

European Statistical Training Programme Catalogue 2018



Foreword

The European Statistical Training Programme (ESTP) provides European statisticians with a wide selection of training courses, workshops and seminars, greatly enhancing their professional qualifications. In addition, when statistical experts come together, they get to know each other, have opportunities to share their work experience and exchange best professional practice. An interesting and relevant training programme can also play an important role in attracting and retaining new staff members.

The ESTP courses cover well-established domains, such as methodology, quality and dissemination, as well as sectoral statistics, such as economic and social domains. To make sure that the ESTP offer reflects the professional needs of today, the 2018 programme also includes courses on big data, visualisation and social data mining. Additionally, a number of ESTP courses are devoted to 'soft skills', equally important to today's statisticians, such as presentation and facilitation as well as consultation skills for trainers. Finally, one of the courses, 'Statistics4Beginners', addresses colleagues who have no statistical background at all.

I am convinced that the 2018 European Statistical Training Programme is a balanced combination of theory and practice, combined with a proven didactic approach, to guarantee the best quality training. I also hope that the National Statistical Offices will make the most of the courses on offer, ensuring that their staff members are fully prepared for the professional challenges ahead.



Mariana Kotzeva
Acting Director General, Eurostat

CONTENTS

CONTENTS	3
WHAT YOU NEED TO KNOW	6
OVERVIEW OF 2018 ESTP COURSES	8
PRESENTATION, FACILITATION AND CONSULTATION SKILLS FOR STATISTICAL TRAINERS – INTRODUCTORY COURSE	15
INTRODUCTION TO BIG DATA AND ITS TOOLS	17
INTRODUCTION TO SEASONAL ADJUSTMENT AND JDEMETRA+	20
DIGITAL DISSEMINATION OF STATISTICS: FOCUS ON DATA VISUALISATION	22
SDMX STANDARD FOR DATA AND METADATA EXCHANGE: BASICS COURSE	26
NATIONAL ACCOUNTS - INTRODUCTORY COURSE.....	29
EUROPEAN PROFILING IN THE EUROPEAN SYSTEM OF THE INTEROPERABLE BUSINESS REGISTERS (ESBRs).....	31
EUROPEAN BUSINESS STATISTICS METHODS AND SELECTED TOPICS	33
MEDIA RELATIONS IN STATISTICAL OFFICES – INTRODUCTORY COURSE.....	35
THE ESS VISION 2020: WORKING TOGETHER WITH PM ² PROJECT, PROGRAMME AND PORTFOLIO MANAGEMENT	37
STATISTICAL DISCLOSURE CONTROL.....	40
DISSEMINATION AND COMMUNICATION-INTRODUCTORY COURSE.....	42
INTEGRATION OF STATISTICS AND GEOSPATIAL INFORMATION – FROM GEOCODING TO STATISTICAL MAPS	45
QUALITY MANAGEMENT IN STATISTICAL AGENCIES – INTRODUCTORY COURSE.....	47
SMALL AREA ESTIMATION	49
BALANCE OF PAYMENTS – INTRODUCTORY COURSE	51
MACHINE LEARNING ECONOMETRICS	53
SDMX STANDARD FOR DATA AND METADATA EXCHANGE, IT TOOLS COURSE	55
ECONOMIC AND SOCIAL CLASSIFICATIONS: METHODOLOGY AND APPLICATION.....	58

ADMINISTRATIVE DATA AND CENSUSES, MOVING FROM TRADITIONAL CENSUSES TOWARDS REGISTER BASED AND COMBINED CENSUSES	60
PHYSICAL ENVIRONMENTAL ACCOUNTS	62
THE EUROPEAN STATISTICAL SYSTEM (ESS) – ACTIVE PARTICIPATION IN ESS MEETINGS	64
ESA 2010 - NATIONAL ACCOUNTS	67
INTRODUCTION TO STATISTICS PRODUCTION WITH THE USE OF GEOGRAPHICAL INFORMATION SYSTEMS (GIS).....	69
WATER STATISTICS AND ACCOUNTS	71
THE USE OF R IN OFFICIAL STATISTICS: MODEL BASED ESTIMATES	74
HANDS-ON IMMERSION ON BIG DATA TOOLS	76
ADVANCED COURSE ON QUALITY REPORTING.....	78
INTRODUCTION TO EXPERIMENTAL ECOSYSTEM EXTENT AND SERVICES ACCOUNTING BASED ON SEEA-EEA	80
TIME SERIES ECONOMETRICS	82
ENERGY STATISTICS	84
INFORMATION STANDARDS AND TECHNOLOGIES FOR DESCRIBING, EXCHANGING AND DISSEMINATING DATA AND METADATA.....	86
GOVERNMENT FINANCE STATISTICS AND EXCESSIVE DEFICIT PROCEDURE - PART I AND PART II.....	88
MONETARY ENVIRONMENTAL ACCOUNTS.....	90
COGNITIVE INTERVIEWING.....	93
MOVING TOWARDS REGISTER BASED STATISTICAL SYSTEM.....	95
PRESENTATION, FACILITATION AND CONSULTATION SKILLS FOR STATISTICAL TRAINERS – ADVANCED COURSE.....	97
ADVANCED JDEMETRA+ WITH R	99
QUALITY FRAMEWORK, PROCESS AND PRODUCT QUALITY MEASUREMENT – ADVANCED COURSE	101
BIG DATA SOURCES – WEB, SOCIAL MEDIA AND TEXT ANALYTICS	103
NATIONAL ACCOUNTS IN PRACTICE – ADVANCED COURSE	105
OUTPUT CHECKING IN RESEARCH DATA CENTRES.....	107
ENTERPRISE ARCHITECTURE AND THE DIFFERENT EA LAYERS, APPLICATION TO THE ESS CONTEXT.....	109

SOCIAL DATA MINING.....	112
DESIGNING AND CONDUCTION BUSINESS SURVEYS FOR OFFICIAL STATISTICS	114
BALANCE OF PAYMENTS – ADVANCED COURSE.....	116
ENERGY STATISTICS - BALANCE BUILDER AND SHARES TOOL	118
ADVANCED BIG DATA SOURCES – MOBILE PHONE AND OTHER SENSORS	120
ANNUAL TO QUARTERLY TO MONTHLY DATA	122
ACTIVITY AND PRODUCT CLASSIFICATIONS: DESCRIPTION, USE AND IMPLEMENTATION	124
DEVELOPMENT AND USE OF INDICATOR SYSTEMS FOR EVIDENCE- BASED DECISION MAKING	126
DATA VALIDATION IN THE ESS	128
COMMON STATISTICAL PRODUCTION ARCHITECTURE	130
STATISTICS4BEGINNERS.....	132
WASTE STATISTICS	134
MACROECONOMIC IMBALANCE PROCEDURE (MIP SCOREBOARD).....	136
NATIONAL ESTP CONTACT POINTS	138

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 ESTP is part of the European Statistical System – Learning and Development Framework (ESS-LDF)¹ managed by Eurostat.

The programme is tailored to meet the specific needs of the European Statistical System (ESS)² 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.

¹ The ESS-LDF is striving to improve the quality of European statistics by developing a series of learning and development tools (e-learning, portal, competence profiles, impact of learning assessment, etc.).

² 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).

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.

2018 is the third year of the ESTP III programme (2015-2019) which is based on an offer more adapted to the new challenges of the ESS. The ESTP III comprises alternative didactical approaches 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.

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 <http://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 2018 ESTP courses

DATE	COURSE TITLE	VENUE	COURSE ORGANISER	APPLICATION DEADLINE
06 – 08 February 2018 3 days	Presentation, facilitation and consultation skills for statistical trainers - Introductory course	Wiesbaden, Germany	ICON- INSTITUT Public Sector GmbH	11.12.2017
12 – 14 February 2018 2.5 days	Introduction to Big Data and its tools	Rome, Italy	EXPERTISE FRANCE	15.12.2017
20 - 22 February 2018 3 days	Introduction to Seasonal Adjustment and JDEMETRA+	Eurostat, Luxembourg	EUROSTAT	22.12.2017
27 - 28 February 2018 2 days	Digital dissemination of statistics: Focus on data visualisation	Luxembourg, Luxembourg	SOGETI	22.12.2017
06 - 08 March 2018 3 days	SDMX Standard for Data and Metadata Exchange: Basics course	Eurostat, Luxembourg	EUROSTAT	05.01.2018
12 - 15 March 2018 4 days	National Accounts - Introductory course	Luxembourg, Luxembourg	SOGETI	12.01.2018
14 - 15 March 2018 2 days	European Profiling in the European System of the interoperable Business Registers (ESBRs)	Eurostat, Luxembourg	EUROSTAT	12.01.2018
19-20 March 2018 2 days	European Business Statistics Methods and selected topics	Eurostat, Luxembourg	EUROSTAT	19.01.2018
20-22 March 2018 3 days	Media Relations in Statistical Offices - Introductory Course	Copenhagen, Denmark	EXPERTISE FRANCE	23.01.2018

DATE	COURSE TITLE	VENUE	COURSE ORGANISER	APPLICATION DEADLINE
11 - 13 April 2018 3 days	The ESS Vision 2020: Working together with PM ² Project, Programme and Portfolio Management	Eurostat, Luxembourg	EUROSTAT	09.02.2018
17 - 20 April 2018 3.5 days	Statistical Disclosure Control	Eurostat, Luxembourg	EUROSTAT	16.02.2018
18 - 20 April 2018 3 days	Dissemination and Communication - Introductory course	Madrid, Spain	EXPERTISE FRANCE	19.02.2018
18 - 20 April 2018 3 days	Integration of statistics and geospatial information - from geocoding to statistical maps	Luxembourg, Luxembourg	SOGETI	19.02.2018
24 - 27 April 2018 3.5 days	Quality management in statistical agencies - Introductory course	Helsinki, Finland	ICON- INSTITUT Public Sector GmbH	23.02.2018
25 - 27 April 2018 3 days	Small area estimation	Valencia, Spain	DEVSTAT	23.02.2018
15 - 16 May 2018 2 days	Balance of Payments - Introductory course	Luxembourg, Luxembourg	SOGETI	16.03.2018
15 - 17 May 2018 3 days	Machine Learning Econometrics	Valencia, Spain	DEVSTAT	15.03.2018
15 - 17 May 2018 3 days	SDMX Standard for Data and Metadata Exchange IT tools course	Eurostat, Luxembourg	EUROSTAT	16.03.2018
16 - 18 May 2018 3 days	Economic and Social Classifications: methodology and application	Palaiseau Campus Paris- Saclay (Paris), France	ICON- INSTITUT Public Sector GmbH	16.03.2018

DATE	COURSE TITLE	VENUE	COURSE ORGANISER	APPLICATION DEADLINE
22 – 24 May 2018 3 days	Administrative data and censuses, moving from traditional censuses towards register-based and combined censuses	Wiesbaden, Germany	EXPERTISE FRANCE	27.03.2018
28 – 30 May 2018 3 days	Physical Environmental Accounts	Vienna, Austria	SOGETI	30.03.2018
28 – 31 May 2018 3.5 days	The European Statistical System (ESS) - Active participation in ESS meetings	Madrid, Spain	ICON- INSTITUT Public Sector GmbH	28.03.2018
28 May - 01 June 2018 5 days	ESA 2010 - National Accounts	Eurostat, Luxembourg	EUROSTAT	28.03.2018
30 May - 01 June 2018 3 days	Introduction to Statistics production with the use of geographical information systems (GIS)	Oslo, Statistics Norway	EFTA	28.03.2018
04 - 06 June 2018 3 days	Water Statistics and Accounts	Paris, France	SOGETI	06.04.2018
04 – 07 June 2018 4 days	The Use of R in Official Statistics: model based estimates	Valencia, Spain	DEVSTAT	09.04.2018
11 – 14 June 2018 4 days	Hands-on immersion on Big Data tools	Rome, Italy	EXPERTISE FRANCE	04.04.2017
12 - 13 June 2018 2 days	Advanced Course on Quality Reporting	Eurostat, Luxembourg	EUROSTAT	13.04.2018

DATE	COURSE TITLE	VENUE	COURSE ORGANISER	APPLICATION DEADLINE
12 - 14 June 2018 3 days	Introduction to experimental Ecosystem extent and Services Accounting based on SEEA-EEA	London, United Kingdom	SOGETI	13.04.2018
12 - 14 June 2018 3 days	Time Series Econometrics	Valencia, Spain	DEVSTAT	12.04.2018
19 - 21 June 2018 2,5 days	Energy Statistics	Eurostat, Luxembourg	EUROSTAT	20.04.2018
19 - 22 June 2018 3,5 days	Information standards and technologies for describing, exchanging and disseminating data and metadata	Rome, Italy	ICON- INSTITUT Public Sector GmbH	20.04.2018
25 - 29 June 2018 5 days	Government Finance Statistics and Excessive Deficit Procedure Part I	Dublin, Ireland	CSO Ireland and EUROSTAT	27.04.2018
02 - 06 July 2018 5 days	Government Finance Statistics and Excessive Deficit Procedure Part I	Eurostat, Luxembourg	EUROSTAT	04.05.2018
03 - 05 September 2018 3 days	Monetary Environmental Accounts	Vienna, Austria	SOGETI	25.06.2018
05 - 07 September 2018 3 days	Cognitive Interviewing	Vienna, Austria	DEVSTAT	05.06.2018
12 - 14 September 2018 3 days	Moving towards register based statistical system	Valencia, Spain	DEVSTAT	12.07.2018

DATE	COURSE TITLE	VENUE	COURSE ORGANISER	APPLICATION DEADLINE
18 - 20 September 2018 3 days	Presentation, facilitation and consultation skills for statistical trainers - Advanced course	Wiesbaden, Germany	ICON- INSTITUT Public Sector GmbH	13.07.2018
18 - 20 September 2018 3 days	Advanced JDEMETRA+ with R	Eurostat, Luxembourg	EUROSTAT	20.07.2018
25 - 27 September 2018 2.5 days	Quality framework, process and product quality measurement - Advanced course	Rome, Italy	ICON- INSTITUT Public Sector GmbH	29.06.2018
01 - 04 October 2018 4 days	Big Data Sources - Web, Social Media and Text Analytics	The Hague, The Netherlands	EXPERTISE FRANCE	06.08.2018
02 - 11 October 2018 8 days	National Accounts in Practice - Advanced course	Luxembourg, Luxembourg	SOGETI	27.07.2018
02 - 04 October 2018 3 days	SDMX Standard for Data and Metadata Exchange IT tools course	Eurostat, Luxembourg	EUROSTAT	03.08.2018
16 - 17 October 2018 2 days	Output checking in Research Data Centres	Eurostat, Luxembourg	EUROSTAT	17.08.2018
22 - 25 October 2018 3,5 days	Enterprise Architecture and the different EA layers, application to the ESS context	Rome, Italy	ICON- INSTITUT Public Sector GmbH	24.08.2018
24 - 25 October 2018 2 days	Social Data Mining	Valencia, Spain	DEVSTAT	24.08.2018

DATE	COURSE TITLE	VENUE	COURSE ORGANISER	APPLICATION DEADLINE
05 – 07 November 2018 3 days	Designing and conduction Business Surveys for Official Statistics	Oslo Norway	EFTA	07.09.2018
06 – 08 November 2018 3 days	Balance of Payments - Advanced course	Luxembourg, Luxembourg	SOGETI	07.09.2018
12 November 2018 1 day	Energy statistics - Balance builder and SHARES tool	Eurostat, Luxembourg	EUROSTAT	14.09.2018
12 – 15 November 2018 4 days	Advanced Big Data Sources - Mobile Phone and other sensors	Heerlen, The Netherlands	EXPERTISE FRANCE	14.09.2018
12 – 16 November 2018 5 days	Government Finance Statistics and excessive deficit procedure Part II	Dublin, Ireland	CSO Ireland and EUROSTAT	27.04.2018
13 – 15 November 2018 3 days	Annual to Quarterly to Monthly data	Eurostat, Luxembourg	EUROSTAT	14.09.2018
13 – 16 November 2018 4 days	Activity and Product Classifications: description, use and implementation	Budapest, Hungary	ICON- INSTITUT Public Sector GmbH	14.09.2018
14 – 16 November 2018 3 days	Development and use of indicator systems for evidence-based decision making	Neuchâtel, Switzerland	FSO & EUROSTAT	21.09.2018
21 - 22 November 2018 2 days	Data validation in the ESS	Eurostat, Luxembourg	EUROSTAT	21.09.2018

DATE	COURSE TITLE	VENUE	COURSE ORGANISER	APPLICATION DEADLINE
21 - 23 November 2018 3 days	Common Statistical Production Architecture	Rome, Italy	ICON- INSTITUT Public Sector GmbH	21.09.2018
27 - 29 November 2018 3 days	Statistics4Beginners	Valencia, Spain	DEVSTAT	24.09.2018
26 - 30 November 2018 5 days	Government Finance Statistics and excessive deficit procedure Part II	Eurostat, Luxembourg	EUROSTAT	04.05.2018
04 - 05 December 2018 2 days	Waste Statistics	Vienna, Austria	SOGETI	08.10.2018
06 - 07 December 2018 2 days	Macroeconomic Imbalance Procedure (MIP scoreboard)	Eurostat, Luxembourg	EUROSTAT	05.10.2018

PRESENTATION, FACILITATION AND CONSULTATION SKILLS FOR STATISTICAL TRAINERS – INTRODUCTORY COURSE	
COURSE LEADER	Duncan MILES
TARGET GROUP	All those who are engaged in providing statistical training, giving statistical presentations, providing statistical consulting and facilitating group sessions with statistical and non-statistical audiences.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions. ▪ Participants will be expected to prepare a training session prior to the course.
OBJECTIVE(S)	To provide participants engaged in statistical training, statistical presentations, statistical consulting and facilitating group discussions with the competences required to be effective.
CONTENTS	<ul style="list-style-type: none"> ▪ 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	<ul style="list-style-type: none"> ▪ Understanding of the key principles of adult learning ▪ Understanding of the training cycle ▪ Understanding the principles of an effective needs analysis ▪ Implementation of the key principles of effective course design, delivery and evaluation ▪ 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
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.

