehensive understanding of Symbolic Data Analysis as conceived within Benzecri's French school of "analyse des données," appreciating its historical and conceptual foundations. ▪ Develop expertise in distinguishing and managing various forms of symbolic data, enhancing their versatility in working with diverse datasets. ▪ Acquire hands-on skills to preprocess symbolic data efficiently, preparing it effectively for subsequent analysis.
CONTENTS	In the recent years symbolic data analysis (SDA) has assumed an important role in the framework of Benzecri's French school of analyse des données, developing standard exploratory techniques of multivariate data analysis for the study of more general and complex data, called symbolic data. The course will focus on: Day 1 ▪ Introduction to symbolic data analysis ▪ Symbolic data types ▪ Data preprocessing for symbolic data ▪ Basic symbolic data analysis techniques Day 2 ▪ Advanced symbolic data analysis techniques ▪ Clustering of symbolic data ▪ Classification of symbolic data ▪ Association rule mining Day 3 ▪ Applications of symbolic data analysis ▪ Case studies ▪ Discussion and Q&A

EXPECTED OUTCOME	▪ Enhanced understanding of Symbolic Data Analysis and its role in the framework of Benzecri's French school of analyse des données. ▪ Proficiency in identifying and working with different types of symbolic data. ▪ Ability to preprocess symbolic data for analysis. ▪ Mastery of basic and advanced symbolic data analysis techniques. ▪ Knowledge of clustering, classification, and association rule mining of symbolic data. ▪ Understanding of practical applications of symbolic data analysis in various contexts. ▪ Ability to critically analyze and discuss case studies related to symbolic data analysis.
TRAINING METHODS	▪ Presentations and lectures, practical examples ▪ Exchange of views/experiences on national practices ▪ Exercises
REQUIRED READING	None
SUGGESTED READING	▪ Rosanna Verde, Edwin Diday - Symbolic Data Analysis: A Factorial Approach Based on Fuzzy Coded Data ▪ Rosanna Verde, Antonio Irpino, Antonio Balzanella – Dimension Reduction Techniques for Distributional Symbolic Data ▪ Rosanna Verde, Clustering Methods in Symbolic Data Analysis
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Rosanna VERDE (Independent expert) Antonio IRPINO (Independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
14-16.05.2024	3 days	**Cologne, Germany**	ICON-INSTITUT Public Sector	**Deadline: 18.03.2024**

System of Health Accounts and Health care expenditure statistics (SHA)

Course Leader	**Eva OROSZ**
Target Group	The course is targeted at statisticians working on health administrative data from National Statistical Institutes or Ministries of health/welfare
Entry Qualifications	▪ Sound command of English. Participants should be able to make short interventions and to participate actively in discussions
Objective(s)	The main objective of this course is to offer theoretical overview of SHA Methodology, but also to give practical approach to build a health data questionnaire. The course will provide to the participants overview of current SHA requirements.
Contents	1. Short introduction to the role of the health sector in the economy, how the system of health accounts can contribute to the analysis of health systems across the EU. 2. Use of HCE statistics for health policies o SPC o Pillar of social rights o Ageing report… 3. Key methodological concepts of a System of Health Accounts 4. Definitions and classifications of the SHA 2011 with special attention to those related to the core SHA accounting framework. o Health care financing (focus on compulsory vs voluntary schemes, OOP) o Health care providers o Health care functions (focus on long term care, preventive care) 5. Memorandum items (total pharmaceuticals, long-term care (social), COVID related items) 6. Revenues of Financing schemes 7. Capital formation 8. Links SHA with National Accounts • Case study (practical exercise to populate the data questionnaire).
Expected outcome	Participants will gain in-deep understanding of SHA Methodology and how to

	successfully produce health data questionnaire.
TRAINING METHODS	Combination of theoretical lessons, practical training with the computer, and discussion of practical problems.
REQUIRED READING	Copies of the presentation materials.