REQUIRED READING	None
SUGGESTED READING	None
REQUIRED PREPARATION	Participants will be expected to prepare a short training presentation prior to the course. Further details will be sent to participants in advance of the course.
TRAINER(S)/ LECTURER(S)	Duncan MILES Denis GREER

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
06 – 08.02.2018	3 days	Wiesbaden, Germany	ICON-INSTITUT Public Sector GmbH	Deadline: 11.12.2017

INTRODUCTION TO BIG DATA AND ITS TOOLS	
COURSE LEADER	Carlo VACCARI
TARGET GROUP	Official statisticians (including managers) who will start to work on big data and with no specific knowledge on this subject; Official statisticians (including managers) who, without going to work on big data sources, need basic knowledge on big data
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions
OBJECTIVE(S)	<p>Main objectives of the course are:</p> <ul style="list-style-type: none"> ▪ Introducing the participants to the concepts of Big Data, the associated challenges and opportunities, and the statistical methods and IT tools needed to make their use effective in official statistics. <p>Analyse in detail statistical methods and IT tools available for Big Data usage in Official Statistics</p>
CONTENTS	<ul style="list-style-type: none"> ▪ Big data and the several digital traces people leave behind them; ▪ Overview of big data sources: sensor and the IoT, process-mediated data; human-sourced data; ▪ The implication of big data for official statistics; ▪ Big Data initiatives in official statistics at international level; ▪ Privacy and personal data protection; ▪ Examples of the use of big data for producing statistics (relevant for official statistics); ▪ Methodological challenges of big data for official statistics, e.g. over-fitting, multiple inference, and model based inference; ▪ Visualisation and its importance in the analysis of big data; ▪ Data science and its role in big data analytics; ▪ Overview of big data tools, e.g. distributed computing.
EXPECTED OUTCOME	<p>At the end of the course, participants will be able to:</p> <ul style="list-style-type: none"> ▪ Have a good understanding of Big Data technologies and methods to process Big Data for Official Statistics purposes. <p>Have a complete overview of the current state of the art of Big Data in Official Statistics with respect to international activities and concrete projects.</p>
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Exchange of views/experiences on national practices, if any ▪ Exercises
REQUIRED READING	None

<p>SUGGESTED READING</p>	<ul style="list-style-type: none"> ▪ <i>Scheveningen Memorandum on Big Data, DGINS, 25-26 Sep 2013, The Hague</i> https://ec.europa.eu/eurostat/cros/content/scheveningen-memorandum_en ▪ <i>UNECE: Big Data in Official Statistics,</i> https://statswiki.unece.org/display/bigdata/Big+Data+in+Official+Statistics ▪ <i>PhD Thesis "Big Data in Official Statistics" (2014)</i> http://www.academia.edu/7571682/PhD_Thesis_on_Big_Data_in_Official_Statistics ▪ <i>Monica Scannapieco, Antonino Virgillito, Diego Zardetto (2013): Placing Big Data in Official Statistics: A Big Challenge?,</i> https://ec.europa.eu/eurostat/cros/content/placing-big-data-official-statistics-big-challenge-antonino-virgillito-monica-scannapieco_en ▪ <i>D. Florescu, M. Karlberg, F. Reis, P. Rey Del Castillo, M. Skaliotis, A. Wirthmann (2014): Will 'big data'transform official statistics?,</i> http://www.q2014.at/fileadmin/user_upload/ESTAT-Q2014-BigDataOS-v1a.pdf ▪ <i>The White House (2014): Big Data: Seizing Opportunities, Preserving Values,</i> https://goo.gl/URDSWt ▪ <i>Peter Struijs, Barteld Braaksma and Piet JH Daas (2014): Official Statistics and Big Data,</i> http://journals.sagepub.com/doi/full/10.1177/2053951714538417 ▪ <i>Analysis of methodologies for using the Internet for the collection of information society and other statistics, Eurostat contract(2014):</i> https://ec.europa.eu/eurostat/cros/content/analysis-methodologies-using-internet-collection-information-society-and-other-statistics_en <p><i>Feasibility Study on the Use of Mobile Positioning Data for Tourism Statistics, Eurostat contract(2014):</i> http://ec.europa.eu/eurostat/web/tourism/methodology/projects-and-studies</p>
<p>REQUIRED PREPARATION</p>	<p>None</p>
<p>TRAINER(S)/ LECTURER(S)</p>	<p>Monica SCANNAPIECO, Andrea de PANIZZA, Michele FERRARA, Antonino VIRGILITO, Diego ZARDETTO (ISTAT) Piet DAAS (Statistics)</p>

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
12 – 14.02.2018	2,5 days	Rome, Italy	Expertise France	Deadline: 15.12.2017

INTRODUCTION TO SEASONAL ADJUSTMENT AND JDEMETRA+	
COURSE LEADER	Dario BUONO
TARGET GROUP	Staff of national statistical institutes (including newcomers) involved in the production process who want to acquire a good understanding of Seasonal Adjustment (SA) methods and practices
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ 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)	<ul style="list-style-type: none"> ▪ 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+
CONTENTS	<ul style="list-style-type: none"> ▪ Brief review of time series analysis, and ARIMA modelling ▪ Seasonality and its determinants ▪ Calendar effect and its components ▪ Why seasonal and calendar adjustment? ▪ Identification of type of outliers ▪ Use of additive and multiplicative decomposition ▪ Interactive introductory sessions with JDEMETRA+ ▪ Revised ESS guidelines on seasonal adjustment
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 which need calendar and/or seasonal adjustment and carry out the related procedures by using the latest version of JDEMETRA+ tool.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ 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 can also bring a set of time-series related to their interest,

	should they wish to do so.
TRAINER(S)/ LECTURER(S)	Dario BUONO and Enrico INFANTE (EUROSTAT) , Andreas DIETRICH (Bundesbank), Veronique ELTER (Statec)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
20 - 22.02.2018	3 days	Eurostat, Luxembourg	EUROSTAT	Deadline: 22.12.2017

DIGITAL DISSEMINATION OF STATISTICS: FOCUS ON DATA VISUALISATION	
COURSE LEADER	Maarten LAMBRECHTS
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)	<ul style="list-style-type: none"> ▪ Introduce the craft of data visualisation in the context of statistics. ▪ Introduce the psychological foundations of data visualisation. ▪ Provide a list of practical guidelines to evaluate data visualisations. ▪ Demonstrate a range of existing tools to create data visualisations and show their strengths and limitations. ▪ Discuss how to tailor statistics based data stories and visualisations to different audiences (journalists and media in particular) and different publication channels. ▪ Show the key features of static, responsive, interactive and animated data visualisations. ▪ Inspire participants by showing numerous examples of data visualisations.
CONTENTS	<p>The best way to learn data visualisation is by making them. But starting from a blank slate is hard, so participants are given an introduction to the field of data visualisation and are provided practical tips, guidelines and tools to turn statistics into visualisations that make sense and tell a story.</p> <p>As in arts and design, people creating data visualisations are often inspired by the works of others. Therefore, the participants are exposed to a considerable amount of data visualisation examples. In order to learn from mistakes made, bad examples are shown as well as good ones and participants will evaluate their own work and that of their peers.</p> <p>All principles and concepts taught will be illustrated by real life examples. Sources of these examples are the Eurostat, Destatis, Ine, Insee and Istat statistical yearbooks and the Twitter feeds of all national statistical offices of the EU member states plus the Eurostat feed. Examples shown will also include charts and graphics produced by various media reporting on EU statistics.</p> <p>Participants will have a computer at their disposal to experiment with the introduced tools, which are all free and online tools, make visualisations with them during the hands-on session and explore the interactive visualisations shown.</p>

Course content:

1. Data visualisation: introduction

- Psychological foundations of data visualisation. Concepts are illustrated with 10-20 examples showing good and bad application of the concepts.
- Chart choosers: how to choose the chart best suited to the data and the message. Material that will be used include
 - [1 Dataset, Visualized 25 Ways](#) (Flowing Data)
 - [Visual Vocabulary](#) (Financial Times)
 - [Essential Charts](#) (Ann K Emery)
 - [Graphic Continuum](#) (Jon Schwabish)
 - [Dataviz Catalogue](#) (Severino Ribecca)
- Basic rules of good data visualisation: introduction to the [Dataviz Checklist](#). Participants evaluate a chart of their own production or one of the 3 provided example charts with the Checklist.
- Best practices in data visualisation design: the practical guidelines comprised in the Dataviz Checklist are complemented with a list of 10 best practices. These cover, amongst others:
 - 1 message, 1 chart
 - the use of annotation
 - the use of colour
 - chart dimension ratios

All best practices are illustrated with good and bad examples sourced from European statistical offices and media.

2. Crafting data visualisations

The process of creating data visualisations (story development, sketching, designing, editing and publishing) is explained and discussed. Storytelling and journalistic techniques are applied to the visualisation of statistical data and are illustrated with at least 10 examples drawn from media.

The influence of the target audience and the publication channel (press releases, social media, website, paper publications, ...) on the data story and visualisation design are also discussed and illustrated with examples. Special attention goes to specific design aspects of static, responsive and interactive charts. At least 3 examples of published, multichannel data stories are discussed to illustrate story and design differences between channels.

In this session 5 tools to create data visualisations and data stories (static as well as interactive ones) are introduced and their strengths and weaknesses are discussed. These tools are Datawrapper, Chartbuilder, RAWgraphs, ChartAccent and Quadrigram. All five are online tools and free to use.

3. Hands-on session

Participants create their own visualisations, of their own data or of one of the provided statistical data sets, by applying the concepts and

	<p>guidelines provided in the previous sessions. Participants are invited to use newly learned tools, but may also sketch out their ideas on paper or use tools they are already familiar with.</p> <p>The results are presented before class and peer-evaluated.</p> <p>4. Online data publishing and animation</p> <p>In the first part of this session, modern and innovative digital data publications are shown and discussed. Examples include</p> <ul style="list-style-type: none"> • The Best and Worst Places to Grow Up: How Your Area Compares (New York Times) • Data USA (Deloitte, MIT, Datawheel) • Let's get married. Ok – when? (ONS) • You draw it – How Family Income Predicts Children's College Chances (New York Times) • Where can you afford to buy a house? (The Guardian) • The Timing of Baby Making (The Pudding) • Rock 'n Poll (Maarten Lambrechts) • 9 Charts about Wealth Inequality in America (Urban Institute) <p>In the second part, animated gifs are discussed. Their effectiveness for communicating numbers and statistics is illustrated with at least 15 examples sourced from media and 2 techniques to produce gifs are explained (screen capture and combining image frames).</p> <p>In the last part video as a tool to disseminate statistics and tell data stories are discussed. The examples that will initiate the discussion include</p> <ul style="list-style-type: none"> • On an average day (CBS) • Wealth Inequality in America (Politizane) • The Shadow Peace (Neil Halloran)
<p>EXPECTED OUTCOME</p>	<p>After the course, participants will:</p> <p>Have an understanding of what distinguishes good data visualisations from bad ones.</p> <p>Be able to apply the rules of good data visualisation to their own work.</p> <p>Know what tools are available to create different types of visualisations, including their strengths and weaknesses.</p> <p>Have learned how to use at least one visualisation tool they didn't use before.</p> <p>Be able to develop and tailor visualisations and data stories to different audiences and publication channels.</p>
<p>TRAINING METHODS</p>	<p>Sessions 1, 2 and 4 will be given as interactive lectures. Participants will be actively involved in multiple exercises and will be invited to share their own thoughts and experiences. All theoretical concepts will be illustrated with real life examples.</p> <p>Session 3 is a practical session in which participants produce visualisations themselves. They will present their work before class, and evaluate the work of their peers.</p>
<p>REQUIRED READING</p>	<p>None</p>

SUGGESTED READING	<p>An evaluation of data visualisation practices of statistical institutes (blog post, pdf), Jorge Camoes</p> <p>The Dataviz Checklist (blog post, pdf), Stephanie Evergreen and Ann K. Emery</p> <p>Learno Video course 'Charting tools for the newsroom', Maarten Lambrechts</p> <p>The Functional Art, Alberto Cairo</p> <p>How to release numbers to the press, Maarten Lambrechts</p> <p>Who should tell the data stories?, Maarten Lambrechts</p> <p>Making Data Meaningful, UNStats</p> <p>Data Visualisation Style Guide, ONS</p>
REQUIRED PREPARATION	<p>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 on paper.</p> <p>For the hands-on session, each participant should bring a data set to class to work with.</p> <p>In case these requirements are not met, example visualisations and statistical data sets will be provided.</p>
TRAINER(S)/ LECTURER(S)	Maarten LAMBRECHTS

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
27 – 28.02.2018	2 days	Luxembourg, Luxembourg	SOGETI	Deadline: 22.12.2017

<h2 style="margin: 0;">SDMX STANDARD FOR DATA AND METADATA EXCHANGE: BASICS COURSE</h2>	
COURSE LEADER	Luca GRAMAGLIA
TARGET GROUP	Statisticians and IT professionals working in a statistical domain <u>without</u> SDMX knowledge.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ A sound command of English is required; participants should be able to follow presentations closely, to follow instructions in exercises, to make short interventions and to actively participate in discussions. ▪ Experience in one or more statistical subject matter areas for data or metadata collection, reporting, exchange, or dissemination is required.
OBJECTIVE(S)	<p>To enable participants to understand the scope, architecture, and features of SDMX, in particular those features that support more efficient processes for reporting, exchanging and disseminating statistical data and metadata, so that they can:</p> <ul style="list-style-type: none"> ▪ Assess how to take advantage of SDMX in their day-to-day work; ▪ Understand what a DSD and MSD are and how they reflect requirements for data and metadata exchange; ▪ Work together (statisticians and IT specialists) in the organization in planning for SDMX in their domain; ▪ Understand the relationship between SDMX and the process of the production of statistics; ▪ Understand the different roles of the organizations in the collection and production of statistics and the relationship with SDMX; ▪ Understand (in broad terms) the different tools that Eurostat can provide, and the architecture that can be developed. ▪ Understand that SDMX enables automated validation services.
CONTENTS	<p>The training session is aimed at people who are or will be in charge of managing SDMX-based transmission and dissemination of data and metadata, possibly using existing tools. For this reason, the course is also recommended as an introduction to SDMX for people who intend to follow the advanced course "SDMX for IT developers" at a later stage.</p> <p>It is important to understand that the course will start with the theory of SDMX and then move to practical exercises.</p> <p>The broad contents are:</p> <ul style="list-style-type: none"> ▪ The origin and purpose of SDMX: what problems is it trying to solve? What opportunities is it trying to take advantage of? The historical background and context of SDMX. The importance of standardisation; ▪ An overview of SDMX: an overview of the SDMX components (the SDMX Information Model, the Content-Oriented Guidelines and the

	<p>IT architecture for the data and metadata exchange);</p> <ul style="list-style-type: none"> ▪ An overview of the SDMX implementation process: who is involved in what stages, facing what kinds of challenges? The SDMX maintenance process (maintenance agreements); ▪ Details on main SDMX objects: concept and concept scheme, code lists, data structure definition, data sets, metadata structure definitions (using the European Statistics Metadata Structure or the ESS standard for quality reports); ▪ An overview of the SDMX architecture and IT tools: the SDMX registries (European and global), the SDMX converter, the SDMX reference infrastructure and the SDMX Census Hub, with understanding of the different versions of the standard; ▪ Practical use cases of SDMX: perhaps one domain for which SDMX implementation is well established (in previous years this has been National Accounts) and another for a domain that is undergoing SDMX implementation; ▪ An overview of the validation services that can be used with SDMX and the benefits that can accrue. ▪ SDMX: next steps and current developments. An overview of the strategic lines of development for SDMX from the sponsors as a whole (Roadmap 2020) and within Eurostat.
EXPECTED OUTCOME	<p>At the end of the course the participants should be able to:</p> <ul style="list-style-type: none"> ▪ Discuss with their management, colleagues and implementation staff, the role of SDMX and related technologies, tools, and standards in the work of their statistical unit or statistical office; ▪ Understand better the responsibilities and activities required in order to introduce SDMX into the working environment of a statistical business unit; ▪ Assist in the preparation of Data and Metadata Structure Definitions; ▪ Identify the available Eurostat tools to assist the participant implementing SDMX.
TRAINING METHODS	<p>Training will be based on a series of presentations that are reinforced with practical examples.</p> <p>The course trainers will ensure that the participants are comfortable with the exercises by monitoring the progress of the trainees and assisting where required. Where appropriate, the trainers will remind participants of where they are in the learning process.</p> <p>At the end of the course there will be an open session where any topic can be discussed in more detail. Often these topics arise from questions asked during the course.</p>
REQUIRED READING	None
SUGGESTED READING	<p>SDMX InfoSpace pages on 'SDMX explained': http://ec.europa.eu/eurostat/web/sdmx-infospace/welcome</p>
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Eurostat units B5 and B3 with possible NSI experts

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
06 – 08.03.2018	3 days	Eurostat Luxembourg	EUROSTAT	Deadline: 05.01.2018

NATIONAL ACCOUNTS - INTRODUCTORY COURSE	
COURSE LEADER	Robin LYNCH
TARGET GROUP	Junior statisticians of National Accounts (NA) departments or statisticians of other statistical departments dealing with NA statistics and wishing to understand better the system and overall framework of NA.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. ▪ Junior statisticians of National Accounts (NA) departments or statisticians of other statistical departments dealing with NA statistics and wishing to understand better the system and overall framework of NA.
OBJECTIVE(S)	<p>The course will introduce the theoretical and practical knowledge of National Accounts approaches.</p> <p>The main focus will be on concepts and definitions of NA and discussions on General features of the System of National Accounts (SNA, ESA), basic concepts, supply and Use Tables, non-financial sector accounts and financial sector accounts.</p> <p>The course will introduce Quarterly national accounts, Satellite Accounts as well as Regional Accounts.</p> <p>The course will explore the European perspective and a view on harmonisation efforts within Europe.</p>
CONTENTS	<ul style="list-style-type: none"> • 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 • Satellite Accounts • Regional Accounts • Administrative use of NA in the EU Changes from SNA93/ESA95 to SNA2008/ESA2010
EXPECTED OUTCOME	Participants will gain basic understanding of the conceptual framework underpinning National Accounts, together with the main sources and methods used to compile the accounts in the EU. 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)	Robin LYNCH (independent expert) Simon HUMPHIES (independent expert)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
12 - 15.03.2018	4 days	Luxembourg, Luxembourg	SOGETI	Deadline: 12.01.2018

EUROPEAN PROFILING IN THE EUROPEAN SYSTEM OF THE INTEROPERABLE BUSINESS REGISTERS (ESBRs)	
COURSE LEADER	Ioannis XIROUCHAKIS
TARGET GROUP	<ul style="list-style-type: none"> ▪ Statisticians working on national and European Profiling ▪ National Statistical Business Register staff
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English; participants should be able to make short interventions and to actively participate in discussions ▪ Experience in national and/or European Profiling will be an asset
OBJECTIVE(S)	<ul style="list-style-type: none"> ▪ To illustrate the challenges globalization poses on economic statistics and the way Profiling can address them ▪ To outline the goals, the scope and the achievements of the ESBRs project, in particular with respect to European Profiling ▪ To explain the latest methodological developments in Profiling ▪ To familiarize the participants with the Interactive Profiling Tool (IPT) for European Profiling and its interaction with the EuroGroups Register (EGR)
CONTENTS	<ul style="list-style-type: none"> ▪ Overview of the ESS.VIP ESBRs project ▪ Methodological aspects of European Profiling ▪ Practical aspects of European Profiling ▪ The Interactive Profiling Tool (IPT)
EXPECTED OUTCOME	The participants understand the concept of European Profiling within the ESBRs, the motivation for collaborative Profiling in Europe, the relevant practical aspects and latest methodological developments. The participants are familiar with the basic functions of IPT.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Practical demonstrations
REQUIRED READING	None
SUGGESTED READING	<ul style="list-style-type: none"> ▪ <i>The latest available versions of the Profiling methodology and of the Interactive Profiling Tool (IPT) User Guide (visit e.g. the IPT wiki on https://webgate.ec.europa.eu/fpfis/wikis/display/Profiling/).</i> ▪ <i>The background of European Profiling, for example as presented in the European Business Statistics manual (see e.g. http://ec.europa.eu/eurostat/documents/54610/7779382/Profiling-in-business-statistics.pdf).</i>
REQUIRED PREPARATION	In case your national organization has already participated in European Profiling using IPT, it is recommended to review a real past Profiling case

	stored in IPT.
TRAINER(S)/ LECTURER(S)	Experts from Eurostat Unit G1: Enrica MORGANTI, Biliana BRANSKA-LATEVA, Vincent HECQUET, Monika KERSCHENBAUER-REITER

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
14-15.03.2018	2 days	Eurostat, Luxembourg	EUROSTAT	Deadline: 12.01.2018

EUROPEAN BUSINESS STATISTICS METHODS AND SELECTED TOPICS	
COURSE LEADER	Thom WERKHOVEN
TARGET GROUP	Management and statisticians fully or partially involved in the domain of business statistics
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Basic knowledge of (one or more of) the business statistics
OBJECTIVE(S)	<ul style="list-style-type: none"> ▪ Good understanding of the upcoming legal and methodological/metadata framework of European Business Statistics (EBS) with specific focus on various selected topics and national practices/issues.
CONTENTS	<p>Fixed general elements of the programme:</p> <ul style="list-style-type: none"> ▪ Methodological aspects related to the production of European business statistics ▪ Legal aspects related to European business statistics ▪ Future changes due to FRIBS, ESS-VIPs and other measures <p>Capita Selecta of focus modules in the field of</p> <ul style="list-style-type: none"> ▪ Scope and main concepts in European business statistics (e.g. market/non-market scope, measures of cost-effectiveness, cross-domain consistency measures, EBS role for National Accounts, globalisation and economic ownership) ▪ Domain-related topics <p>Details of the programme will be decided by the Business Statistics Directors Group meeting of December 2017; to be published under http://ec.europa.eu/eurostat/documents/54610/7779382/Course-description-2018-EBS-methods-and-topics.pdf</p>
EXPECTED OUTCOME	Participants are better equipped for implementing changes in their national systems, meeting better EU-harmonisation standards.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Exchange of views/experiences ▪ Inclusion of national practices/cases
REQUIRED READING	No
SUGGESTED READING	No
REQUIRED PREPARATION	No

TRAINER(S)/ LECTURER(S)	Thom WERKHOVEN (Unit G1) and Co-trainers (internal experts Eurostat)
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PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
19 - 20.03.2018	2 days	Eurostat, Luxembourg	EUROSTAT	Deadline: 19.01.2018

MEDIA RELATIONS IN STATISTICAL OFFICES – INTRODUCTORY COURSE	
COURSE LEADER	Helle HARBO HOLM
TARGET GROUP	Press office and Communication staff. Other statisticians with a significant involvement in writing for the media
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make interventions and to actively participate in discussions ▪ Some experience in communication with media
OBJECTIVE(S)	The course will provides participants with a better understanding of the principles of communicating Official Statistics and the work of NSIs to the media. Participants will be made familiar with concepts and methods, technologies, strategies and best practices in the fields of media communication in a European context. Eurostat requirements to communication will be clarified.
CONTENTS	<ul style="list-style-type: none"> • Understanding the media and their needs • Writing for the media • Talking to the media • Dissemination tools to reach the media • Media training • Internal counselling • Communicating in a crisis • Monitoring the media • Social media in press work
EXPECTED OUTCOME	<ul style="list-style-type: none"> • Learn and take part in discussions about how to interact with the media in everyday work and in situations of crises • Learn about specific tools in press work • Be made familiar with how an NSI like Statistics Denmark handles internal counselling and media training • Be made familiar with how a NSI like Statistics Denmark handles daily monitoring of media including social media • Learn and take part in discussions about how to use social media in press work
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Exercises
REQUIRED READING	Dissemination, media and press policies of own organisation. European Statistics Code of Practice http://ec.europa.eu/eurostat/web/quality/european-statistics-code-of-practice

	Quality Assurance Framework of the European Statistical System http://ec.europa.eu/eurostat/web/quality/european-statistics-code-of-practice
SUGGESTED READING	UNECE- Making Data Meaningful Part 3 - A guide to communicating with the media. Available from: https://www.unece.org/index.php?id=17574 UNECE- Making Data Meaningful Part 1 - A guide to writing stories about numbers. Available from: https://www.unece.org/index.php?id=17566
REQUIRED PREPARATION	Participants must be familiar with press and media polices of their own NSI
TRAINER(S)/ LECTURER(S)	Helle HARBO HOLM, (Statistics Denmark) Stenn DAHL PEDERSEN (Head of Communication Statistics Denmark)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
20 – 22.03.2018	3 days	Copenhagen, Denmark	Expertise France	Deadline: 23.01.2018

THE ESS VISION 2020: WORKING TOGETHER WITH PM² PROJECT, PROGRAMME AND PORTFOLIO MANAGEMENT

COURSE LEADER	Crista FILIP
TARGET GROUP	Project managers from ESS Member States, with limited practical experience of or little theoretical knowledge about project management. Staff involved in the management of the ESS Vision 2020 Projects are particularly encouraged to attend.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions. ▪ Involvement (current or future) in the management of projects at national or ESS level (projects involving more than one NSI).
OBJECTIVE(S)	<ul style="list-style-type: none"> ▪ Develop a common vocabulary and understanding in the ESS regarding project management. ▪ Develop essential skills for managing projects in the ESS and under the ESS Vision 2020 Portfolio. ▪ Increase cooperation in the ESS in the field of Project and Portfolio Management.
CONTENTS	<ul style="list-style-type: none"> ▪ What is a Project? - PM² Essentials ▪ The difference between Project, Programme and Portfolio ▪ The ESS Vision 2020 Portfolio ▪ Project management (PM²) in the EC & the ESS ▪ How to embed Sustainability in your projects ▪ Roles and Responsibilities ▪ Managing Business Requirements ▪ Stakeholder identification and engagement ▪ Detailed Planning, Monitoring & Controlling ▪ Risk identification, risk response development and monitoring ▪ Ending a Project: Lessons learned from past projects ▪ Project reviews, Best practices, Tools & Techniques ▪ The ethics in managing projects & the PM² Mindsets
EXPECTED OUTCOME	<p>The participants are expected upon their return to have:</p> <ul style="list-style-type: none"> ▪ Developed a good understanding of the importance and relevance of Project Management ▪ Obtained knowledge on the methodology and vocabulary used ▪ Improved competencies to manage change (and related risks) in an effective manner

	<ul style="list-style-type: none"> ▪ Improved ability to reduce waste by organising their work better (save time and resources) ▪ Improved understanding on cooperation in complex common activities ▪ Acquired the ability to promote project management skills in their organisation ▪ Improved knowledge on ESS Vision 2020 Portfolio projects.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Real life examples from actual projects / case studies ▪ Exchange of views on and experiences of national practices
REQUIRED READING	<ul style="list-style-type: none"> ▪ The Value of Project Management – white paper http://www.pmi.org/-/media/pmi/documents/public/pdf/white-papers/value-of-project-management.pdf ▪ Open PM² initiative leaflet https://ec.europa.eu/isa2/sites/isa/files/docs/publications/openpm2_leaflet_v.1.0.pdf
SUGGESTED READING	<ul style="list-style-type: none"> ▪ ESS Vision 2020 http://ec.europa.eu/eurostat/web/ess/about-us/ess-vision-2020 ▪ ESS Vision 2020 implementation: roles and responsibilities https://circabc.europa.eu/d/d/workspace/SpacesStore/3e27a505-4ee7-4a07-a5cd-a0244cf02cd9/ESS%20Vision%202020%20implementation%20-%20roles%20and%20responsibilities.pdf ▪ PM² Project Management Methodology Guide (Open Edition) https://publications.europa.eu/en/publication-detail/-/publication/0e3b4e84-b6cc-11e6-9e3c-01aa75ed71a1/language-en ▪ PM² Project Management Methodology Wiki (Open Edition) https://webgate.ec.europa.eu/fpfis/wikis/display/openPM2/ ▪ ISA² - Interoperability solutions for public administrations, businesses and citizens: Open PM² ▪ https://ec.europa.eu/isa2/solutions/open-pm2_en
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	<p>Crista FILIP (Eurostat)</p> <p>Niels PLOUG (Director - Social Statistics, Statistics Denmark)</p> <p>Elias MICHELIOUDAKIS (CoE PM² - European Commission)</p>

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
11 - 13.04.2018	3 days	Eurostat, Luxembourg	EUROSTAT	Deadline: 09.02.2018

STATISTICAL DISCLOSURE CONTROL	
COURSE LEADER	Aleksandra BUJNOWSKA
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. Case studies from Member States (MS) will be discussed.
CONTENTS	<ul style="list-style-type: none"> ▪ 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	<p>The course programme is a mix of theoretical background and practical application provided through:</p> <ul style="list-style-type: none"> ▪ Lectures and presentations; ▪ Manual exercises; ▪ Practical exercises using Tau Argus and Mu Argus software; ▪ Discussion of Case studies from Member States; ▪ Group discussions.
REQUIRED READING	None
SUGGESTED READING	<ul style="list-style-type: none"> ▪ 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 are available from the CASC website, at the following link: http://neon.vb.cbs.nl/casc (and 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)	Peter-Paul DE WOLF, Eric Schulte NORDHOLT (Statistics Netherlands) Annu CABRERA (Statistics Finland)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
17 – 20.04.2018	3.5 days	Eurostat, Luxembourg	EUROSTAT	Deadline: 16.02.2018

DISSEMINATION AND COMMUNICATION- INTRODUCTORY COURSE	
COURSE LEADER	Adolfo GALVEZ MORALEDA
TARGET GROUP	Staff members working in dissemination units or those who are interested in these activities
ENTRY QUALIFICATIONS	Sound command of English. Participants should be able to make short interventions and to actively participate in discussions
OBJECTIVE(S)	<p>Introduce the participants to current European and international requirements and recommendations shaping and defining dissemination in the European Statistical System like the Code of Practice, the UN Fundamental Principles and the new ESS project DIGICOM to modernise communication and dissemination of European statistics.</p> <p>Demonstrate the use of quantitative measures of dissemination i.e. timeliness, punctuality, adherence to release schedules, media citations, various web metrics (sessions, hits bounce rates).</p> <p>Discuss and demonstrate how different types of content can be tailored to specific user groups and special audiences.</p> <p>Visualisation: Introduce best practices on how to present data visualisations on websites: tables, graphs, maps and other innovative ways to convey statistical information to the users like infographics, tree maps, and statistical videos. Etc.</p> <p>Findability and comprehension: Describe the function and importance of metadata when users need to understand and find statistical information on the Internet.</p> <p>Introduce tools and methods for involving users in testing and development of new functionality and products.</p> <p>Discuss the ways of promoting European statistics using printed publications as a marketing tool, using social media, mobile apps, etc. to reach new audiences. Discuss future and present challenges in (mainly electronic) dissemination.</p>
CONTENTS	<p><i>Legal requirements</i></p> <ul style="list-style-type: none"> European and international requirements, guidelines and recommendations Open data <p><i>Defining user requirements –Understanding what the users need</i></p> <ul style="list-style-type: none"> Users and user groups – segmentation of the user population Usability testing <p><i>Functionality requirements</i></p> <ul style="list-style-type: none"> Designing tables, graphs, maps and other visualisations for websites Innovative visualisations Documentation of statistics

	<p>Archiving of statistics Requirements for output databases Access requirements (APIs / Bulk download/ Batch access)</p> <p><i>Measuring dissemination</i> Timeliness, punctuality, media impact, web metrics</p> <p><i>Future of dissemination</i> Opportunities and challenges in social media and web 2.0 Mobile devices New approaches – innovative tools and documentation. Visualisation tools will help users to discover new aspect of statistical data and get a more intuitive understanding of complex relations.</p> <p>The future of print Statistical Literacy</p> <p>The ESS.VIP.DIGICOM project</p>
<p>EXPECTED OUTCOME</p>	<p>After the course participants will:</p> <p>Understand how the European Code of Practice and UN Fundamental Principles of Official Statistics influence and shape dissemination practices of a national statistics institute.</p> <p>How the ESS will work in the coming years through a new strategy of dissemination and communication</p> <p>Have experienced and discussed the “best practices” regarding presentation of tables, graphics, maps, other visualisation techniques and metadata on the Internet.</p> <p>Be able to participate in the formulation of a dissemination strategy and formulate strategic requirements for new dissemination tools/and new media. Understand various methods for monitoring the impact and effect of dissemination.</p>
<p>TRAINING METHODS</p>	<p>Lectures, group discussions, practical exercises</p>
<p>REQUIRED READING</p>	<p>None</p>
<p>SUGGESTED READING</p>	<ul style="list-style-type: none"> ▪ Making Data Meaningful Part 2 - UNECE 2009 UN Fundamental Principles of Official Statistics http://unstats.un.org/unsd/dnss/gp/fundprinciples.aspx ▪ European Statistics Code of Practice http://ec.europa.eu/eurostat/web/quality/european-statistics-code-of-practice ▪ Blog about Stats: http://blogstats.wordpress.com/ ▪ Innovative Approaches to Turning Statistics into Knowledge, OECD 2013: http://www.oecd.org/std/statknowledge.htm ▪ OECD’s Privacy Policy Statement Generator: http://www.oecd.org/sti/economy/oecdprivacystatementgenerator.htm ▪ Statistics Explained user statistics via Piwik: who is looking? http://www.unece.org/stats/documents/2011.06.dissemination.html www.visual-literacy.org

	<ul style="list-style-type: none"> ▪ Stephen Few: Show me the numbers. Designing Tables and Graphs to Enlighten ▪ Data Visualisation for the Citizen User: Making Better Graphics Quicker www.unece.org/fileadmin/DAM/stats/documents/ece/ces/ge.45/2013/Session_2_-_Alan_SmithFINAL.pdf ▪ The ESS Vision 2020 http://ec.europa.eu/eurostat/web/ess/about-us/ess-vision-2020 <p>The Users of Statistics and their role in the European Society http://ec.europa.eu/eurostat/web/ess/-/-the-users-of-statistics-and-their-role-in-the-european-society-</p>
REQUIRED PREPARATION	Participants are expected to be familiar with the dissemination strategy of their own organisation
TRAINER(S)/ LECTURER(S)	Adolfo GALVEZ MORALEDA, Celia SANTOS, Alicia FERNANDEZ SANZ, Maria Jesus VINUESA (INE Spain), Jose Alberto PINTO MARTINS (INE Portugal).

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
18 – 20.04.2018	3 days	Madrid, Spain	Expertise France	Deadline: 19.02.2018

INTEGRATION OF STATISTICS AND GEOSPATIAL INFORMATION – FROM GEOCODING TO STATISTICAL MAPS	
COURSE LEADER	Benoît BARTIAUX
TARGET GROUP	<ul style="list-style-type: none"> ▪ Statisticians involved in the production and analysis of statistical data. ▪ Want to learn to present statistical data in the form of maps. ▪ Want to learn basic principles of spatial analysis using statistical data and an Open Source GIS software (QGIS).
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Familiarity with the PC. This includes good knowledge on how to work with a personal computer (opening/closing files and applications, knowledge of applications such as Microsoft Office products, ...). ▪ Familiarity with basics of statistical data treatment is advisable, i.e basic skills for working with Excel or MS-Access or other database systems. ▪ Some knowledge of GIS or geospatial data treatment is a pro, but not required.
OBJECTIVE(S)	<ul style="list-style-type: none"> ▪ The course will introduce the theoretical and practical knowledge of geospatial information and maps in statistics. ▪ The main focus will be on the techniques and tools for linking statistical and geospatial information, creating maps, discussions on the linking between publications and online tools and on the presentation of statistical information with maps. ▪ Gain hands-on experience with GIS and map making. ▪ Understand the power of spatial analysis
CONTENTS	<ul style="list-style-type: none"> ▪ Basic principles of the nature of geospatial information and the relation to statistical data. ▪ Finding geospatial data – short introduction to geoportals, metadata and INSPIRE. ▪ Which data are useful to geocode statistics? ▪ Geocoding statistics – examples from census, social statistics, business statistics, transport statistics. ▪ Geocoding as an integration tool for data from various sources. ▪ Geocoding administrative data (e.g. population registers) – matching techniques (probabilistic and deterministic), public geocoders, problems with false matches. ▪ Geographic output systems for statistics – administrative geographies, statistical geographies, functional geographies, statistical grids.

	<ul style="list-style-type: none"> ▪ Basic cartographic principles to represent and communicate statistical information on maps, based on best practices. ▪ The techniques and tools for creating statistical maps within statistical offices. The open source QGIS tool will be used for practical exercises. ▪ Basic principles of spatial analysis, using European statistics and other European data. ▪ Introduction to the techniques and tools for spatial analysis, using the exercise of catchment areas for public services (airports, schools). The open source QGIS tool will be used to elaborate the exercises.
EXPECTED OUTCOME	Participants will gain basic understanding of concepts on geospatial information, spatial analysis and maps based on statistical data. The participants will be able to link statistical and geospatial data and gain insights from the combined information. They will design statistical maps and find the required geographic data and geocoding techniques to create them. There will be a mixture of presentation and practical, "hands-on" exercises for the participants to reinforce their learning.
TRAINING METHODS	Combination of theoretical lessons, practical "hands-on" training with the computer and GIS software, and discussion of practical problems. For the hands-on exercises the Open Source and free GIS software QGIS will be used
REQUIRED READING	None
SUGGESTED READING	<ul style="list-style-type: none"> ▪ <i>How to lie with maps</i>, Marc Monmonnier – ISBN 978-0226534213 ▪ <i>Geospatial Analysis - A comprehensive guide: A free web-based GIS resource</i> - Dr Michael de Smith and Prof Paul Longley, University College London, and Prof Mike Goodchild, UC Santa Barbara
REQUIRED PREPARATION	none
TRAINER(S)/ LECTURER(S)	Benoît BARTIAUX, An HEIRMAN (both GIM)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
18 – 20.04.2018	3 days	Luxembourg, Luxembourg	SOGETI	Deadline: 19.02.2018

QUALITY MANAGEMENT IN STATISTICAL AGENCIES – INTRODUCTORY COURSE

COURSE LEADER	Outi AHTI-MIETTINEN
TARGET GROUP	Employees of national statistical agencies involved in quality management, measurement and reporting.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in group working and 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 know how to apply methods to measure quality concepts.
CONTENTS	<p>The course should relate to the quality framework of the European Statistical System and studies the European quality tools and their implementation. It should focus 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.</p> <ul style="list-style-type: none"> ▪ 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 (brainstorming, current best methods, technical tools, auditing, and benchmarking) ▪ Quality management and quality frameworks: Quality Assessment Framework (QAF), Common Assessment Framework (CAF), Total Quality Management (TQM)/ European Foundation for Quality Management (EFQM), Balanced Scorecard (Management tool) (BSC), International Standards Organisation (ISO9001) ▪ Tools for measuring perceptions of various actors (self-assessments, auditing, 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	<ul style="list-style-type: none"> ▪ Lectures and examples ▪ Group works, discussions ▪ Participant presentations (a few) and discussion together

	<ul style="list-style-type: none"> ▪ Exchange of experiences on national practices
REQUIRED READING	None
SUGGESTED READING	<ul style="list-style-type: none"> ▪ 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)	<p>Outi AHTI-MIETTINEN, Kari DJERF (both Statistics Finland) Johanna LAIHO-KAURANNE (Natural Resources Institute Finland) Mária DOLOGOVÁ (Statistical Office of the Slovak Republic)</p>

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
24 – 27.04.2018	3.5 days	Helsinki, Finland	ICON-INSTITUT Public Sector GmbH	Deadline: 23.02.2018