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
20-21.02.2024	**2 days**	**ONLINE**	**ICON-INSTITUT Public Sector**	**Deadline: 18.01.2024**

The European Statistical System (ESS) – its structure and ways of working

COURSE LEADER	**Kim Volby Pedersen**
TARGET GROUP	Staff members wishing to understand the framework and functioning of the European Statistical System (ESS) as well as staff who participate or will be participating in the meetings of committees, working groups and task forces.
ENTRY QUALIFICATIONS	▪ Sound command of English - participants should be able to make short interventions and to actively participate in discussions. ▪ Some experience in participating in statistical forums would be an advantage. ▪ Being familiar with the course documentation (see below).
OBJECTIVE(S)	The aim of the course is to: ▪ give an overview of the functioning of ESS, including ESS procedures and concepts; ▪ create understanding of the requirements originating from the EU cooperation ▪ introduce in the relations of the European statistical world with EU institutions, the legal basis of the ESS, the decision-making process, the cooperation among the different stakeholders, etc.; ▪ prepare participants and enable them to tackle the day-to-day challenges of the ESS system for the purpose of strengthening efforts and thereby increasing their involvement; ▪ Train the participants in negotiating with colleagues from other European countries, including negotiation and presentation skills, effective oral communication and active participation in an ESS meeting..
CONTENTS	During the course, participants will be introduced to: ▪ a general overview of the European Union; ▪ the legal basis of the ESS, including the statistical principles and the European Statistics Code of Practice (CoP); ▪ the institutional structure and functioning of the ESS; ▪ The European statistical programme 2021-2027 and its implementation. ▪ the role of the partners within the ESS: Eurostat and Member States. The ESS governance bodies and their roles, the role of the Eurostat expert groups at working and management level ▪ the external relations of the ESS; including relationships between ESS and Candidate Countries; ▪ the ESS decision-making, institutional procedures and working methods; ▪ Legislative procedures in statistics – from the expert groups to the Council Working Party in Statistics

	▪ ways of coordinating national participation in ESS meetings; ▪ negotiation and presentation skills, effective oral communication and active participation in an ESS meeting; ▪ new context and ESS challenges.
EXPECTED OUTCOME	Participants will be: ▪ made familiar with the institutional and procedural context in which they take part and its implications for day-to-day work conditions; ▪ trained in preparation and participation in ESS meetings; ▪ made acquitted with the decision-making process obtaining a general overview; ▪ trained in interactions among all ESS partners and external stakeholders; ▪ trained in negotiation skills with colleagues from other European countries; ▪ made familiar with the European Statistical Programme, the European Statistics Code of Practice and other ESS instruments; ▪ made acquainted with how we work together within the ESS as well as the future challenges of the ESS.
TRAINING METHODS	▪ Presentations combined with exercises and discussions in subgroups. ▪ Individual exercises. ▪ Group work exchanging views and experiences on national practices. ▪ Role plays where participants will have to prepare, undertake and evaluate ESS meetings dealing with an authentic statistical file.
REQUIRED READING	There is not a specific required reading although it would be recommendable that participants familiarise themselves with the material for the role plays prior to the course.
SUGGESTED READING	Course material will be available at Circabc prior to the course with which participants are also recommended to familiarise themselves. Prior to the meeting a few selected basic materials will be suggested. Additionally, the course participants will be provided with a binder containing selected course material as well as reference to Circabc
REQUIRED PREPARATION	See 'Required and suggested reading'.
TRAINER(S)/ LECTURER(S)	• Kim Voldby Pedersen (Statistics Denmark) • Tjanna Liv Pauli (Statistics Denmark) • Christian Andreasen (Statistics Denmark) • Yolanda Gomez Menchon (INE Spain) • Ana Cánovas (INE Spain)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
15–17.05.2024	3 days	Slangerup, Denmark	ICON INSTITUTE Public Sector GmbH	**Deadline: 18.03.2024**

THE USE OF R IN OFFICIAL STATISTICS:

MODEL BASED ESTIMATES

COURSE LEADER	**Martijn Tennekes**
TARGET GROUP	Statistical production units and methodologist of NSIs.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Basic statistical knowledge ▪ Basic programming experience in any programming language
OBJECTIVE(S)	The goal of this activity is to provide participants with basic knowledge about the syntax and basis of the R programming language and to provide an overview of the main packages which are important for the statistical production process. The activity will pay special attention to these packages devoted to management of large databases and the analysis of complex surveys.
CONTENTS	▪ Essentials of R environment and RStudio ▪ Data manipulation with R (including JSON, XML and SDMX format) ▪ Descriptive statistics with R ▪ Modelling with R ▪ Data visualization with R ▪ Data reporting with R - tables, markdown, LaTeX ▪ GitHub ▪ R packages: practical applications for daily production ▪ Applications of R in NSIs (including 'eurostat' and 'RJDemetra' packages)
EXPECTED OUTCOME	After this course, participants will be able to develop basic R code and use R packages to perform some of the data analysis and visualization carried out in their NSIs, including the management of large databases and the analysis of complex surveys.
TRAINING METHODS	▪ Presentations and lectures ▪ Hands-on practical exercises
REQUIRED READING	None
SUGGESTED READING	▪ Cookbook for R (http://www.cookbook-r.com) ▪ Field, A., Miles, J. and Field, Z. (2012) 'Discovering statistics using R'. Sage ▪ Lumley, T. (2011) 'Complex surveys: a guide to analysis using R'. Wiley. ▪ Online information on the use of R packages in NSIs provided by CRAN (https://cran.r-project.org/web/views/OfficialStatistics.html)

REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Martijn Tennekes (CBS Netherlands)

2nd edition

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
21–25.10.2024	5 days	**The Hague, Netherlands**	ICON-INSTITUT Public Sector GmbH	Deadline**: 12.08.2024**

THEORY AND PRACTISE OF HARMONISED INDICES OF CONSUMER PRICES (HICP)	
COURSE LEADER	**Kristiina NIEMINEN**
TARGET GROUP	▪ Statisticians of CPI/HICP departments in National Statistical Institutes involved in the production of CPI/HICP with one to two years of experience on CPIs
ENTRY QUALIFICATIONS	▪ Sound command of English ▪ One-two years of experience on CPIs ▪ Participants are expected to take actively part and to interact during the theoretical and practical session of the training
OBJECTIVE(S)	▪ Aims at enhancing the theoretical and practical knowledge related to the HICP, based on the HICP Methodological Manual and other HICP guidance material ▪ Describes the purpose, use and construction of HICP ▪ Participants become familiar with the standard methods, the specific HICP requirements, as well as with recent developments such as the use of scanner data
CONTENTS	▪ Background of the HICP, legal reference and requirements ▪ Theory and practice of price index ▪ Sampling, sources and methods ▪ Web-scraping, scanner data and other data collection ▪ Index compilation, theory and practice ▪ Weighting methods ▪ Quality adjustment, validation ▪ New data sources and index compilation methods ▪ Dissemination principles ▪ Use of HICP
EXPECTED OUTCOME	▪ Become familiar with the basic principles of indices, use of indices and advantages of HICP ▪ Learn basic concepts of indices and background theories ▪ Learn how to calculate indices based on different principles ▪ Learn how to make good use of indices in macro-economic statistics
TRAINING METHODS	▪ Lectures with slide-presentations (and video) ▪ Case studies, practical exercises and discussions. The participants are expected to be actively involved in the course. ▪ Presentations and lectures ▪ Group work in exercises
REQUIRED READING	None
SUGGESTED READING	▪ https://ec.europa.eu/eurostat/web/hicp/methodology -webpage, especially Harmonised Index of Consumer Prices Methodological Manual and

	Recommendations ▪ HICP basic act (European Parliament and Council Regulation (EU) 2016/792) and implementation act (Commission Regulation (EU) 2020/1148)
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Ms Kristiina NIEMINEN (Statistics Finland) Mr Martin BIRGER LARSEN (Statistics Denmark) Mr Antonio A.G. CHESSA (Statistics Netherlands)

1st Edition

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
25-28.03.2024	4 days	Helsinki, Finland	ICON-INSTITUT Public Sector GmbH	**Deadline: 05.02.2024**

2nd Edition

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
23-26.09.2024	4 days	Helsinki, Finland	ICON-INSTITUT Public Sector GmbH	**Deadline: 30.08.2024**