SMALL AREA ESTIMATION	
COURSE LEADER	Domingo MORALES
TARGET GROUP	Statisticians (and related professionals) from National Statistical Institutes or Public Institutions and teachers or researchers from universities.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Some background on survey sampling, statistical models and statistical data analysis ▪ Some knowledge on R programming or a minimum the knowledge in any programming language.
OBJECTIVE(S)	<p>Training participants in producing small area estimates using surveys enhanced with administrative auxiliary data. Participants will also undertake practical exercises based on pseudo-real data. They will achieve a theoretical background on the foundations of small area estimation and a training on applying small area estimation methods to real data with the R programming language.</p> <p>The main specific objectives of the course are:</p> <ul style="list-style-type: none"> ▪ to provide the participants with basic knowledge of small area estimation procedures by using data from surveys and administrative registers. ▪ to provide skills to build and update small area estimation statistical techniques by using various administrative sources. ▪ to provide best practice in combining statistical surveys and register data for estimating small area parameters. ▪ to provide best practices on using model-based and design-based methods for small area estimation. ▪ to provide best practices on implementing R codes for small area estimation.
CONTENTS	<ul style="list-style-type: none"> • Small area estimation <ul style="list-style-type: none"> Design-based direct estimation • Design-based indirect estimation • Prediction theory • Linear models • Linear mixed models • Nested error regression models • EBLUPs under nested error regression models • Mean squared error of EBLUPs • EBPs under nested error regression models • Fay-Herriot model: EBLUP and HB predictors. • EBLUPS under area-level temporal linear mixed models • EBPs under generalized linear mixed models

	<ul style="list-style-type: none"> • Robust methods in small area estimation
EXPECTED OUTCOME	Participants should be able to propose realistic methods to estimate socioeconomic indicators on small areas and domains based on surveys and administrative auxiliary data.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Exercises with the R programming language
REQUIRED READING	<ul style="list-style-type: none"> ▪ Rao, J.N.K. and Molina, I. (2015). Small area estimation, Second Edition. Wiley, Hoboken (NJ).
SUGGESTED READING	<ul style="list-style-type: none"> ▪ Demidenko E. (2004). Mixed models, theory and applications. John Wiley, New York. ▪ Jiang, J (2007). Linear and generalized linear mixed models and their applications. Springer. ▪ McCulloch, C.E. and Searle, S.R. (2001). Generalized, Linear and Mixed Models. John Wiley, New York. ▪ Särndal, C.E., Swensson, B. and Wretman, J. (1992). Model assisted survey sampling. Springer-Verlag. ▪ Valliant, R., Dorfman, A.H. and Royall, R.M. (2000). Finite Population Sampling and Inference. A Prediction Approach. John Wiley. New York.
REQUIRED PREPARATION	The preparation of the training requires the identification of issues to be addressed during the exercises based on socioeconomic data from European surveys, as well as the provision of the corresponding microdata.
TRAINER(S)/ LECTURER(S)	Domingo MORALES (University Miguel Hernández)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
25 – 27.04.2018	3 days	Valencia, Spain	DEVSTAT	Deadline: 23.02.2018

BALANCE OF PAYMENTS – INTRODUCTORY COURSE	
COURSE LEADER	Simon HUMPHRIES
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	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to participate actively in discussions ▪ Familiarity with Balance of Payments ▪ Experience in National Accounts
OBJECTIVE(S)	<p>The course will introduce the theoretical and practical knowledge of BOP approaches.</p> <p>The main focus will be on concepts and definitions of BoP, discussions of the financial accounts and the International Investment Position.</p> <p>The course will explore the European perspective and a view on harmonisation efforts within Europe.</p>
CONTENTS	<ul style="list-style-type: none"> • Concepts and definitions of BoP – discussions of problematic areas. • Deeper presentation and discussions of the financial accounts and International Investment Position. • European perspective – aggregates for economic and currency unions. Harmonisation efforts (past, present and future) within Europe. Discussions about national experiences. • Data sources and compilation methods. More in-depth discussions • Quality issues. Presentation of national methods practise and approaches. • Analysis of BoP.
EXPECTED OUTCOME	Participants will gain basic understanding of the conceptual framework underpinning BoP, together with the main sources and methods used to compile the accounts in the EU. 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)	Simon HUMPHRIES (independent expert)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
15 – 16.05.2018	2 days	Luxembourg, Luxembourg	SOGETI	Deadline: 16.03.2018

MACHINE LEARNING ECONOMETRICS	
COURSE LEADER	José Luis CERVERA-FERRI
TARGET GROUP	NSIs staff with background in statistics/econometrics.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Background in statistics/econometrics ▪ Familiarity with databases: creation, structure, manipulation (preferably knowledge of SQL)
OBJECTIVE(S)	<ul style="list-style-type: none"> ▪ The objective of the course is to present and demonstrate innovative algorithm-based techniques for data analysis, with application to datasets from official statistics as well as from other sources (Big Data, text data)
CONTENTS	<ul style="list-style-type: none"> ▪ Review of classical econometrics. Econometric methods in Official Statistics: examples of use ▪ Methodological overview: model-based vs algorithm based inference ▪ Machine-learning and computational issues: validation (training vs test data, cross-validation), model overfitting, replication (bootstrap, bagging, model averaging), computational methods for estimation (Monte Carlo, MCMC) ▪ Machine-learning linear estimation: regularization of linear models (lasso, ridge regression) ▪ Machine-learning non-linear estimation methods (trees, forests, Support Vector Machines, neural nets) ▪ Econometric analysis applied to textual data ▪ Manipulation of big data sources: SQL and NoSQL databases ▪ Practice with R
EXPECTED OUTCOME	<p>Good understanding of the recent trends and developments in econometrics based on machine-learning methods.</p> <p>Discussion of their application to Official Statistics</p>
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Practical exercises (including R) ▪ Cases of study with practical examples of application of these methods
REQUIRED READING	None
SUGGESTED READING	<ul style="list-style-type: none"> ▪ James G. et al. (2013). An Introduction to Statistical Learning with Applications in R. Springer Verlag, NY. (http://www-bcf.usc.edu/~garth/ISL/ISLR%20Fourth%20Printing.pdf) ▪ Buelens, B. et al. (2012). Shifting paradigms in official statistics: From design-based to model-based to algorithmic inference. Discussion Paper 201218. Statistics Netherlands (http://www.cbs.nl/NR/ronlyres/A94F8139-3DEE-45E3-AE38-

	772F8869DD8C/0/201218x10pub.pdf)
REQUIRED PREPARATION	<ul style="list-style-type: none"> ▪ Varian, H. (2014). <i>Big Data: New Tricks for Econometrics</i>. http://people.ischool.berkeley.edu/~hal/Papers/2013/ml.pdf
TRAINER(S)/ LECTURER(S)	José Luis CERVERA-FERRI (DEVSTAT), Iván ARRIBAS (University of Valence) and Francisco RANGEL

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
15 – 17.05.2018	3 days	Valencia, Spain	DEVSTAT	Deadline: 15.03.2018

<h2 style="margin: 0;">SDMX STANDARD FOR DATA AND METADATA EXCHANGE, IT TOOLS COURSE</h2>	
COURSE LEADERS	Nadezhda VLAHOVA
TARGET GROUP	<p>IT specialists - Advanced course</p> <ul style="list-style-type: none"> ▪ The course is aimed at IT involved in the reporting, exchange, and dissemination of data and metadata. ▪ The principal target audience is IT specialists or statisticians with a very good level of IT knowledge, involved in implementations (reporting, production, exchange, and dissemination).
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ IT experience in the development of systems using statistical databases and/or metadata repositories for data or metadata collection, reporting, or dissemination ▪ Experience in one or more statistical subject matter areas for data or metadata collection, reporting, exchange, or dissemination ▪ Be acquainted to the use of Integrated Development Environment (IDE tools) and experience with Java and/or .NET development
OBJECTIVE(S)	<p>To enable participants to understand and to use the Eurostat tools which are available to support more efficient processes for reporting, exchanging and disseminating statistical data and metadata. Furthermore, to enable participants to understand the scope, architecture, and features of SDMX, in particular those features that support more efficient processes for reporting, exchanging and disseminating statistical data and metadata, so that they can:</p> <ul style="list-style-type: none"> ▪ Be in a position to build their future systems based on the SDMX Information model and to understand the design of a component-based architecture that implements this model ▪ Better understand the tools made available by Eurostat to work with SDMX and how to use them in relation to the different processes in the collection and production of statistics ▪ Understand the common architecture of the SDMX tools that have been developed and the design principle, in order to foster the reusability of the tools ▪ Know where to find the existing tools ▪ Perform installations and configurations of the Eurostat tools in an autonomous way and make use of them in a real use case scenario

<p>CONTENTS</p>	<p>The course is concerned principally with the IT aspects of the SDMX standard. The course comprises discrete but linked modules, many of them practical exercises using Eurostat tools. The broad contents are:</p> <ul style="list-style-type: none"> ▪ SDMX Information Model, SDMX structures and messages ▪ Introduction to Eurostat tools: where to find them and how to use them in the process of the production and dissemination of statistics ▪ SDMX Reference Infrastructure (SDMX-RI) and the Mapping Assistant ▪ SDMX Web services: installation and configuration of the java and .NET versions ▪ SDMX registry, Data Structure Wizard, SDMX Converter ▪ Hands-on sessions for the installation and configuration of the tools following real use cases of the tools <p>The course is organised as follows:</p> <ul style="list-style-type: none"> • Introductory session: historical background and context of SDMX; SDMX components: Information Model, Content-Oriented Guidelines, IT components; where to begin; scenarios for the implementation; SDMX messages; presentation of available tools and technologies • IT practical session: SDMX architectures and supporting tools; how to install SDMX tools; use cases and main functionalities • Hands-on session: Reflections on experiences gained during the practical session; hands-on installation and configuration of Eurostat tools; open discussion, conclusions, future work, and course evaluation.
<p>EXPECTED OUTCOME</p>	<p>At the end of the course the participants should be able to:</p> <ul style="list-style-type: none"> ▪ Understand better the responsibilities and activities required in order to introduce SDMX into the working environment of a statistical business unit ▪ Identify the Eurostat tools available in assisting participants to implement SDMX and understand how to use them, according to the statistical process ▪ Understand the common architecture of Eurostat tools and its reusability principle ▪ Install and configure Eurostat tools in an autonomous way.
<p>TRAINING METHODS</p>	<p>The course comprises:</p> <ul style="list-style-type: none"> ▪ Pedagogical lectures on SDMX from a conceptual model perspective, reinforced with practical exercises based on a variety of statistical domains ▪ Practical exercises using Eurostat tools based on a set of typical implementation scenarios (these form the majority of the exercises). Exercises are documented using presentation material and notes so that participants can complete these at their own pace ▪ Course lecturers ensure that trainees are comfortable with the exercises by monitoring the progress of the trainees and assisting where required

	<ul style="list-style-type: none"> Where appropriate the trainer will remind participants of where they are by relating the presentation material to the input required for the current exercise. Throughout the course participants are encouraged to ask questions and to discuss their experiences or plans. In order to determine understanding, participants are prompted to provide input during the presentations. At the end of the course there is an open session where any topic can be discussed in more detail. Often these topics arise from questions asked during the course.
REQUIRED READING	None
SUGGESTED READING	<p>SDMX_2_0 SECTION_06_Implementor's Guide - available on www.sdmx.org. Follow links to Standards and SDMX Standards version 2.0 http://sdmx.org/docs/2_0/SDMX_2_0%20SECTION_06_Implementor_sGuide.pdf</p> <p>SDMX User Guide – available on www.sdmx.org, follow links to User Guide http://sdmx.org/wp-content/uploads/2009/02/sdmx-userguide-version2009-1-71.pdf</p> <p>Eurostat SDMX WIKI space - https://webgate.ec.europa.eu/fpfis/mwikis/sdmx/index.php/Main_Page</p>
REQUIRED PREPARATION	<p>General knowledge on SDMX/XML and understanding of data reporting and dissemination processes.</p> <p>Participants are given all of the course material (documentation, presentations, exercises and solution), so that the course software can be used after the course, background files etc.).</p>
TRAINER(S)/ LECTURER(S)	Nadezhda VLAHOVA (Eurostat) and Eurostat staff

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
15 - 17.05.2018	3 days	Eurostat, Luxembourg	EUROSTAT	16.03.2018
02 - 04.10.2018	3 days			Deadline: 03.08.2018

ECONOMIC AND SOCIAL CLASSIFICATIONS: METHODOLOGY AND APPLICATION	
COURSE LEADER	Marie-Madeleine FUGER
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 presentations 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	<ul style="list-style-type: none"> ▪ Basic principles of classifications ▪ International system of linked economic classifications and family of international economic classifications ▪ International and European economic classifications: <ul style="list-style-type: none"> - 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, UN classification registry and other classification databases <p>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 from.</p>
EXPECTED OUTCOME	<ul style="list-style-type: none"> ▪ Participants will be familiar with statistical classifications, their content and their links. ▪ Improved knowledge and understanding of the main issues related to classifications and their use.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Exercises

	<ul style="list-style-type: none"> ▪ 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 organisation regarding practises, problems and experiences in the subject.
TRAINER(S)/ LECTURER(S)	Marie-Madeleine FUGER, Thomas DENOYELLE (INSEE France) Hans VAN HOOFF (Statistics Netherlands)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
16 – 18.05.2018	3 days	Palaiseau – Campus Paris- Saclay (Paris), France	ICON- INSTITUT Public Sector GmbH	Deadline: 16.03.2018

ADMINISTRATIVE DATA AND CENSUSES, MOVING FROM TRADITIONAL CENSUSES TOWARDS REGISTER BASED AND COMBINED CENSUSES	
COURSE LEADER	Eric SCHULTE NORDHOLT
TARGET GROUP	Statisticians and project managers of statistical offices involved in conducting future censuses.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions. ▪ A sound knowledge of censuses and population statistics is required; some knowledge on estimation is an advantage.
OBJECTIVE(S)	<p>The course aims at giving the participants an overview of possibilities and risks when moving from traditional to combined and register-based censuses. Participants will learn: challenges in the moving from the traditional census to the combined/traditional census, how to solve the faced problems when moving to the register-based census, and the achievement with the use of registers for the census.</p> <p>For each title of theoretical background, practical examples based on country experiences (NL, DE, PL, FI) and exercises are provided.</p>
CONTENTS	<ul style="list-style-type: none"> ▪ Presentations on combined and register-based censuses (including GIS aspects) ▪ Lectures on (combining) administrative data to be used in censuses ▪ Targeted group exercises on census variables on persons, households and dwellings ▪ Presentation of the impact of 2021 census round current and planned (grid) regulations on the potential national development work with respect to administrative data ▪ Presentation of the impact for the strategy for post-2021 with respect to annual statistics (demography, migration, education and current activity status on a LAU/geo-grid level) and issues related to this.
EXPECTED OUTCOME	Participants will achieve relevant knowledge on census methods involving administrative data.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Exercises (allow the participants to work in small groups on challenges and risks faced when moving to or having a combined or register-based census)
REQUIRED READING	No specific reading required

SUGGESTED READING	<ul style="list-style-type: none"> ▪ Conference of European Statisticians Recommendations for the 2020 Censuses of Population and Housing (http://www.unece.org/publications/2020recomm.html) ▪ Register-based statistics in the Nordic countries (http://www.unece.org/fileadmin/DAM/stats/publications/Register_based_statistics_in_Nordic_countries.pdf)
REQUIRED PREPARATION	<p>Reading some of the suggested reading; preparing a short overview of the census situation in the country and what to be expected (for a session on the first day of the course).</p> <p>It is important that the participants become acquainted with UNECE Census Wiki, which contains information and material related to the population and housing censuses in the UNECE region: https://statswiki.unece.org/display/censuses/UNECE+Census+Wiki</p>
TRAINERS/ LECTURERS	<p>Stephanie HIRNER (Destatis)</p> <p>Kaija RUOTSALAINEN (Statistics Finland)</p> <p>Janusz DYGASZEWICZ (Statistical Office of Poland)</p>

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
22 – 24.05.2018	3 days	Wiesbaden, Germany	Expertise France	Deadline: 27.03.2018

PHYSICAL ENVIRONMENTAL ACCOUNTS	
COURSE LEADER	Jörg HANAUER
TARGET GROUP	<ol style="list-style-type: none"> 1. Statisticians of environmental statistics or environmental accounts departments involved in compiling data on economy-wide material flow accounts (EW-MFA), air emission accounts (AEA) or physical energy flow accounts (PEFA). 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	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions
OBJECTIVE(S)	<ul style="list-style-type: none"> ▪ 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	<p>Session overview (circa ½ day)</p> <ul style="list-style-type: none"> • Introduction to 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. <p>Session on AEA (circa ½ day)</p> <ul style="list-style-type: none"> • 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 <p>Session on PEFA (circa ½ day)</p> <ul style="list-style-type: none"> • 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

	<p>Session on EW-MFA (circa 1 day)</p> <ul style="list-style-type: none"> • Methodological framework for EW-MFA. Overview of set of tables. Concept, definitions, methods, challenges. • 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. <p>Common elements and compilation challenges (circa ¼ day)</p> <ul style="list-style-type: none"> • Footprints (consumption-based accounting) • Accounting of international flows • Allocation of emissions and energy uses to NACE industries and households <p>Session on communication and dissemination (circa ¼ day)</p> <ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> ▪ 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	None
TRAINER(S)/ LECTURER(S)	Sacha BAUD, Jasmin GÜLDEN STERZL, Eva MILOTA (Statistics Austria) Nina EISENMENGER, Fridolin KRAUSMANN, Anke SCHAFFARTZIK (IFF)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
28 - 30.05.2018	3 days	Vienna, Austria	SOGETI	Deadline: 30.03.2018

THE EUROPEAN STATISTICAL SYSTEM (ESS) – ACTIVE PARTICIPATION IN ESS MEETINGS

COURSE LEADER	Antonio SALCEDO GALIANO
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 committees, ESS working groups, task forces and council working party meetings.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ 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)	<p>The aim of the course is to:</p> <ul style="list-style-type: none"> ▪ give an overview of the ESS, including ESS procedures and concepts; ▪ create understanding of the requirements originating from the EU cooperation (relations with EU institutions, decision-making process, cooperation among 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; ▪ provide practical insight and the possibility for practicing negotiation skills in an ESS context.
CONTENTS	<p>During the course, participants will be introduced to:</p> <ul style="list-style-type: none"> ▪ structure and functioning of the ESS; ▪ ESS institutional set-up, decision-making procedures and working methods; ▪ ways of ensuring active participation in ESS meetings; ▪ European Statistics Code of Practice and peer reviews; ▪ ESS Vision 2020 and its implementation. <p>The course will be organised in accordance with the functioning of the ESS and its working methods, including its members and the different relationships (internal and external). It will be specially focusing on the process for adopting statistical legislation taking its point of departure in three phases:</p> <p>Preparation phase (corresponding to the organisation of work within the Commission (committees, working groups, task forces, etc.),</p>

	<p>Decision-making phase (handling of ESS dossiers through the decision-making process in the Council and the European Parliament),</p> <p>Implementation phase (corresponding to the work within the NSIs and the Commission).</p> <p>For each of the three phases, the course will deal with the actors involved, the organisation of work among actors, and implications for the national statistical institutes involved. Negotiation skills as well as active participation in statistical meetings throughout the ESS decision-making process will, additionally, be trained during the course. On the basis of the decision-making process, the course will also deal with the issue of working within the ESS which includes sessions on:</p> <ul style="list-style-type: none"> ▪ <i>Internal co-ordination of national positions</i> ▪ <i>European Statistics Code of Practice</i> ▪ <i>Relations with other international fora</i> ▪ <i>Future challenges of the ESS - including the ESS Vision 2020 and its implementation</i> ▪ <i>Access to EU information</i>
<p>EXPECTED OUTCOME</p>	<p>Participants will be:</p> <ul style="list-style-type: none"> ▪ 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; ▪ trained in the decision-making process; ▪ 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 Statistics Code of Practice; ▪ made acquainted with the ESS Vision 2020 and its implementation.
<p>TRAINING METHODS</p>	<ul style="list-style-type: none"> ▪ Presentations combined with exercises and discussions in subgroups. ▪ Individual exercises. ▪ Group work. ▪ Role plays where participants will have to prepare, undertake and evaluate ESS meetings dealing with an authentic statistical file.
<p>REQUIRED READING</p>	<p>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.</p>
<p>SUGGESTED READING</p>	<p>It is suggested to read the following basis information:</p> <ul style="list-style-type: none"> ▪ <i>The ESS Report 2016</i> ▪ <i>Regulation 223/2009 on European Statistics</i> ▪ <i>How the European Union works: Your guide to the EU institutions</i>
<p>REQUIRED PREPARATION</p>	<p>See 'suggested reading'.</p>

TRAINER(S)/ LECTURER(S)	Antonio SALCEDO GALIANO, Ana Carmen SAURA VINUESA, Yolanda GÓMEZ MENCHÓN, Ana CÁNOVAS ZAPATA, Mónica CEÑAL GONZÁLEZ (INE Spain) Kim VOLDBY PEDERSEN, Christian ANDREASEN (Statistics Denmark)
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PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
28 - 31.05.2018	3.5 days	Madrid, Spain	ICON-INSTITUT Public Sector GmbH	Deadline: 28.03.2018

<h2 style="margin: 0;">ESA 2010 - NATIONAL ACCOUNTS</h2>	
COURSE LEADER	Andreas DOLLT
TARGET GROUP	<p>Staff working in National Statistical Institutes and Competent National Authorities (CNA) on the compilation of National Accounts (NA).</p> <p>The course is targeted at junior statisticians with at least one year's experience in NA through to staff with several years' experience.</p>
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English, participants will be required to actively engage in discussions. ▪ First experience of around one year's practical work in the area of national accounts.
OBJECTIVE(S)	<p>The aim of the course is:</p> <ul style="list-style-type: none"> ▪ To improve the capacity of national statistical services to produce high quality ESA 2010 national accounts ▪ To achieve an understanding of the theoretical basis and structure of ESA 2010 national accounts, together with sources and methodology ▪ To provide a general overview and an understanding of the links of the different areas of the system of NA (excluding financial accounts).
CONTENTS	<ul style="list-style-type: none"> ▪ Use of national accounts; ▪ Principles and accounting rules of ESA 2010; ▪ Classifications, statistical units, institutional sectors and types of output; ▪ Transactions in goods and services in NA; ▪ Distributive transactions; ▪ The sequence of accounts; ▪ Quarterly National Accounts; ▪ Principles of supply and use tables and the input output framework; ▪ Price and volume measures.
EXPECTED OUTCOME	Improved knowledge of the system of national accounts and the main issues involved in their compilation.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures; ▪ Exercises; ▪ Group discussions on specific topics; ▪ Exchange of views/experiences on national practices.

REQUIRED READING	<ul style="list-style-type: none"> ▪ ESA2010, chapter 1 ▪ SNA2008, chapter 2
SUGGESTED READING	<ul style="list-style-type: none"> ▪ ESA2010, chapters 2,3,4 ▪ Manual on the changes between ESA 2010 and ESA 95
REQUIRED PREPARATION	See required/suggested reading. Hand held calculator for the exercises.
TRAINER(S)/ LECTURER(S)	Andreas DOLLT (Eurostat), Eurostat staff and an external expert

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
28.05 – 01.06.2018	5 days	Eurostat, Luxembourg	EUROSTAT	Deadline: 28.03.2018

Introduction to statistics production with the use of geographical information systems (GIS)

COURSE LEADER	Svein REID
TARGET GROUP	Target group are persons with little to some practical experience in GIS/ GI/ cartography, and which want to make use of GIS in producing statistics or analysis.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Basic computer skills. Participants should be able to perform varied tasks using computer with some guidance or supervision. ▪ Little to some knowledge of GIS
OBJECTIVE(S)	<ul style="list-style-type: none"> ▪ To provide the participants with basic understanding on how to produce statistics with the use of geocoded statistical registers and map databases.
CONTENTS	<ul style="list-style-type: none"> ▪ Introduction to GIS and analysis tools ▪ Overview of some of the typical data sources (registers, map databases) ▪ Producing statistics based on GIS and geocoded registers; setting up production line and running processes based on test data and a GIS software (primarily ArcGIS), visualisation/ dissemination, documentation
EXPECTED OUTCOME	The participants should have a good understanding on how to integrate geography in the statistical production.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Hands-on exercises
REQUIRED READING	None
SUGGESTED READING	<ul style="list-style-type: none"> ▪ Explore http://www.efgs.info/ and especially "information base"
REQUIRED PREPARATION	The participants will be asked to fill in a questionnaire in English regarding their use of GIS.
TRAINER(S)/ LECTURER(S)	Svein REID, Erik Engelién (Statistics Norway)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
30.05.2018 to 01.06.2018	3 days	Oslo, Statistics Norway	EFTA	Deadline: 28.03.2018

WATER STATISTICS AND ACCOUNTS	
COURSE LEADER	Jörg HANAUER
TARGET GROUP	Staff involved in the production of official water statistics as well as other quantitative information under Union law on water. Open for participants with no or limited experience in the production of water statistics.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Current or future responsibility for producing water statistics/accounts or involvement in a reporting process under EU water law or e-PRTR
OBJECTIVE(S)	<p>The course should enhance the theoretical and practical knowledge related to the collection, transmission, validation and aggregation of official water statistics and the application of different direct and indirect methods such as measurements, surveys, models and estimations. The main domains are water resources, water abstraction and use, wastewater treatment as well as generation and discharge of pollutants to water.</p> <p>Participants should become familiar with different possible data sources which include administrative data reported regularly under EU law (e.g. EU Water Framework Directive (WFD), EU Urban Wastewater Treatment Directive (UWWTD), e-PRTR etc.) and their strengths and weaknesses with regard to use in official water statistics.</p> <p>With regard to the WFD, the course shall also give guidance for the establishment and aggregation of water statistics at the level of river basin districts (RBD) and sub-units, which are covered by Eurostat's data collections (REQ) as well.</p> <p>In addition to the well-established Eurostat water statistics, participants should get an overview on the closely related topic of water accounting (e.g. SEEA-Water and the latest European developments on water accounting) and its links to classical water statistics.</p> <p>The course shall as well provide a platform and starting point for cooperation in method development within and among the countries. An overall goal is to explore possible ways of avoiding inconsistencies in the European water statistics and to obtain a more effective statistics production.</p>
CONTENTS	<ul style="list-style-type: none"> • OECD/Eurostat Joint Questionnaire on Inland Waters (JQ-IW): Main tables, terms, definitions, flow schemas, potential stumbling blocks • REQ (Eurostat Regional Environmental Questionnaire), section on water • Repetition of most relevant terms and their definitions (e.g. water consumption, water use, wastewater etc.) • Related EU law, reporting processes and links to Eurostat water statistics: WFD and WISE, UWWTD, e-PRTR, INSPIRE

	<ul style="list-style-type: none"> • International recommendations on water statistics and links to UN Agencies work (UNSD, FAO-Aquastat...) • Direct and indirect methods and data sources for the different domains (i.e. tables of the JQ-IW): water resources, water use, wastewater treatment, sewage sludge • Plans for the establishment of water accounts at European scale
EXPECTED OUTCOME	<p>The participants will be made familiar with the concept of European water statistics, the most relevant terms and definitions as well as the links to water-related reporting processes under EU law.</p> <p>The participants will be made familiar with the water statistics manual through presentation and demonstration of practical data generation methods and their strength and weaknesses for the different thematic domains. Participants will be trained with practical exercises with a view to provide them tools to promote and enhance their NSI role in the water sector and improve response rates and a higher data quality for the OECD/Eurostat JQ-IW as well as for other related European water statistics (e.g. regional statistics, future water accounts etc.).</p> <p>The participants should be able to select and develop appropriate methods for their specific national situation in order to provide Eurostat with water data of high quality.</p>
TRAINING METHODS	<ul style="list-style-type: none"> • Lectures and presentations • Questions and answers • Practical examples used as basis for discussion and exchange of views • Test exercises to check the learning success • Group work
REQUIRED READING	<ul style="list-style-type: none"> • OECD/Eurostat Joint Questionnaire on Inland Waters https://circabc.europa.eu/sd/a/e27b9e90-044c-46aa-805c-5b7d8207f9f2/JQ%20Manual%20V%203.1b.pdf
SUGGESTED READING	<p><u>Eurostat</u></p> <ul style="list-style-type: none"> • Data Collection Manual for the OECD/Eurostat Joint Questionnaire on Inland Waters Tables 1 - 7 (Version 3.1b): https://circabc.europa.eu/sd/a/e27b9e90-044c-46aa-805c-5b7d8207f9f2/JQ%20Manual%20V%203.1b.pdf • Physical Water Flow Accounts (PWF) Manual <p><u>Others</u></p> <ul style="list-style-type: none"> • Water Framework Directive (2000/60/EC) • Urban Wastewater Treatment Directive (91/271/EEC) • e-PRTR Regulation (166/2006) • INSPIRE Directive (2007/2/EC) • UN (2007), System of Environmental-Economic Accounting for Water: https://unstats.un.org/unsd/envaccounting/seeaw/seeawaterwebversion.pdf • UN-IRWS (International Recommendations for water statistics)

REQUIRED PREPARATION	The participants will be invited to come at least with a partial overview of statistical methods applied in the official water statistics in their own country and the current results/outcome. A basic familiarity with the Eurostat/OECD Joint Questionnaire is considered useful.
TRAINER(S)/ LECTURER(S)	Arnulf SCHÖNBAUER (Environment Agency Austria) Benoît FRIBOURG-BLANC (Office International de l'Eau)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
04 – 06.06.2018	3 days	Paris, France	SOGETI	Deadline: 06.04.2018

THE USE OF R IN OFFICIAL STATISTICS: MODEL BASED ESTIMATES

COURSE LEADER	Ciprian ALEXANDRU-CARAGEA
TARGET GROUP	Statistical production units and methodologist of NSIs.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ 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	<ul style="list-style-type: none"> ▪ Essentials of R ▪ Descriptive statistics with R ▪ Data visualization with R ▪ Programming with R ▪ Applications of R in an NSI
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	<ul style="list-style-type: none"> ▪ Brief presentations and lectures ▪ Hands-on practical exercises of data analysis and visualization with R
REQUIRED READING	None
SUGGESTED READING	<ul style="list-style-type: none"> ▪ Online information on the use of R packages provided by CRAN (https://cran.r-project.org) ▪ 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.
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Ciprian ALEXANDRU-CARAGEA

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
04 – 07.06.2018	4 days	Valencia, Spain	DEVSTAT	Deadline: 09.04.2018

HANDS-ON IMMERSION ON BIG DATA TOOLS	
COURSE LEADER	Antonino VIRGILLITO
TARGET GROUP	Official statisticians with IT skills, who already have basic knowledge about big data and who will start to work in practice on big data sources. The course is not meant to be targeted exclusively at IT specialists, but familiarity with at least one data manipulation tool-language is required.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions; ▪ The participants should have intermediate level skills of at least one data manipulation language among R, Python or SQL (Python preferred). The required level of programming skills can be acquired via the ESTP course "The use R in Official Statistics: model based estimates" or from online resources (e.g., Codecademy).
OBJECTIVE(S)	<p>Main objectives of the course are:</p> <ul style="list-style-type: none"> ▪ Introducing the participants to the state-of-the-art IT tools required to process datasets of large size; ▪ Giving the opportunity to test in practice the tools, with a training approach strongly focused on hands-on work with the tools on real-world big data sets
CONTENTS	<ul style="list-style-type: none"> ▪ Overview of Big Data technologies and tools; ▪ Techniques for efficient processing of large scale datasets; ▪ Hadoop and MapReduce; ▪ Analyzing data in Hadoop with SQL: Hive; ▪ Distributed programming with Spark in Python ▪ Accessing Hadoop from R; ▪ NoSQL databases; ▪ Techniques and tools for extracting data from the web.
EXPECTED OUTCOME	<p>At the end of the course, participants will be able to:</p> <ul style="list-style-type: none"> ▪ Process data with different tools specialized for treating large data sets; ▪ Position the tools in a general framework and understand the differences among each other; ▪ Know the next steps to make to acquire a more in-depth knowledge of tools and techniques.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures; ▪ Exchange of views/experiences on national practices; ▪ Hands-on sessions.
REQUIRED READING	None

SUGGESTED READING	<ul style="list-style-type: none"> ▪ Lam, Chuck. "Hadoop in Action". Manning, 2010. ▪ Karau, Holden, et al. "Learning Spark: Lightning-Fast Big Data Analysis.", O'Reilly Media, Inc.", 2015. ▪ Gates, Alan, "Programming Pig" http://chimera.labs.oreilly.com/books/1234000001811/index.html, 2011 ▪ Capriolo, Edward, Dean Wampler, and Jason Rutherglen. "Programming hive.", O'Reilly Media, Inc., 2012. ▪ Scheveningen Memorandum on Big Data, DGINS, 25-26 Sep 2013, The Hague, https://ec.europa.eu/eurostat/cros/content/scheveningen-memorandum_en ▪ UNECE: Big Data in Official Statistics, https://statswiki.unece.org/display/bigdata/Big+Data+in+Official+Statistics ▪ Carlo Vaccari, PhD Thesis "Big Data in Official Statistics" (2014) http://www.academia.edu/7571682/PhD_Thesis_on_Big_Data_in_Official_Statistics ▪ Monica Scannapieco, Antonino Virgillito, Diego Zardetto (2013): Placing Big Data in Official Statistics: A Big Challenge?, https://ec.europa.eu/eurostat/cros/content/placing-big-data-official-statistics-big-challenge-antonino-virgillito-monica-scannapieco_en ▪ D. Florescu, M. Karlberg, F. Reis, P. Rey Del Castillo, M. Skaliotis, A. Wirthmann (2014): Will 'big data' transform official statistics?, http://www.q2014.at/fileadmin/user_upload/ESTAT-Q2014-BigDataOS-v1a.pdf ▪ Peter Struijs, Barteld Braaksma and Piet JH Daas (2014): Official Statistics and Big Data, http://journals.sagepub.com/doi/abs/10.1177/2053951714538417
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Lorenzo DI GAETANO, Donato SUMMA, Antonino VIRGILLITO (ISTAT) Marco Puts (Statistics Netherlands)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
11 – 14.06.2018	4 days	Rome, Italy	Expertise France	Deadline: 04.04.2018

ADVANCED COURSE ON QUALITY REPORTING	
COURSE LEADER	Jacqueline MAIN
TARGET GROUP	Staff of National Statistical Institutes (including newcomers) involved in the statistical production process who want to acquire in-depth understanding of Quality reporting.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions; ▪ Knowledge of basic quality issues; previous participation to the course "Quality Management in Statistical Agencies – Introductory course" is preferable but not mandatory.
OBJECTIVE(S)	The course aims at enhancing participants' theoretical and practical knowledge of Quality reporting. Using the "ESS Handbook for Quality Reports (2014 edition)" as a reference, participants will develop understanding and will become acquainted with the practices of how to prepare detailed ESS quality reports for the different types of statistical processes. In addition, they will develop knowledge of and will receive an insight into the standard reporting structures (Single Integrated Metadata Structure and its ESMS and ESQRS components) and their metadata environment ESS Metadata Handler.
CONTENTS	<ul style="list-style-type: none"> ▪ Quality in the ESS, the European Statistics Code of Practice and the Quality Assurance Framework of the ESS; ▪ Introduction to reference metadata and quality reporting; ▪ Overview of ESS conceptual standards for quality reporting (SIMS, ESMS, ESQRS, ESS Handbook for Quality Reports, ESS Quality and Performance Indicators); ▪ Methodological focus on quality reports contents: <ol style="list-style-type: none"> 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, the issue of interoperability between ESS-MH with national metadata system); ▪ The process of implementation of national quality reporting following ESS standards across statistical domains (timetable, strengths and achieved results, weaknesses and possible improvements).

EXPECTED OUTCOME	As a result of the course, participants will have an understanding and some practical experience on how to draft good Quality reports which are compliant with the ESS standards.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures; ▪ Exchange of views/experiences on national practices; ▪ Practical exercises on quality reporting for the different types of statistical process; ▪ Case studies and examples relevant to the European Statistical System.
REQUIRED READING	The participants are invited to read the following documents: ESS handbook for quality reports: http://ec.europa.eu/eurostat/documents/64157/4373903/01-ESS-Handbook-for-Quality-Reports-2014.pdf/d6152567-a007-4949-a169-251e0ac7c655
SUGGESTED READING	<ul style="list-style-type: none"> ▪ European Statistics Code of Practice - revised edition 2011: http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-32-11-955 ▪ Quality Assurance Framework of the European Statistical System: http://ec.europa.eu/eurostat/documents/64157/4392716/ESS-QAF-V1-2final.pdf/bbf5970c-1adf-46c8-afc3-58ce177a0646 ▪ Single Integrated Metadata Structure and its Technical Manual: http://ec.europa.eu/eurostat/documents/64157/4373903/03-Single-Integrated-Metadata-Structure-and-its-Technical-Manual.pdf/6013a162-e8e2-4a8a-8219-83e3318cbb39 ▪ ESS Quality and Performance Indicators (QPIs): http://ec.europa.eu/eurostat/documents/64157/4373903/02-ESS-Quality-and-performance-Indicators-2014.pdf/5c996003-b770-4a7c-9c2f-bf733e6b1f31
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Giorgia SIMEONI (ISTAT) Remi PRUAL (Statistics Estonia)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
12 – 13.06.2018	2 days	Eurostat, Luxembourg	EUROSTAT	Deadline: 13.04.2018

INTRODUCTION TO EXPERIMENTAL ECOSYSTEM EXTENT AND SERVICES ACCOUNTING BASED ON SEEA-EEA	
COURSE LEADER	Jörg HANAUER
TARGET GROUP	National statistical bodies, environment departments and other national public environment bodies involved in constructing national ecosystem accounts.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ 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)	<ul style="list-style-type: none"> ▪ Provide an overview of how national ecosystem accounts are constructed, and how they relate to 'mainstream' national accounting (e.g. Gross Domestic Product). ▪ 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	<ul style="list-style-type: none"> ▪ Explanation of purpose and methods of national ecosystem accounting. ▪ Understanding of the role of GIS in national accounting. ▪ Measuring ecosystem services. ▪ Economic valuation techniques, and what different types of monetary values represent in the context of national accounting. ▪ Potential data sources at EU (e.g. MAES) and national levels.
EXPECTED OUTCOME	Support countries to develop 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 METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Exercises
REQUIRED READING	Relevant national progress on ecosystem accounting. Summary of MAES process and concept of ecosystem services.
SUGGESTED READING	<ul style="list-style-type: none"> ▪ Overview of SEEA-EEA and WAVES documents. ▪ Examples of national accounts for different ecosystems and/or services. ▪ Assessments of ecosystem extent, condition and services under the MAES process. ▪ Summary of economic valuation techniques (e.g. Table 7.1 of the Natural Capital Protocol).