TIDYING UP OFFICIAL STATISTICS WITH 'R' AND GSBPM

COURSE LEADER	Kristín Ósk Ingvarsdóttir, Ph.D., Expert, International Statistics, Statistics Iceland. Þórdís Birna Borgarsdóttir, M.Sc., Expert, Social Statistics, Statistics Iceland
TARGET GROUP	Statisticians working in the production of official statistics, especially data processing and analysis. No specific experience within official statistics is necessary. The course should both be relevant for junior as well as senior statisticians.
ENTRY QUALIFICATIONS	Sound command of English. Participants should be able to participate in discussions in the course and make short presentations in English for the group. Participants should have some knowledge of basic statistical concepts and methods used in official statistical production and dissemination.
OBJECTIVE(S)	▪ Introduce the GSBPM and how it applies to quality control in NSI's ▪ Introduce R and its basic functions ▪ Present how R can be used within NSI's for processing, analyzing and creating output for users ▪ Introduce the tidyverse and how it can be used for data wrangling ▪ Present ggplot and how it can be used to produce graphs ▪ Introduce RMarkdown and how to write reports through R.

CONTENTS	• Introduction to the Generic Statistical Business Process Model
	• Introduction to R
	• Introduction to the tidyverse and ggplot
	• Implementing R in the production process of an NSI
	• Processing data in R
	  ○ Data integration
	  ○ Classification and coding
	  ○ Review and validation
	  ○ Editing and imputation
	  ○ Derive new variables and units
	  ○ Calculate weights
	  ○ Calculate aggregates
	  ○ Finalize data files
	• Analyzing data in R
	  ○ Prepare draft outputs (indices, trends or seasonal adjustments)
	  ○ Validate outputs
	  ○ Interpret and explain outputs
	• Dissemination
	  ○ Disclosure control
	  ○ Finalize outputs
	  ○ R graphics
	
	The course platform will be active over a period of five days, from Monday to Friday.

	During this time students will watch lectures and work on assignments. Course leaders will be available to students during all active course days from 13:00 to 17:00 (CET), via the course discussion board and virtual conference management tool. Students are also encouraged to seek help from other students, and use various web-based sources in order to complete the assignments. Lectures will be available on the course platform in advance. Students will be able to get assistance via the course discussion board and virtual conference management tools. The head tutors and assistance teachers will be available to students during the week in order to answer questions and help them with their code, and assignments. Students will be required to work on assignments and hand them in via the course platform by the end of the week. The assignments will be in the form of R syntaxes, giving the students the opportunity to write their own code and acquire hands-on experience with the use of R in the production of official statistics.
EXPECTED OUTCOME	The course participants will be given an overview of the Generic Statistical Business Process Model and how to apply it to their work in producing official statistics and ensure the quality of the outputs. At the end of the course the participants will be able to: • Use R in the processing and analyses of official statistics • Recognize common R functions and how they are used • Use tidy methods and techniques to write R syntax • Create reusable code and apply best practices in writing and maintaining code • Create basic graphs in R using ggplot • Use available R packages for the production of official statistics Students will be required to complete 8 assignments. Students will not receive a course certificate unless they turn in all 8 assignments.
TRAINING METHODS	▪ Presentations and lectures ▪ Discussions on different national experiences ▪ Exercises
REQUIRED READING	No required reading.
SUGGESTED READING	Students are encouraged to use web-based resources to help them in their assignments, such as: ***In English*** ▪ https://rafalab.github.io/dsbook/index.html

	▪ https://style.tidyverse.org/index.html ▪ https://r4ds.had.co.nz/ ▪ https://github.com/SNStatComp/awesome-official-statistics-software
REQUIRED PREPARATION	All participants must have R and RStudio installed and ready to use on their personal computers. Other packages and solutions will be introduced during the course.
TRAINER(S)/ LECTURER(S)	TBD

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
March/April 2024	5 days	ONLINE	Statistics Iceland	Deadline**: TBD**