REQUIRED PREPARATION	Understand objectives of WAVES programme and SEEA-EEA guidelines, and knowledge of relevant national approach/priorities/timescale to develop national ecosystem accounts.
TRAINER(S)/ LECTURER(S)	Ian DICKIE, Ece OZDEMIROGLU, Allan PROVINS (all ettec)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
12 – 14.06.2018	3 days	London, United Kingdom	SOGETI	Deadline: 13.04.2018

TIME SERIES ECONOMETRICS	
COURSE LEADER	Fabio BACCHINI
TARGET GROUP	Statistical production units of NSIs.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Intermediate knowledge of econometrics, statistical and quantitative methods (e.g. multivariate regression, t-tests, R², inference) ▪ Intermediate knowledge of short-term indicators and national accounts
OBJECTIVE(S)	<ul style="list-style-type: none"> ▪ The goal of the course is to provide to participants with a basic knowledge of modern time series econometrics both for univariate and multivariate time series. So doing the participants would be able to understand most applied econometric papers published in the literature and hence to conduct in an adequate and accurate way their own research.
CONTENTS	<ul style="list-style-type: none"> ▪ Exploratory analysis of economic time series: characteristics of time series, transforming and smoothing ▪ The modelling of univariate time series: introduction to ARIMA models, estimation and detection of outliers ▪ Forecasting with time series models: types of forecasting. Uncertainty and confidence in forecasting. ▪ Integrated Models for Nonstationary Data, testing for a Unit roots, ARIMA models ▪ Multivariate time series modelling: Introduction to cointegration theory and VAR and VECM models. Granger causality test. ▪ Revision analysis and vintages policy: the approaches followed by international institutions
EXPECTED OUTCOME	After this training activity, participants will develop a basic knowledge on modern time-series forecasting techniques (both univariate and multivariate) and how these approaches are currently applied in the ESS. This knowledge will be completed with practical skills to carried out and report basic analysis using these modern forecasting methods.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Practical exercises ▪ Case studies of application of these methods in the ESS
REQUIRED READING	None
SUGGESTED READING	<ul style="list-style-type: none"> ▪ Econometrics: Diebold, F. (2015), Econometrics, Freely available at http://www.ssc.upenn.edu/~fdiebold/Teaching104/Econometrics.pdf ▪ Time series: Shumway, R. H., Stoffer, D. S. (2010), Time Series

	<p>Analysis and Its Applications - With R Examples, Springer.</p> <ul style="list-style-type: none"> ▪ Diebold, F. (2015), Forecasting, Freely available at http://www.ssc.upenn.edu/~fdiebold/Teaching221/Forecasting.pdf ▪ Eurostat (2013), ESS guidelines on revision policy for PEEIs - 2013 edition, http://ec.europa.eu/eurostat/en/web/products-manuals-and-guidelines/-/KS-RA-13-016
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Fabio BACCHINI, Roberto IANNACCONE (ISTAT)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
12 - 14.06.2018	3 days	Valencia, Spain	DEVSTAT	Deadline: 12.04.2018

ENERGY STATISTICS	
COURSE LEADER	Ioanna KATRANTZI
TARGET GROUP	Statisticians dealing with compilation of annual energy statistics and wishing to understand better the system and overall framework of energy statistics.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> • Sound command of English. Participants should be able to make short interventions and to actively participate in discussions. • Basic knowledge of energy statistics methodology • Basic experience with compilation of energy statistics
OBJECTIVE(S)	<p>The course will introduce the theoretical and practical knowledge of energy statistics in relation to the European Union legal framework (Annex B of Regulation (EC) No 1099/2008 on energy statistics). The main focus will be on concepts and definitions of energy statistics, discussions on annual questionnaires.</p> <p>The course will explore the European perspective within the international methodology concepts of energy statistics.</p>
CONTENTS	<ul style="list-style-type: none"> • Annual coal questionnaire • Annual oil questionnaire • Annual gas questionnaire • Annual electricity & heat questionnaire • Annual renewables & wastes questionnaire • Annual nuclear questionnaire • Questionnaire on final energy consumption in households
EXPECTED OUTCOME	<p>Participants will gain understanding of the conceptual framework underpinning energy statistics, as well as the applied validation rules (coherence, consistency and plausibility checks). They will be able to use this information to pre-validate the questionnaires more efficiently. Furthermore, they will have the possibility to understand how to use the various IT aspects of the reporting tools for their own special needs and purposes.</p> <p>There will be a mixture of presentation and practical work for participants to reinforce their learning.</p>
TRAINING METHODS	Combination of theoretical lessons, practical training on computer based practical examples and discussion of practical problems.
REQUIRED READING	Regulation (EC) No 1099/2008 on energy statistics Annual questionnaires & reporting instructions
SUGGESTED READING	Energy Statistics Manual Manual for statistics on energy consumption in households

	International Recommendations for Energy Statistics Energy Statistics Compilers Manual
EQUIPMENT REQUIRED	None
TRAINER(S) LECTURER(S)	DE NORRE Bart, DIAZ ALONSO Fernando, FETIE Cristian, GIKAS Antigone, GOLL Michael and STURC Marek (ESTAT Unit E.5)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
19 - 21.06.2018	2,5 days	Eurostat, Luxembourg	EUROSTAT	Deadline: 20.04.2018

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

COURSE LEADER	Francesco RIZZO
TARGET GROUP	Staff working in supporting dissemination, reporting and data or metadata management. No specialist IT knowledge required.
ENTRY QUALIFICATIONS	Participants should have a sound command of English and should be able to make short interventions and to actively participate in discussions.
OBJECTIVE(S)	<p>The main objectives of the course are:</p> <ul style="list-style-type: none"> ▪ illustrate how to define a standardization strategy compliant with the ESS vision 2020 ▪ focus on the main conceptual, logical and technical statistical standards detailed in the ESS Enterprise Architecture Reference Framework (GSBPM, GSIM, SDMX, DDI) ▪ highlight the main aspects related to the quality management in the statistical process and present the ESS standards for reference metadata and quality reporting (ESMS, ESQRS, SIMS, etc) ▪ explain the suitable steps for implementing a standardization strategy based on a metadata-driven architecture that implements more efficient processes related to the dissemination, reporting and more in general to the data and metadata sharing ▪ provide guidelines and best practices on how to use tools developed by Eurostat or available within the statistical community
CONTENTS	<p>The main topics are:</p> <ul style="list-style-type: none"> ▪ Introduction to Information Models and Standards: <ul style="list-style-type: none"> - Basic notions - Relevance in the context of the statistical production - Metadata-driven statistical business process ▪ Overview of some global overarching standards: <ul style="list-style-type: none"> - Generic Statistical Business Process Model (GSBPM) - Generic Statistical Information Model (GSIM) ▪ Overview of some main implementation-level standards: <ul style="list-style-type: none"> - Statistical Data and Metadata eXchange (SDMX): standard, guidelines, IT architecture and implementation scenarios - Data Documentation Initiative (DDI): describing, managing and archiving unit-record data ▪ Quality management in the statistical business process: <ul style="list-style-type: none"> - ESS standards for reference metadata and "quality" reporting

	<ul style="list-style-type: none"> ▪ Hands-on sessions: <ul style="list-style-type: none"> - data/metadata modelling ▪ Standardizing the dissemination/reporting business process metadata-driven
EXPECTED OUTCOME	<p>At the end of the course, participants will be able to:</p> <ul style="list-style-type: none"> ▪ propose and encourage a standardization process, within their respective organisations, in line with the ESS vision 2020 ▪ compare capabilities between different standards ▪ drive the data/metadata reporting towards International Organisations ▪ facilitate harmonized data/metadata sharing exercises
TRAINING METHODS	Trainees will be able to experiment the theoretical explanations through suitable "real life" use cases, while several case studies will illustrate experiences performed within the statistical communities.
REQUIRED READING	None
SUGGESTED READING	<ul style="list-style-type: none"> ▪ 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: https://statswiki.unece.org/display/gsim/Generic+Statistical+Information+Model ▪ Profiles of GSBPM: https://statswiki.unece.org/display/GSBPM/Generic+Statistical+Business+Process+Model Single Integrated Metadata Structure Technical Manual: http://ec.europa.eu/eurostat/documents/64157/4373903/03-Single-Integrated-Metadata-Structure-and-its-Technical-Manual.pdf/6013a162-e8e2-4a8a-8219-83e3318cbb39
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	<p>Francesco RIZZO, Alessio CARDACINO, Mauro SCANU, Giorgia SIMEONI, Monica SCANNAPIECO (ISTAT)</p> <p>Mogens GROSEN NIELSEN (Statistics Denmark)</p>

PRACTICAL INFORMATION

WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
19 – 22.06.2018	3.5 days	Rome, Italy	ICON-INSTITUT Public Sector GmbH	Deadline: 20.04.2018

GOVERNMENT FINANCE STATISTICS AND EXCESSIVE DEFICIT PROCEDURE - PART I AND PART II

COURSE LEADER	Luiza Cristina MUNTEANU
TARGET GROUP	Participants from National Statistical Institutes, National Central Banks and Ministries of Finance working on Government Finance Statistics (GFS) and Excessive Deficit Procedure (EDP).
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions; ▪ Significant knowledge of and practical experience in national accounts and/or government finance statistics (including EDP).
OBJECTIVE(S)	<ul style="list-style-type: none"> ▪ To improve the capacity of national statistical services to produce high quality on GFS and EDP-statistics; ▪ To examine the theoretical basis and structure of the European System of Accounts (ESA 2010) based GFS and EDP-data.
CONTENTS	<ul style="list-style-type: none"> ▪ Basic concepts of ESA 2010, tailored toward GFS and EDP; ▪ Delimitation of general government; ▪ Transactions/stocks relevant for government; ▪ Definition EDP-concepts, EDP-tables and the Questionnaire.
EXPECTED OUTCOME	Improved knowledge of ESA 2010, GFS and EDP-concepts; basis for compilation of EDP tables and questionnaires relating to the EDP notification tables.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures by external and Eurostat experts; ▪ Exchange of views/experiences on national practices and theoretical cases; ▪ Exercises, examples and case studies.
REQUIRED READING	The ESA 2010 and the Manual on Government Deficit and Debt (latest version).
SUGGESTED READING	ESA 2010, chapters 1 – 7, 15, 17 and 20.
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Course leader: Luiza Cristina MUNTEANU (Eurostat); Eurostat staff Martin KELLAWAY (private expert) Helen SHANKS (private expert)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
<p>* This course consisting of 2 full weeks is delivered twice, in Luxembourg and in Ireland</p> <p>** Participation in Part II would be solely possible after having followed Part I.</p>				
Part I: 25-29.06.2018 Part II: 12-16.11.2018	Twice 5 days	Dublin, Ireland	CSO of Ireland and Eurostat	Deadline: 27.04.2018
Part I: 02-06.07.2018 Part II: 26-30.11.2018	Twice 5 days	Eurostat, Luxembourg	Eurostat	Deadline: 04.05.2018

MONETARY ENVIRONMENTAL ACCOUNTS	
COURSE LEADER	Jörg HANAUER
TARGET GROUP	<ol style="list-style-type: none"> 1. 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	<ul style="list-style-type: none"> • 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)	<ul style="list-style-type: none"> • 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 an overall understanding of 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 will be in focus.
CONTENTS	<p>Session overview and common methodology (circa 1 day)</p> <ul style="list-style-type: none"> • Introduction to SEEA CF and the environmental activity accounts. • DPSIR – Responses (policy, economic instruments, supply/demand) • Applications and policy uses of environmental accounts, including indicators (NEEP, employment in EGSS, etc.) and connections to physical environmental accounts (energy use, emissions accounts) • Introductions to existing monetary environmental accounts in the EU: EGSS, EPEA, environmental taxes, environmental subsidies and other transfers. • European Strategy for Environmental Accounts. Regulations 691/2011 and 538/2014, and voluntary reporting in Eurostat data collections for economic activity accounts. • Classifications and concepts used in environment statistics (CEPA, ReMEA, COFOG 05, Environmental products and activities, concepts of 'main purpose', etc.) • Matching the connections between the various classifications and the different accounts – where are the different classifications used. • Quality reports • Eurostat's website – where to find different resources <p>Session on integrated framework for monetary environmental accounts</p>

	<p>(circa ½ day)</p> <ul style="list-style-type: none"> • National accounts concepts used in environmental accounts • Conceptual framework. Links between monetary environmental accounts • Possible integrated compilation <p>Session on environmental taxes, subsidies and other transfers (circa ½ day)</p> <ul style="list-style-type: none"> • Definitions of environmental taxes, main categories and boundary cases • Five steps for developing environmental taxes by economic activities (NACE and Households) • Sources and compilation methods for environmental taxes. Practical challenges. Estimation of taxes paid by non-residents. • Reporting questionnaire • Definitions of environmental subsidies and other transfers. Links to other monetary environmental modules. • Framework for environmental subsidies and other transfers data collection and reporting to Eurostat. • Sources and compilation methods for environmental subsidies and other transfers. • Practical challenges. <p>Session on EGSS (circa ½ day)</p> <ul style="list-style-type: none"> • Methodological framework for EGSS, objectives and definitions • Defining the scope of the EGSS and operational lists • Types of environmental activities and environmental products, environmental producers • Basic approaches to measure EGSS, data sources for EGSS accounts, compilation methods, practical challenges • Eurostat data requirements: how to fill in the Eurostat EGSS questionnaire, mandatory reporting categories under Regulation 691/2011 and voluntary parts • Practical examples <p>Session on EPEA (circa ½ day)</p> <ul style="list-style-type: none"> • Methodological framework for EPEA, objectives, definitions • Measurement of NEEP • Basic approaches to compile EPEA, data sources for EPEA, compilation methods, practical challenges • Eurostat data requirements: how to fill in the Eurostat EPEA questionnaire, mandatory reporting categories under Regulation 691/2011 and voluntary parts • Practical examples <p>Reference material (handbooks, questionnaires, etc.) is found in: http://ec.europa.eu/eurostat/web/environment/methodology</p> <p>For the integrated framework, reference documents are working group documents in CIRCABC, 2017 EPEA handbook, 2016 EGSS handbook and 2016 EGSS practical guide.</p>
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EXPECTED OUTCOME	Better understanding of monetary environmental accounts and basic knowledge on how to compile international questionnaires.
TRAINING METHODS	<i>Example (please insert what applies to your course):</i> <ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Exercises
REQUIRED READING	<ul style="list-style-type: none"> ▪ Regulation 691/2011 on European environmental economic accounts and Regulation 538/2014 ▪ SEEA-CF Chapter IV
SUGGESTED READING	<ul style="list-style-type: none"> • SEEA-CF Chapter II
REQUIRED PREPARATION	<ul style="list-style-type: none"> • 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!)
TRAINER(S)/ LECTURER(S)	Eva MILOTA, Sacha BAUD (Statistics Austria) Anda GEORGESCU (SOGETI) Julie HASS (independent expert)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
03 – 05.09.2018	3 days	Vienna, Austria	SOGETI	Deadline: 25.06.2018

COGNITIVE INTERVIEWING	
COURSE LEADER	Pamela CAMPANELLI
TARGET GROUP	<ul style="list-style-type: none"> • People from NSIs with some background in survey research working (or starting to work) in an organisation that carries out sample surveys, or that has to analyse data that has been collected by means of a sample survey.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions. ▪ Background in survey research
OBJECTIVE(S)	<p>To enable participants:</p> <ul style="list-style-type: none"> ▪ 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
CONTENTS	<p>Cognitive interviewing is a powerful and efficient method of testing survey questions. The course content covers:</p> <ul style="list-style-type: none"> ▪ What cognitive interviewing is; ▪ How cognitive interviewing can be used to identify problematic questions prior to using the questionnaire in the main survey; ▪ How to do cognitive interviewing; ▪ How to sample and analyze cognitive interviewing data, use this to improve the survey questions and write cognitive interviewing reports; ▪ Practical insights from using cognitive interviewing in a National Statistical Institute.
EXPECTED OUTCOME	<p>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.</p>
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Practical exercises of the application, analysis and communication of the results of cognitive interviews. ▪ Exchange of views/experiences on national practices
REQUIRED READING	None

SUGGESTED READING	<ul style="list-style-type: none"> ▪ PRIMARY READING: Willis, G. (2005), <i>Cognitive Interviewing: A Tool for Improving Questionnaire Design</i>, Thousand Oaks, CA: Sage. ▪ Numerous other references are given in the course material.
REQUIRED PREPARATION	<ul style="list-style-type: none"> ▪ Participants need to bring to bring some survey questions or part of a questionnaire they would like to test.
TRAINER(S)/ LECTURER(S)	Pamela CAMPANELLI, Marc PLATE (Statistics Austria)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
05 - 07.09.2018	3 days	Vienna, Austria	DEVSTAT	Deadline: 05.06.2018

MOVING TOWARDS REGISTER BASED STATISTICAL SYSTEM

COURSE LEADER	Virginia BALEA
TARGET GROUP	Methodologists and statisticians who are involved in the production of statistics potentially covered by administrative registers, in particular in the domain of social statistics. The course is targeted to any NSIs staff wishing to understand the possible ways of producing official statistics based upon statistical registers ³ . Horizontal knowledge of different statistical areas and production steps in official statistics is welcome.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Basic understanding of the statistical registers.
OBJECTIVE(S)	<p>The main objectives of the course are:</p> <ul style="list-style-type: none"> ▪ to provide the participants with basic knowledge of using administrative registers to produce statistics ▪ to provide skills to build and update statistical registers by using various administrative sources ▪ to provide best practice in combining statistical surveys and register data ▪ to provide best practices on moving from survey based system to register based system (experience of the Member States that have completed this process – Nordic countries) ▪ provide best practices on reducing statistical burden by using statistical registers.
CONTENTS	<ul style="list-style-type: none"> ▪ Presentations on different types of statistical registers and their characteristics ▪ Presentation on the different type of usage of statistical registers ▪ Use of statistical register for building statistical frames ▪ Linking statistical register-based statistics and Geographical Information System ▪ Advantages and disadvantages of statistical register-based

³ Based on recent work of the UNECE Task Force on Register-Based and Combined Censuses, the following definitions will be used during the course:

A register is a systematic collection of unit level data organized in such a way that updating the unit information is possible.

Administrative data sources are data holdings that contain information collected primarily for administrative (not research or statistical) purposes. This type of data is collected by government departments and other organisations for the purposes of registration, transaction and record keeping, usually during the delivery of a service. They include, but are not limited to, registers.