TOURISM SATELLITE ACCOUNTS (TSA)	
COURSE LEADER	**Peter LAIMER**
TARGET GROUP	Staff of national statistical authorities involved in the production process of tourism statistics, national accounts or (tourism) satellite accounts, who want to acquire a good understanding of the macro-economic measurement of the tourism sector, in particular the tourism satellite accounting framework (TSA), with the objective to develop or improve TSA in their country. The training is targeted at experienced as well as novice or future TSA compilers with the aim of spreading/exchanging the know-how and best practices within and between the different levels of expertise.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Sound knowledge of tourism statistics and/or national accounts (but the training is also open to junior statisticians)
OBJECTIVE(S)	▪ The training course will introduce the theoretical and practical know-how of TSA compilation and will position TSA vis-à-vis primary tourism statistics. ▪ The main compilation challenges for each TSA table (with a focus on core tables 1 to 7) will be discussed, with the aim of improving the international comparability through maximising the use of existing harmonised European statistics. ▪ The final goal of the course is to prepare participants to embark on the production of TSA at national level or to improve the existing TSA and to better align national TSA to the international recommendations.
CONTENTS	▪ Brief introduction to TSA: history, user relevance, relation to primary tourism statistics, relation to other macro-economic measurement (national accounts, BOP travel item, tourism trade in value added), governance and institutional set-up ▪ Basic concepts of National Accounts for TSA compilers ▪ Essential and other conditions/sources for TSA compilation (I/O tables, SUT, tourism statistics, business statistics, etc.) ▪ How to compile data on internal tourism consumption (TSA tables 1, 2, 4) - with exercises ▪ How to compile a production account (TSA tables 5, 6) - with exercises ▪ How to measure tourism employment (TSA table 7) – with exercises ▪ Introduction to tourism gross fixed capital formation (TSA table 8), tourism collective consumption (TSA table 9) and non-monetary indicators (TSA table 10) ▪ Selected measurement and compilation issues/challenges (topics selected

	jointly with the participants) ▪ Communicating and disseminating TSA results to expert and non-expert audiences ▪ Introduction to TSA at subnational level (incl. best practices) ▪ Introduction to linking TSA and SEEA (environmental accounts) in the context of measuring sustainable tourism (MST)
EXPECTED OUTCOME	Improved knowledge and understanding of the relevance of TSA, the conceptual framework and its relation to primary tourism statistics and to national accounts, and the main methodological challenges (and solutions) for compilation of TSA. At the end of the training, participants should be able to develop TSA or to improve existing TSA in their country in order to reach more harmonised and comparable TSA exercises in the European Union.
TRAINING METHODS	*Example (please insert what applies to your course):* ▪ Presentations and lectures ▪ Interactive questions & answers ▪ Exchange of views/experiences on national practices ▪ Practical exercises on paper and/or on the computer
REQUIRED READING	None
SUGGESTED READING	▪ Tourism Satellite Accounts in Europe (2019 edition) [link] ▪ Tourism Satellite Account: Recommended Methodological Framework 2008 (TSA:RMF 2008) [link] ▪ Methodological work on Tourism Satellite Accounts in the European Union – deliverables of the 2008-2009 Eurostat project [link] ▪ Methodological manual for tourism statistics [link] ▪ International Recommendations for Tourism Statistics (IRTS 2008) [link] ▪ International Recommendations for Tourism Statistics (IRTS 2008), Compilation Guide [link] ▪ OECD Tourism Trends and Policies 2020 [link] ▪ Workshop on Measuring the Economic Impact of Tourism in Europe: The Tourism satellite Account (TSA) [link]
REQUIRED PREPARATION	Participants are requested to write a short summary of their activities in their organisation (or relevant previous employers) and the state of the art of TSA works (if feasible). They are requested to express the reasons and motivation for applying to this training activity and to describe the practices, problems and experiences they face in the field of the course.
TRAINER(S)/ LECTURER(S)	Peter LAIMER (Statistics Austria); Pavel VANCURA (Independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
12-14.11.2024	3 days	Cologne, Germany	ICON-INSTITUT Public Sector GmbH	**Deadline: 16.09.2024**