Statistical registers are registers created for statistical purposes by transforming data from administrative data sources (some of them possibly registers).

	statistics
EXPECTED OUTCOME	Participants should be able to have a better understanding of the many concepts supporting their future work, as well as in applying those concepts and should have gathered further skills which improves the effectiveness and efficiency of their production of statistics using statistical registers.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Practical Exercises
REQUIRED READING	None
SUGGESTED READING	Register-based statistics in the Nordic countries http://www.unece.org/fileadmin/DAM/stats/publications/Register_based_statistics_in_Nordic_countries.pdf
REQUIRED PREPARATION	Before the training takes place, participants are required to write and send a short summary of their own activity as well as that of the organisation regarding practises, problems and experiences in the subject
TRAINER(S)/ LECTURER(S)	Virginia BALEA Kaija RUOTSALAINEN

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
12 – 14.09.2018	3 days	Valencia, Spain	DEVSTAT	Deadline: 12.07.2018

PRESENTATION, FACILITATION AND CONSULTATION SKILLS FOR STATISTICAL TRAINERS – ADVANCED COURSE	
COURSE LEADER	Duncan MILES
TARGET GROUP	All those who are engaged in providing statistical training, giving statistical presentations, providing statistical consulting and facilitating group sessions with statistical and non-statistical audiences.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions. ▪ Participants will be expected to prepare a couple of short training presentations prior to the course. ▪ Participation in the introductory course is strongly recommended prior to attending this advanced course.
OBJECTIVE(S)	To provide participants engaged in statistical training, statistical presentations, statistical consulting and facilitating group discussions with the competences required to be effective.
CONTENTS	<ul style="list-style-type: none"> ▪ Adult learning, retention and implementation ▪ Group dynamics ▪ How to balance and manage heterogeneous group of participants ▪ How to develop and deliver a training course ▪ How to maximise our effectiveness and efficiency ▪ Personal impact ▪ Addressing those situations which we find challenging ▪ Training presentation and facilitation practice and feedback ▪ Strategies for engagement and participation ▪ Understand how to recognise and manage your own anxiety ▪ Identify additional strategies for managing upsets that occur ▪ Develop of an outline action plan to implement their learning including ongoing areas for development
EXPECTED OUTCOME	<ul style="list-style-type: none"> ▪ Understanding and facilitating groups ▪ Group dynamics theory – Tuckman’s developmental model ▪ Maximising our effectiveness and efficiency ▪ The statistical trainers checklist and framework – insightful perspectives to improve your impact as a trainer, presenter and as a statistical consultant ▪ An effective tool kit of strategies and techniques for managing a wide variety of scenarios ▪ Training presentation and facilitation skills practise and individual feedback

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 and facilitation practice and feedback.
REQUIRED READING	None
SUGGESTED READING	None
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 Denis GREER

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
18 – 20.09.2018	3 days	Wiesbaden, Germany	ICON-INSTITUT Public Sector GmbH	Deadline: 13.07.2018

ADVANCED JDEMETRA+ WITH R	
COURSE LEADER	Dario BUONO
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	<p>Solid command of English. Participants should be able to make short interventions and to actively participate in discussions.</p> <p>Practical experience in using recent version of JDEMETRA+ for the general purpose of time-series analysis and application of seasonal adjustment methods</p> <p>Some knowledge on R programming or a minimum the knowledge in any programming language.</p>
OBJECTIVE(S)	<p>To provide participants with a specific knowledge of the features recently included within JDEMETRA+ and run the tool within the R environment</p> <p>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;</p> <p>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 (new plug-ins) the tool.</p>
CONTENTS	<p>Handling of the main concepts of JDEMETRA+ (with focus on time series)</p> <p>Use of the R library JDLIGHT</p> <p>Overview of the implementation of the main SA methods.</p> <p>Extensible features of JDEMETRA+: accessing new source of time series, adding diagnostics, generating new outputs. Explanations and examples.</p> <p>The finalised content of the course will be adapted ad-hoc to the actual audience of registered and accepted participants</p>
EXPECTED OUTCOME	<p>Participants will have a good overview of existing routines available in the latest version of JDEMETRA+ and will be able to run the realted routine in R.</p> <p>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 and to retrieve the main results using also workspaces and XML files.</p>

	Participants will develop an interest in writing small extension modules that can be plugged in the main graphical interface of 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)	Dario BUONO (Eurostat) Jean PALATE (National Bank of Belgium) Dominique LADIRAY (INSEE) Christiane HOFER, Nina GONSCHORRECK, Thomas WITTHOHN (Bundesbank)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
18 - 20.09.2018	3 days	Eurostat, Luxembourg	EUROSTAT	Deadline: 20.07.2018

QUALITY FRAMEWORK, PROCESS AND PRODUCT QUALITY MEASUREMENT – ADVANCED COURSE	
COURSE LEADER	Giovanna BRANCATO
TARGET GROUP	Staff of national statistical institutes involved in statistical production processes and in quality management.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ 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 common quality framework (or participation in the quality management introductory course).
OBJECTIVE(S)	To provide participants with theory and practice of quality management, process and product quality. To this purpose, a brief overview of the ESS common quality framework, the quality dimensions and quality management models is given. Then, the focus of the course shifts on process and product quality measurement for statistics based both on traditional surveys and on multiple sources, including administrative data. The statistical process is described and tools for preventing and reducing the errors are presented and discussed, with a particular focus on the data collection phase. Methods and tools to assess non-sampling errors in statistical products are widely described. ESS quality reporting requirements are also taken into account.
CONTENTS	<ul style="list-style-type: none"> ▪ ESS common quality framework ▪ Recap on quality management models ▪ Process quality: quality control system and quality indicators ▪ Product quality: ESS quality dimensions and their evaluation, Accuracy and errors, models for estimating the impact of non-sampling errors on estimates ▪ Quality issues in statistics derived from administrative data or from multiple sources ▪ ESS Quality reporting standards
EXPECTED OUTCOME	<p>Increased knowledge on ESS quality management practices.</p> <p>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.</p> <p>A strong network among colleagues within the same field for future cooperation and exchange of experiences.</p>
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Exchange of views/experiences on national practices ▪ Group works

REQUIRED READING	<ul style="list-style-type: none"> European Statistics Code of Practice: http://ec.europa.eu/eurostat/web/products-manuals-and-guidelines/-/KS-32-11-955
SUGGESTED READING	<ul style="list-style-type: none"> Biemer P.P., Lyberg L.E. (2003) Introduction to Survey Quality. Wiley, New York. Quality Assurance Framework (QAF) of the European Statistical System. Version 1.2. http://ec.europa.eu/eurostat/documents/64157/4392716/ESS-QAF-V1-2final.pdf/bbf5970c-1adf-46c8-afc3-58ce177a0646 ESS (2014) ESS Guidelines for the implementation of ESS Quality and Performance indicators http://ec.europa.eu/eurostat/documents/64157/4373903/02-ESS-Quality-and-performance-Indicators-2014.pdf/5c996003-b770-4a7c-9c2f-bf733e6b1f31 Wallgren A., Wallgren B. (2014) Register-based Statistics Statistical Methods for Administrative Data (Second Edition) Wiley The Generic Statistical Business Process Model (GSBPM) https://statswiki.unece.org/display/GSBPM/GSBPM+v5.0
REQUIRED PREPARATION	Participants are invited to prepare in advance a short description of some existing quality approaches, activities and tools within their organisation, duly aligned with the programme, and share and discuss it during the course.
TRAINER(S)/ LECTURER(S)	Giovanna BRANCATO, Marina SIGNORE, Giorgia SIMEONI, Andrea BRUNI (ISTAT) Maria João ZILHAO (Statistics Portugal)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
25 – 27.09.2018	2.5 days	Rome, Italy	ICON-INSTITUT Public Sector GmbH	Deadline: 29.06.2018

BIG DATA SOURCES – WEB, SOCIAL MEDIA AND TEXT ANALYTICS	
COURSE LEADER	Piet DAAS
TARGET GROUP	Official statisticians who already have knowledge about big data and its tools and who will start to work in practice on the use of web, social media and other natural language content for the production of statistics
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Preferentially the participants should have followed the ESTP course “Hands-on immersion on big data tools” ▪ The participants should be computer literate and able to programme in R and/or Python
OBJECTIVE(S)	<ul style="list-style-type: none"> ▪ Main objectives of the course: ▪ Learn how to apply web scraping and other techniques to collect texts from the web; ▪ Learn how to analyse and mine texts in order to determine their content and sentiment; ▪ Learn how to deal with privacy and personal data
CONTENTS	<ul style="list-style-type: none"> ▪ Text from the web and social media messages as a potentially rich big data source; ▪ Web scraping and other techniques to collect texts from the web; ▪ Text mining techniques applied to the content of web pages and social media; ▪ Sentiment and other emotion determination in texts; ▪ Extract and profile units to assess selectivity; ▪ Examples of the use of information derived from texts relevant for official statistics; ▪ Exercises and demonstrations.
EXPECTED OUTCOME	<p>At the end of the course, participants will be able to:</p> <ul style="list-style-type: none"> ▪ Apply web scraping techniques to extract texts from web pages and use API’s to collect social media data. ▪ Mine texts to determine their content and sentiment. ▪ Study and profile units to assess selectivity. ▪ Initiate big data case studies.
TRAINING METHODS	<p><i>Example (please insert what applies to your course):</i></p> <ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Exchange of views and experiences on national practices ▪ Exercises and demonstrations
REQUIRED READING	<ul style="list-style-type: none"> ▪ <i>I.H Witten (2005) Text mining. Link: http://www.cs.waikato.ac.nz/~ihw/papers/04-IHW-Textmining.pdf</i>

SUGGESTED READING	<ul style="list-style-type: none"> ▪ Ten Bosch, O. Windmeijer, D. (2014) On the use of internet robots for official statistics, Unece MSIS conference, Dublin. http://urlz.fr/5JH9 ▪ Griffioen, R. de Haan, J., Willeborg, L. (2014) Collecting clothing data from the web. Paper for the Group of Experts on Consumer Price Indices meeting, Unece, Geneva. http://www.unece.org/fileadmin/DAM/stats/documents/ec/ces/ge.22/2014/UNECE-ILO_2014_2014Griffioen_deHaan_Willenborg.pdf ▪ Russel, M.A. (2015) Mining the Social Web, 2nd edition. O'Reilly, Sebastopol, USA. In particular Chapter 1. ▪ Abbott, D. (2013) Introduction to Text Mining. Presentation at the Virtual Data Intensive Summer School, July 10, 2013. http://www.vscse.org/summerschool/2013/Abbott.pdf ▪ Daas, P.J.H., Puts, M.J.H. (2014) Social Media Sentiment and Consumer Confidence. European Central Bank Statistics Paper Series No. 5, Frankfurt, Germany. https://www.ecb.europa.eu/pub/pdf/scpsps/ecbsp5.en.pdf ▪ Shah, D.V., Capella, J.N., Neuman, W.R. (2015) Toward Computational Social Science: Big Data in Digital environments. Special issue of the Annals of the American Academy of Political and Social Science, vol. 659, May.
REQUIRED PREPARATION	<ul style="list-style-type: none"> ▪ Create a Twitter account (if you not already have one), see: https://twitter.com/signup, and take a mobile phone with you to the course. Both are needed for some of the exercises in the course. ▪ Search the web for a list of 'stop words' specific for your language. The following page provides a good start: https://en.wikipedia.org/wiki/Stop_words. You will need the list for some of the exercises in the course.
TRAINER(S)/ LECTURER(S)	Piet DAAS, Olav ten BOSCH, Marco PUTS (Statistics Netherlands) Antonino VIRGILITO (ISTAT)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
01 – 04.10.2018	4 days	The Hague, The Netherlands	Expertise France	Deadline: 06.08.2018

NATIONAL ACCOUNTS IN PRACTICE – ADVANCED COURSE	
COURSE LEADER	Jörg HANAUER
TARGET GROUP	Statisticians of National Accounts departments, with more than one year's experience in the statistical field, wishing to understand better the overall system of National Accounts and its critical issues.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to participate actively in discussions ▪ Familiarity with Balance of Payments ▪ Experience in National Accounts
OBJECTIVE(S)	<p>The course will broaden and in-deep the theoretical and practical knowledge of National Accounts approaches.</p> <p>The main focus will be on concepts and definitions of NA and discussions on General features of the System of National Accounts (SNA, ESA), basic concepts, supply and Use Tables, non-financial sector accounts and financial sector accounts.</p> <p>The course will further develop Quarterly national accounts, Satellite Accounts as well as Regional Accounts.</p>
CONTENTS	<ul style="list-style-type: none"> • General features of NA; • Supply and Use Tables; • Input-Output Tables; • Volume and price measurement; • Integrated compilation of data in current and constant prices; • Institutional Sector Accounts: • 1/ Non-financial Accounts as well as Financial Accounts: Nonfinancial corporations, Financial corporations, Government (including EDP-related matters), Households, Rest of the World • 2/ Labour Accounts; • Balancing the system with a fully integrated system; • Stiglitz commission and well-being; • Extensions of the core system: • Gross Domestic Product (GDP) and beyond, recommendations of the Stiglitz-commission; • Satellite accounts, e.g. National Accounting Matrix with • Environmental Accounts (NAMEA); Statistics Administration and Management (SAM); • Regional accounts; • What's new in ESA 2010?; • Administrative use of NA data; • The European management of NA data and quality; • International comparisons and Purchasing Power Parities.

	<ul style="list-style-type: none"> • Concepts and definitions of the European System of Accounts (2010). The guidelines of the ESA are explained in a general way. Much attention is also paid to the actual practice of compiling national accounts.
EXPECTED OUTCOME	Participants will gain in-deep understanding of the conceptual framework underpinning National Accounts, together with the main sources and methods used to compile the accounts in the EU. 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)	Leonidas AKRITIDIS (independent expert) Martin KELLAWAY (independent expert) Robin LYNCH (independent expert)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
02 – 11.10.2018	8 days	Luxembourg, Luxembourg	SOGETI	Deadline: 27.07.2018

OUTPUT CHECKING IN RESEARCH DATA CENTRES	
COURSE LEADER	Aleksandra BUJNOWSKA
TARGET GROUP	Staff members dealing with statistical confidentiality, especially staff in Research Data Centres or Safe Centres. The course is intended for staff checking output that was created by external researchers or output from varying statistical analyses created by NSA colleagues.
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. The course focuses on output that is generated starting from official microdata by researchers. In most cases researchers will have had access to microdata through the Research Data Centre of the data producer to produce the output. Case studies from Member States (MS) will be discussed.
CONTENTS	<ul style="list-style-type: none"> ▪ Review of statistical disclosure control methodology; ▪ Approaches for checking tabular output and non-tabular output; ▪ Researcher training; ▪ Practical case studies from MS; ▪ Software examples.
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	<p>The course programme is a mix of theoretical background, practical application and group discussion:</p> <ul style="list-style-type: none"> ▪ Presentations and lectures; ▪ Demonstration of examples; ▪ Manual exercises; ▪ Group discussions.
REQUIRED READING	None
SUGGESTED READING	<ul style="list-style-type: none"> ▪ Guidelines for the Checking of Output based on Microdata Research (2009) http://www.cros-portal.eu/content/guidelines-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 ▪ Tau Argus manual; ▪ Mu Argus manual; <p>Manuals are available from the CASC website, at the following link: http://neon.vb.cbs.nl/casc (and https://github.com/sdcTools)</p>

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)	Eric SCHULTE NORDHOLT, Peter-Paul DE WOLF (Statistics Netherlands) Lydia SPIES (Destatis)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
16 - 17.10.2018	2 days	Eurostat, Luxembourg	EUROSTAT	Deadline: 17.08.2018

ENTERPRISE ARCHITECTURE AND THE DIFFERENT EA LAYERS, APPLICATION TO THE ESS CONTEXT	
COURSE LEADER	Nadia MIGNOLLI
TARGET GROUP	National delegates representing their country in Working Groups, Task Forces and Committees of the European Statistical System (ESS) or in the Council Working Groups on Statistics.
ENTRY QUALIFICATIONS	Participants should have a sound command of English and should be able to make short interventions and to actively participate in discussions.
OBJECTIVE(S)	<p>The main objectives of the course are:</p> <ul style="list-style-type: none"> ▪ Illustrate the overall concepts of the Enterprise Architecture and models for the EA based on the "ESS EA Reference Framework" and the "ESS Statistical Production Reference Architecture"; ▪ Focus on the Business Architecture within an NSI; ▪ Explain how to map GSBPM to the statistical processes and the related quality management; ▪ Provide an overview of the main statistical and technical standards as pre-requisites for the implementation of the EA.
CONTENTS	<p>The course will focus on essentials of EA approaches, as far as possible based on real life use cases, covering the following topics:</p> <ul style="list-style-type: none"> ▪ Business-outcome driven Enterprise Architecture: why and how. ▪ Enterprise Architecture layers: <ul style="list-style-type: none"> ○ Business Architecture, ○ Information Architecture, ○ Application Architecture, ○ Technology Architecture. ▪ The <i>ArchiMate</i> modelling structures and their practical usage. ▪ Business Architecture concepts and components: <ul style="list-style-type: none"> ○ BA Business Lines, ○ BA Activity Model, ○ BA Process Flow (using <i>ArchiMate</i> modelling structures), ○ Shared Infrastructures, ○ Guiding Principles. ▪ Reference standards supporting Enterprise Architecture for Official Statistics: <ul style="list-style-type: none"> ○ Generic Statistical Business Process Model (GSBPM): standard model to map statistical processes, generic quality indicators for phases and sub-processes; ○ Generic Statistical Information Model (GSIM): introduction and

	<ul style="list-style-type: none"> case study; ○ Statistical Data and Metadata Exchange (SDMX); ○ Service Oriented Architecture (SOA) and Common Statistical Production Architecture (CSPA). ▪ Enterprise Architecture for the ESS Vision 2020, the ESS EA Reference Framework (EARF): <ul style="list-style-type: none"> ○ Objectives of the ESS EARF, ○ Review of the ESS EARF artefacts, ○ Statistical Production Reference Architecture (SPRA), ○ Examples of the use of the ESS EARF in ESS.VIP projects, ○ ESS EA principles, ○ Contacts for Enterprise Architecture in the ESS.
EXPECTED OUTCOME	<p>At the end of the course, participants will be able to:</p> <ul style="list-style-type: none"> ▪ Propose and encourage the adoption of an EA within their respective organisations; ▪ Design a suitable Business Architecture based on the GSBPM; ▪ Facilitate the development of an EA compliant with the “ESS EA Reference Framework” and the “ESS Statistical Production Reference Architecture”; ▪ Understand when and how to apply standards in order to facilitate industrialisation processes.
TRAINING METHODS	The theoretical explanation will be mixed with real use cases performed both at the ESS and national level.
REQUIRED READING	None
SUGGESTED READING	<ul style="list-style-type: none"> ▪ UNECE/Eurostat/OECD (2013). Generic Statistical Business Process Model (GSBPM version 5.0). https://statswiki.unece.org/display/GSBPM/Generic+Statistical+Business+Process+Model https://statswiki.unece.org/display/gsim/Generic+Statistical+Information+Model ▪ Statistical Network Business Architecture Project (2013). https://statswiki.unece.org/display/CSPA/Business+Architecture http://www.opengroup.org/archimate/ http://www.archimatetool.com/ • Eurostat (2015). European Statistical System Enterprise Architecture Reference Framework (ESS EARF) v1.0 https://ec.europa.eu/eurostat/cros/content/ess-enterprise-architecture-reference-framework_en • Eurostat (2015). Statistical Production Reference Architecture (SPRA) v0.4 https://ec.europa.eu/eurostat/cros/content/spra_en
REQUIRED PREPARATION	None

TRAINER(S)/ LECTURER(S)	Nadia MIGNOLLI, Giulio BARCAROLI, Mauro BRUNO, Francesco RIZZO, Monica SCANNAPIECO, Mauro SCANU, Marina SIGNORE (ISTAT) Timo KOSKIMÄKI (Statistics Finland)
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PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
22 – 25.10.2018	3.5 days	Rome, Italy	ICON-INSTITUT Public Sector GmbH	Deadline: 24.08.2018