WASTE STATISTICS

COURSE LEADER	**Jürgen GONSER**
TARGET GROUP	Staff members involved in the production of official waste statistics, advanced level.
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to participate actively in discussions ▪ Familiarity with the Waste Statistics Regulation ▪ Experience in producing Waste Statistics
OBJECTIVE(S)	▪ The course will enhance the theoretical and practical knowledge of waste statistics validation approaches. ▪ The main focus will be on validation routines, looking at strengths and weaknesses in the chosen approaches and possibilities for shared responsibilities between countries and Eurostat. The course will explore possible ways of avoiding duplication of validation routines and in waste statistics and means of obtaining more effective statistics.
CONTENTS	▪ Methods for the validation of waste statistics, overview on validation checks currently done; ▪ Analysis of time series for one country, comparisons between countries, use of economic indicators in the validation; ▪ Cross-checks with waste data reported based on other EU legislation; ▪ Methods of data compilation (e.g. factors, modelling) and the effects on the comparability of results. ▪ Reporting on secondary waste ▪ Calculation of waste management indicators
EXPECTED OUTCOME	Participants will have a profound understanding of validation of waste statistics currently carried out. The course will provide the participants with tools and methods for the validation of waste statistics, with the aim of improving the quality and comparability of the statistics and of sharing responsibilities for validation between Eurostat and Member states. Participants will have a chance to exchange experiences and thus learn about the practices of other countries.
TRAINING METHODS	▪ Lectures and presentations ▪ Plenum discussions and group sessions ▪ Practical examples and exercises

REQUIRED READING	Regulation (EC) No 2150/2002 of the European Parliament and of the Council of 25 November 2002 on waste statistics. Validation approach for waste statistics, available on CircaBC : 3.2 WStatR validation approach_rev1 https://circabc.europa.eu/sd/a/0e028210-46c6-4137-b123-f4cdba591f31/3.2%20Validation%20of%20Waste%20Statistics%20-%20the%20way%20forward_rev.pdf
SUGGESTED READING	▪ Manual for the Implementation of Regulation (EC) No 2150/2002 on waste statistics ▪ EU Indicator on the recycling of waste (excl. major mineral wastes): http://ec.europa.eu/eurostat/statistics-xplained/index.php/Waste_management_indicators ▪ The website of the Data Centre on Waste http://ec.europa.eu/eurostat/waste ▪ The databases available on the website of Eurostat: http://ec.europa.eu/eurostat
REQUIRED PREPARATION	Participants should have a partial overview of waste quantities, the statistical methods and validation approaches applied in official waste statistics within their own country.
TRAINER(S)/ **LECTURER(S)**	Jürgen GONSER Wim KLOEK

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
17–18.04.2024	2 days	Cologne, Germany	ICON-INSTITUT Public Sector GmbH	**Deadline: 05.02.2024**

WATER STATISTICS AND ACCOUNTS	
COURSE LEADER	**George BARIAMIS**
TARGET GROUP	Staff involved in the production of official water statistics and other quantitative information under Union law on water
ENTRY QUALIFICATIONS	▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Relevant professional experience desirable 1-2 years of work experience on water data collection and analysis ▪ Computer literacy: desirable database handling
OBJECTIVE(S)	▪ To improve the theoretical and practical knowledge related to the collection, transmission, validation and aggregation of official water statistics. ▪ The main focus will be on different data sources and the complementarities of different direct and indirect methods such as measurements, surveys, models and estimations. The description of the respective strengths and weaknesses with special attention to data quality should thus result in an enhancement of the comparability between water statistics from countries using different methods. ▪ The courses shall also provide a platform and starting point for cooperation in method development among the countries. The aim of the courses is to explore possible ways of avoiding inconsistencies in the European water statistics and to obtain a more effective statistics production.
CONTENTS	▪ Introduction to water statistics ▪ European policy links with water statistics *(EU Green Deal, WFD, CAP, DWD, UWWTD, Circular Economy)* ▪ Global policy links and Sustainable Development Goals (SDG) ▪ The OECD/Eurostat Joint Questionnaire on Inland waters ▪ International standards and classifications ▪ International registries for water statistics ▪ Data quality and the effective use of coefficients on gap filling ▪ Institutional set-up: the need for co-operation with other stakeholders ▪ Training exercises on water balances, water flows in the economy and to urban wastewater treatment plants ▪ Introduction to basic Water Accounts: assets and physical supply and use tables.

	▪ Open discussion on national experiences and future improvements
EXPECTED OUTCOME	▪ Inform the participants on the latest developments on water statistics and relevant EU policy links ▪ Enable participants to perform a well-reflected reporting of the OECD/Eurostat Joint Questionnaire on Inland Waters and the Eurostat Regional Water Questionnaire ▪ Encourage international cooperation among NSIs ▪ Increase productivity of effective water data reporting ▪ Enhance expert judgement background
TRAINING METHODS	▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Exercises ▪ Instructor-led classroom training. A lecture-style presentation with a PowerPoint as a visual accompaniment – and presentations in front of a group of trainees ▪ Interactive methods: include small group discussions, case study reviews, Mentimeter quizzes and demonstrations ▪ Hands-on training: dive right into the practical part of the training, allowing trainees to quickly get their hands on whatever they are learning
REQUIRED READING	▪ Data Collection Manual for the OECD/Eurostat JQ on Inland Waters
SUGGESTED READING	▪ International Recommendations for Water Statistics - IRWS ▪ Eurostat - Energy, transport and environment statistics publication ▪ SEEA-Water Manual ▪ OECD – Environment at a Glance 2021 publication ▪ WISE SoE – water emissions & water quantity ▪ FAO, UNECE – Indicators and Reporting
REQUIRED PREPARATION	Participants are asked to prepare a concise overview - for their own use during the course - of the official Water Statistics in their country, the methods applied and the forthcoming results. Especially the preparation of a list of data-gaps, problems engaged in data collection and other difficulties in their own country can be helpful when brought in in the discussions during the course. Familiarization with the ▪ environmental and water statistics terminology ▪ data files templates ▪ Eurostat web site, CIRCABC and e-DAMIS data-portal

TRAINER(S)/ **LECTURER(S)**	George BARIAMIS (Independent expert) Kees BAAS (CBS Netherlands)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
11-13.06.2024	3 days	On-line	ICON-INSTITUT Public Sector GmbH	**Deadline: 15.04.2023**

Writing statistical texts with an impact for different audiences

COURSE LEADER	**Jan Erik Kristiansen**
TARGET GROUP	Staff involved in/responsible for drafting/writing press releases, statistical texts and articles for NSI's publications, for the web, for social media or other types of communication channels.
ENTRY QUALIFICATIONS	Sound command of English. Participants should be able to make short introductions, to write concise texts, to actively participate in discussions and to offer the benefit of their own experience.
OBJECTIVE(S)	Main objectives of the course: to provide practical training in writing about statistics in clear and understandable language, with the aim to improve the attractiveness and efficiency of presenting statistics, while bearing in mind the principles of the Code of Practice.
CONTENTS	• Making presentations of statistics more user-friendly • Integration of comprehensible infographics, tables and graphs into the communication • Why "analysis"? What is "analysis"? • The KISS-principle: **K**eep **I**t **S**hort and **S**imple • The importance of the media vs. other user groups • The importance of headlines and titles • Storytelling as a useful tool to communicate statistics • Importance of writing communication skills. Writing in a clear, concise and simple manner for different audiences: pupils and teachers, students and researchers, journalists, general audience. • Social media and websites in statistics – good and bad examples from Statistics Poland and Norway
EXPECTED OUTCOME	• A better understanding of and increased experience in preparing more user-friendly written products when presenting statistics
TRAINING METHODS	▪ Presentations and lectures ▪ Round table discussions: exchange of views on different national experiences and practices ▪ Workshops: group work and exercises
REQUIRED READING	None

SUGGESTED READING	• European Statistics Code of Practice - revised edition 2017: https://ec.europa.eu/eurostat/documents/4031688/8971242/KS-02-18-142-EN-N.pdf/ • User-friendly presentation of statistics. PARIS21/Statistics Norway 2009 http://www.ssb.no/en/omssb/samarbeid/internasjonalt-utviklingssamarbeid/a-handbook-on-dissemination-of-statistics • The challenge of communicating statistics https://ec.europa.eu/eurostat/web/products-eurostat-news/-/KS-EE-05-001
REQUIRED PREPARATION	Participants should bring some material (texts illustrated by infographics, tables or graphs) to be used as examples for discussion
TRAINER(S)/ LECTURER(S)	Jan Erik Kristiansen (Independent expert) Anna Przybyll (Independent expert)

PRACTICAL INFORMATION				
WHEN	**DURATION**	**WHERE**	**ORGANISER**	**APPLICATION VIA NATIONAL CONTACT POINT**
16–17.04.2024	2 days	On-line	ICON INSTITUTE Public Sector GmbH	**Deadline: 19.02.2024**

NATIONAL ESTP CONTACT POINTS

Please send your application form to the address indicated for your country

COUNTRY	ADMINISTRATION	E-MAIL ADDRESS
Austria	Statistics Austria	Estp@statistik.gv.at
Belgium	Statistics Belgium	E8.P&O@economie.fgov.be
Bulgaria	National Statistical Institute	BG-ESTP-CONTACT@nsi.bg MKovacheva@nsi.bg
Croatia	Central Bureau of Statistics of the Republic of Croatia	ESTP@dzs.hr
Cyprus	Statistical Service of Cyprus	pprotopapas@cystat.mof.gov.cy
Czech Republic	Czech Statistical Office -CSU	CZSO-ESTP-CONTACT-POINT@czso.cz
Denmark	Statistics Denmark	denmark-estp-contact@dst.dk
Estonia	Statistics Estonia	ESTONIA-ESTP-CONTACT@STAT.EE
Finland	Statistics Finland	koulutushakemukset@stat.fi
France	National Institute of Statistics - INSEE	luc.rouviere@insee.fr
Germany	German Federal Statistical Office	estp-ncp-germany@destatis.de
Greece	Hellenic Statistical Authority - ELSTAT	elstat_estp_contact@statistics.gr
Hungary	Hungarian Central Statistical Office - KSH	ESTP@ksh.hu
Iceland	Statistics Iceland	estp@hagstofa.is
Ireland	Central Statistics Office - CSO	training@cso.ie
Italy	National Institute of Statistics - ISTAT	italyncp@istat.it
Latvia	Central Statistical Bureau of Latvia - CSB	estp@csb.gov.lv
Liechtenstein	Office of Statistics	Simon.Gstoehl@llv.li
Lithuania	Statistics Lithuania	LITHUANIA-ESTP-CONTACT@stat.gov.lt
Luxembourg	National Statistical Institute - STATEC	Estp@statec.etat.lu
Malta	National Statistics Office - NSO	sammy.mangion@gov.mt
Netherlands	Statistics Netherlands - CBS	estp-courses@cbs.nl
Norway	Statistics Norway - SSB	norway.estp.contact@ssb.no

COUNTRY	ADMINISTRATION	E-MAIL ADDRESS
Poland	Statistics Poland	GUS-ESTP-CONTACT-POINT@stat.gov.pl
Portugal	National Statistical Institute - INE	estp.portugal@ine.pt
Romania	National Statistical Institute - INSSE	ro-estp-contact-point@insse.ro
Slovak Republic	Statistical Office of the Slovak Republic	sk.estp.contact@statistics.sk
Slovenia	Statistical Office of the Republic of Slovenia - SORS	Gp.surs@gov.si
Spain	National Statistical Institute - INE	estp.spain@ine.es
Sweden	Statistics Sweden - SCB	swe.estp.contact@scb.se
Switzerland	Swiss Federal Statistical Office	international@bfs.admin.ch

EFTA	EFTA Statistical Office (ESO)	efta-lux@ec.europa.eu
EUROSTAT	ESTP Team	ESTAT-ESTP-CONTACTS@ec.europa.eu

CANDIDATE COUNTRIES	ADMINISTRATION	E-MAIL ADDRESS
Albania	GOPA	ipa2015.gopa@gmail.com
Montenegro	Statistical Office of Montenegro - MONSTAT	jelena.markovic@monstat.org contact@monstat.org projekti@monstat.org
The Republic of North Macedonia	State Statistical Office	tatjana.velkova@stat.gov.mk tatjana.mitevska@stat.gov.mk elena.ginovska@stat.gov.mk international@stat.gov.mk
Serbia	Statistical Office of the Republic of Serbia	Serbia-ESTP@stat.gov.rs
Turkey	Turkish Statistical Institute - TURKSTAT	tecp@tuik.gov.tr

POTENTIAL CANDIDATES	ADMINISTRATION	E-MAIL ADDRESS
Bosnia and Herzegovina	GOPA	ipa2015.gopa@gmail.com *Please note:* All applications should be sent to this address, irrespective of the source of funding
Kosovo*		

International organisations and other countries not mentioned above	ESTAT-ESTP-CONTACTS@ec.europa.eu Applications sent to other addresses will not be taken into consideration

(*) This designation is without prejudice to positions in status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

CATALOGUE 2024