SOCIAL DATA MINING	
COURSE LEADER	Enrico DE SANTIS
TARGET GROUP	The course is targeted to Methodologists and statisticians who need to update their knowledge about social media data analysis.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions. ▪ Basic knowledge of computer usage. ▪ Basic knowledge of World Wide Web and Internet.
OBJECTIVE(S)	<p>This course will provide participants with an understanding of fundamental data mining methodologies and with the ability to formulate and solve problems using them. Particular attention will be paid to practical, efficient and statistically sound techniques, capable of providing not only the requested discoveries, but also estimates of their utilities. These lectures will be complemented with hands-on experience with data mining software, primarily R, to allow development of basic execution skills.</p> <ul style="list-style-type: none"> ○ The course objectives are the following. ○ To introduce students to the basic concepts of Social Media and Web technologies. ○ To introduce students to the basic concepts and techniques of Data Mining and Machine Learning applied to Social Media analysis. ○ To develop skills of using R as programming language for solving practical problems. ○ To gain experience of doing independent analysis and research.
CONTENTS	<ul style="list-style-type: none"> ▪ Introduction to social data mining ▪ Obtaining data: web applications and web scraping. ▪ Text mining techniques applied to the content of web pages and social media; ▪ Sentiment and other emotion determination in texts; ▪ Extract and profile units to assess selectivity; ▪ Examples of the use of information derived from texts relevant for official statistics; ▪ Working examples and demonstrations using R
EXPECTED OUTCOME	<p>Nowadays, the World Wide Web (WWW) contains petabytes of unstructured and diluted information. Furthermore, the WWW evolves with a myriad of applications of which the core structures and related interfaces are cognitively near to human usability and understanding.</p> <p>The main benefits of this training can be found in the understanding of such structures and how building their own applications for conducting automated data analysis. Most contents on Social Media is in textual form, hence, the trainees will gain benefit in understanding how getting and treating unstructured data and transforming such information into actionable knowledge through Machine Learning</p>

	Techniques. Finally, the attendants can improve their statistical skills on this non-structured domain applying well-known statistical frameworks.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Working examples
REQUIRED READING	Zhao, Yanchang. R and data mining: Examples and case studies. Academic Press, 2012.
SUGGESTED READING	<ul style="list-style-type: none"> ▪ <i>Russell, Matthew A. Mining the Social Web: Data Mining Facebook, Twitter, LinkedIn, Google+, GitHub, and More. " O'Reilly Media, Inc.", 2013.</i>
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Enrico DE SANTIS

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
24 – 25.10.2018	2 days	Valencia, Spain	DEVSTAT	Deadline: 24.08.2018

<h2 style="margin: 0;">Designing and conduction Business Surveys for Official Statistics</h2>	
COURSE LEADER	Bente HOLE
TARGET GROUP	Practitioners, researchers and methodologists in survey methodology, who work in Statistical Institutes, international statistical organizations (e.g., OECD, IMF, UN, Eurostat), and Central Banks. Also relevant for users of survey data and statistics, such as policy makers, analysts, and researchers, to improve their knowledge and aid their interpretation of statistical outputs that form the basis for policy decisions or statistical analyses
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Some knowledge of statistical methods, preferably from an academic degree in social science, statistics or economics
OBJECTIVE(S)	<ul style="list-style-type: none"> ▪ An understanding of the stages in the survey process as utilized in business surveys ▪ An understanding of the sources of quality challenges specific to business surveys. ▪ Knowledge on how to effectively plan, manage and monitor business surveys.
CONTENTS	<p>The course will run over three days and cover these topics:</p> <ol style="list-style-type: none"> 1. Characteristics of business surveys <ol style="list-style-type: none"> a. Business surveys vs. social surveys b. The business survey production process c. The business response process 2. Quality issues in business surveys <ol style="list-style-type: none"> a. Quality framework b. Cost efficiency c. Response burden 3. Designing business surveys <ol style="list-style-type: none"> a. Sampling b. Questionnaire development and testing c. Business survey communication issues (contact strategies, response enhancement strategies, and non-response reduction strategies) d. Data capture, coding, and cleaning 4. Quality-driven survey management <ol style="list-style-type: none"> a. Survey planning b. Data collection, fieldwork monitoring and responsive designs c. Process & Quality indicators and business survey evaluation methods
EXPECTED OUTCOME	Improved professionalism in designing and conducting business surveys

TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures (day 1, 2 and 3) ▪ Exercises (day 2 and 3) ▪ Exchange of views/experiences on national practices
REQUIRED READING	Chapter 1 in Snijkers, G., Haraldsen, G., Jones, J. and Willimack, D. (2013): Designing and Conducting Business Surveys. John Wiley & Sons, Hoboken, New Jersey.
SUGGESTED READING	Snijkers, G., Haraldsen, G., Jones, J. and Willimack, D. (2013): Designing and Conducting Business Surveys. John Wiley & Sons, Hoboken, New Jersey.
REQUIRED PREPARATION	Knowledge about what modes are used and how data collection from businesses are organized in own institute
TRAINER(S)/ LECTURER(S)	Ms Bente HOLE

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
05 – 07.11.2018	3 days	Oslo, Norway	EFTA	Deadline: 07.09.2018

BALANCE OF PAYMENTS – ADVANCED COURSE	
COURSE LEADER	Simon HUMPHRIES
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	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to participate actively in discussions ▪ Familiarity with Balance of Payments ▪ Experience in National Accounts
OBJECTIVE(S)	<p>The course will further explore and in deepen the theoretical and practical knowledge of BOP approaches.</p> <p>The main focus will be on concepts and definitions of BoP, discussions of the financial accounts and the International Investment Position.</p> <p>The course will explore the European perspective and a view on harmonisation efforts within Europe.</p>
CONTENTS	<ul style="list-style-type: none"> • Concepts and definitions of BoP – discussions of problematic areas, with special focus on International Trade in Services (ITS) and Foreign Direct Investment (FDI). • Data sources and compilation methods. More in-depth discussions with emphasis on ITS and FDI. • European perspective – aggregates for economic and currency unions. Harmonisation efforts (past, present and future) within Europe. Discussions about national experiences. • Quality issues. Presentation of national methods practice and approaches. • Analysis of BoP.
EXPECTED OUTCOME	Participants will gain profound and in-deep understanding of the conceptual framework underpinning BoP, together with the main sources and methods used to compile the accounts in the EU. 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)	Simon HUMPHRIES (independent expert)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
06 – 08.11.2018	3 days	Luxembourg, Luxembourg	SOGETI	Deadline: 07.09.2018

ENERGY STATISTICS - BALANCE BUILDER AND SHARES TOOL	
COURSE LEADERS	Marek STURC and Fernando DIAZ ALONSO
TARGET GROUP	Statisticians dealing with compilation of annual energy balances and the calculation of the share of energy from renewable sources wishing to understand better the system and overall framework of the energy statistics tools used for these purposes.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> • Sound command of English. Participants should be able to make short interventions and to actively participate in discussions. • Basic experience with the compilation of the annual energy questionnaires or the use of annual energy statistics • Basic knowledge of energy balances and/or basic experience with compilation of renewable energy statistics for the calculation of the share of energy from renewable sources.
OBJECTIVE(S)	The course will introduce the theoretical and practical knowledge, as well as the methodological guidelines for the use of the Energy Balance Builder and SHARES tools in relation to the statistics collected within the European Union legal framework (Annex B of Regulation (EC) No 1099/2008 on energy statistics and Directive 2009/28/EC on the promotion of the use of energy from renewable sources). The main focus will be on methodology, concepts and definitions, calculations and discussions on these tools. Practical examples of the use of these tools will be also covered during the training.
CONTENTS	<ul style="list-style-type: none"> • Energy Balance Builder tool • SHARES tool
EXPECTED OUTCOME	<p>Participants will gain understanding of the conceptual framework, methodological choices and functioning of the energy balance builder and the SHARES tools, as well as the applied validation rules (coherence, consistency and plausibility checks). These tools allow users to see the final results that will be published by Eurostat and therefore help them pre-validate their own questionnaires more efficiently. Furthermore, they will have the possibility to understand how to use the various IT aspects of these tools for their own special needs and purposes.</p> <p>There will be a mixture of presentation, discussions and practical work for participants to reinforce their learning.</p>
TRAINING METHODS	Combination of theoretical lessons, practical training on computer based practical examples and discussion of practical problems.
REQUIRED READING	<p>Regulation (EC) No 1099/2008 on energy statistics</p> <p>Directive 2009/28/EC on the promotion of the use of energy from renewable sources</p> <p>SHARES tool and SHARES Manual on Eurostat website</p>

SUGGESTED READING	Annual questionnaires & reporting instructions Energy Statistics Manual International Recommendations for Energy Statistics Energy Statistics Compilers Manual
EQUIPMENT REQUIRED	To increase the value added of the training, participants can bring their own national annual energy questionnaires (MS Excel files) completed with the most recent available statistics and during the training apply the tools on their own national dataset.
TRAINER(S) LECTURER(S)	Marek STURC, Fernando DIAZ ALONSO (ESTAT Unit E.5)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
12.11.2018	1 day	Eurostat, Luxembourg	EUROSTAT	Deadline: 14.09.2018

ADVANCED BIG DATA SOURCES – MOBILE PHONE AND OTHER SENSORS

COURSE LEADER	Piet DAAS
TARGET GROUP	Official statisticians who already have knowledge about big data and its tools and who will start to work in practice on the use of mobile phone and other sensor data for the production of statistics
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Preferentially the participants should have followed the ESTP course “Hands-on immersion on big data tools” ▪ The participants should be computer literate and able to programme in R and/or Python
OBJECTIVE(S)	<p>Main objectives of the course:</p> <ul style="list-style-type: none"> ▪ Learn how to explore and analyse mobile phone and other sensor data and its metadata. ▪ Learn how to extract relevant information for statistical purposes from huge amounts of sensor data
CONTENTS	<ul style="list-style-type: none"> ▪ The potential of big data from sensors for official statistics; ▪ Domain knowledge of mobile phone, road sensors, and vessel data; ▪ The importance of metadata and its quality; ▪ Exploration, analysis, and visualisation of sensor data; ▪ Editing and quality assessment of sensor data; ▪ Units and populations in the context of sensor data; ▪ Estimating with sensor data and auxiliary information; ▪ Geolocation analysis of remote sensing data; ▪ Examples of sensor data usage in official statistics.
EXPECTED OUTCOME	<p>At the end of the course, participants will be able to:</p> <ul style="list-style-type: none"> ▪ Process and extract information from huge volumes of sensor data; ▪ Explore, analyse, and visualise sensor data; ▪ Use sensor data as a major source for official statistics; ▪ Initiate big data case studies.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Exchange of views and experiences on national practices ▪ Hands on exercises with sensor data
REQUIRED READING	<ul style="list-style-type: none"> ▪ None
SUGGESTED READING	<ul style="list-style-type: none"> ▪ <i>Puts, M., Daas, P., Tennekes, M. (2015) High Frequency Road Sensor Data for Official Statistics. Presentation at the 2015 New Techniques and Technologies for Statistics (NTTS) conference, Brussels, Belgium.</i> https://ec.europa.eu/eurostat/cros/content/presentation-s13ap4_en

	<ul style="list-style-type: none"> ▪ Tennekes, M., Puts, M. (2015) <i>Projection of road sensors to the Dutch road network</i>. Paper presented at the 2015 <i>New Techniques and Technologies for Statistics (NTTS)</i> conference, Brussels, Belgium. https://ec.europa.eu/eurostat/cros/content/presentation-s13ap5_en ▪ Puts, M., Daas, P. (2015) <i>Editing Big Data: a holistic approach</i>. Paper for the <i>Work Session on Statistical Data Editing</i>, United Nations Economic Commission for Europe, Budapest, Hungary. http://urlz.fr/5JGS ▪ Tennekes, M., Offermans, M. (2014) <i>Daytime Population Estimations Based on Mobile Phone Metadata</i>. Presentation at the 2014 <i>Joint Statistical Meeting (JSM)</i>, Boston, USA. http://www.von-tijn.nl/tijn/research/presentations/DTP_Martijn_Tennekes_JSM2014.pdf ▪ Törmä, M., Järvenpää, E., Härmä, P., Hallin-Pihlatie, L., Hatunen, S., Kallio, M. (2015) <i>Experiences using LUCAS data in Finnish Land Cover monitoring - Current activities and future plans</i> Presentation at the 2015 <i>New Techniques and Technologies for Statistics (NTTS)</i> conference, Brussels, Belgium. https://ec.europa.eu/eurostat/cros/content/presentation-s13ap2_en
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Marco PUTS, Martijn TENNEKES, Piet DAAS (Statistics Netherlands) Antonino VIRGILLITO (ISTAT)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
12 – 15.11.2018	4 days	Heerlen, The Netherlands	Expertise France	Deadline: 14.09.2018

ANNUAL TO QUARTERLY TO MONTHLY DATA

COURSE LEADER	Dario BUONO (Eurostat, Unit B1, Methodology) Riccardo GATTO (Eurostat, Unit F3, Labour Market) Enrico INFANTE (Eurostat, Unit C2, National Accounts)
TARGET GROUP	Statistical production units of NSIs. Previous knowledge: Basics of time series analysis and regression model
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ 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	<ul style="list-style-type: none"> ▪ 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: <ul style="list-style-type: none"> ▪ 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) ▪ RAS and Stone's Least Squares adjustment of a table with fixed marginal totals; ▪ dealing with negative entries (RAS-PM); ▪ Two-step reconciliation techniques: 2S-BB and 2S-ST; ▪ practice using JDemetra+ plug-ins.
EXPECTED OUTCOME	Being able to produce 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 <ul style="list-style-type: none"> ▪ Exchange of views/experiences on national practices ▪ Exercises
REQUIRED READING	None

SUGGESTED 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.
TRAINER(S)/ LECTURER(S)	Dario Buono, Riccardo Gatto, Enrico Infante (EUROSTAT) Francesca Di Iorio (University of Naples Federico II)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
13 - 15.11.2018	3 days	Eurostat, Luxembourg	EUROSTAT	Deadline: 14.09.2018

ACTIVITY AND PRODUCT CLASSIFICATIONS: DESCRIPTION, USE AND IMPLEMENTATION

COURSE LEADER	Marie-Madeleine FUGER
TARGET GROUP	All staff responsible for the development and application of national activity and product classifications as well as for staff applying economic classifications in business registers or dealing with business statistics and National Accounts.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Broad knowledge of statistical classifications. ▪ 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.
OBJECTIVE(S)	<p>The course should provide participants with a better understanding of the underlying principles and concepts of European and international economic classifications, their differences and methods of harmonisation.</p> <p>The course should also provide participants with sound confidence for a current use of economic classification.</p>
CONTENTS	<ul style="list-style-type: none"> ▪ Relation between different basic concepts like population, statistical unit and classification; ▪ Principles of economic classifications; ▪ Conceptual aspects of the application of the economic classifications; ▪ International system of linked economic classifications and family of international economic classifications; ▪ Updates and revisions; ▪ International and European economic classifications: <ul style="list-style-type: none"> - ISIC Rev. 4 and NACE Rev. 2 - CPC Version 2.1, CPA 2.1. - PRODCOM ▪ National versions of NACE Rev. 2, CPA 2.1. and PRODCOM; ▪ Functional classifications (COICOP and EU-COICOP, COPNI, COFOG and COPP) ▪ Interpretation and classification guidelines and rules; ▪ RAMON, UN classification registry and other classification databases; ▪ Any other business regarding classifications and their implementation. <p>The course content focuses on the principles, concepts and applications of the main activity and product classifications that are applied in the European Statistical System. Reference is also given to the international classifications from which the European classifications are</p>

	derived from.
EXPECTED OUTCOME	Ability to act as centre of knowledge on questions of classifications, both regarding theory and practice.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures; ▪ Exercises and group work; ▪ Discussions; ▪ Exchange of views/experiences on national practices.
REQUIRED READING	None
SUGGESTED READING	None
REQUIRED PREPARATION	<ul style="list-style-type: none"> ▪ Participants are required to write a short summary of their own activity as well as that of the organisation regarding practises, problems and experiences in the subject. ▪ After registration, participants will be asked to provide either a short presentation on experiences carried out in the country or cases that could be dealt with in group exercises.
TRAINER(S)/ LECTURER(S)	<p>Marie-Madeleine FUGER (INSEE France)</p> <p>Zsofia ERCSEY (Hungarian Central Statistical Office)</p> <p>Hans VAN HOOFF (Statistics Netherlands)</p>

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
13 – 16.11.2018	4 days	Budapest, Hungary	ICON-INSTITUT Public Sector GmbH	Deadline: 14.09.2018

Development and use of indicator systems for evidence-based decision making

COURSE LEADERS	André de MONTMOLLIN (FSO) Nicola MASSARELLI (EUROSTAT)
TARGET GROUP	Staff members working in the field of economic, social or environmental statistics who are or who will be involved in indicator systems or who need to extend their knowledge on how to use indicators and indicator systems
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ 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)	<ul style="list-style-type: none"> ▪ To provide participants with a theoretical and methodological background on the development of indicator systems ▪ 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 the users of indicators and the providers, especially the link between statisticians operating indicator systems and policy makers ▪ The course will not address the following topics: <ul style="list-style-type: none"> ○ Construction of individual indicators ○ Use of indicators in statistical models
CONTENTS	<ul style="list-style-type: none"> ▪ Why indicators? What are indicators? Definition and typology ▪ For which purposes can indicators be used and which not (monitoring, controlling, evaluation) ▪ Establishment of an indicator system, role of the conceptual framework ▪ Selection criteria and quality profile of indicators ▪ Interaction NSI <-> stakeholders, how to guarantee the independence of the NSI ▪ Communication through indicators, target audiences, how to communicate complexity ▪ Indicator-based assessment methodologies
EXPECTED OUTCOME	<p>The participants will be familiar with the steps required to develop an indicator system</p> <p>The participants will be familiar with the use of statistical indicators in evidence-based decision making and with the role of NSI in this field</p>
TRAINING METHODS	<ul style="list-style-type: none"> • Presentations/Exchange of views/experiences on national practices • Exercises

REQUIRED READING	<ul style="list-style-type: none"> • Towards harmonised methodology for statistical indicators - Part 1: Indicator typologies and terminologies – Eurostat, 2014 edition • Getting messages across using indicators. A handbook based on experiences from assessing Sustainable Development Indicators – Eurostat, 2014 edition • Towards a Harmonised Practice in Using Statistical Indicators – Part 2: Communicating through indicators – Eurostat, 2017 edition • Towards a harmonised methodology for statistical indicators – Part 3: Relevance for policy making – Eurostat, 2017 edition • Sustainable Development in the European Union – Monitoring report on the UN Sustainable Development Goals from an EU perspective – Eurostat, 2017 edition (provisional title – forthcoming in November 2017). • http://ec.europa.eu/eurostat/web/sdi/publications
SUGGESTED READING	<ul style="list-style-type: none"> ▪ Swiss Federal Statistical Office (2013): Revision of the indicator system for the Federal Council and the Parliament – Concept, methods and processes (PDF) ▪ Smarter, greener, more inclusive? - Indicators to support the Europe 2020 strategy - 2017 edition
REQUIRED PREPARATION	
TRAINER(S)/ LECTURER(S)	<p>Trainers: André de MONTMOLLIN (FSO) and Nicola MASSARELLI (Eurostat)</p> <p>Lecturers : FSO and Eurostat staff</p>

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
14-16.11.2018	3 days	Neuchâtel, Switzerland	FSO & EUROSTAT	Deadline: 21.09.2018

DATA VALIDATION IN THE ESS	
COURSE LEADER	Vincent TRONET
TARGET GROUP	Staff involved in the validation of data transmitted to Eurostat (either from the business, methodological or IT side) at national level.
ENTRY QUALIFICATIONS	Sound command of English. Participants should be able to make short interventions and to actively participate in discussions.
OBJECTIVE(S)	The course will provide participants with a better understanding of the current best practices in performing data validation. The course will also make participants aware of the resources available to improve validation processes both at ESS and national levels.
CONTENTS	<p>The course will approach the topic of validation from several different perspectives: statistical methodology, standards, IT infrastructure and tools. In particular, the course will cover the following topics:</p> <ul style="list-style-type: none"> ▪ ESS validation principles ▪ The target Business and IT architecture for validation in the ESS ▪ The ESS methodological handbook on validation and emerging research topics in the area of validation ▪ Standards for validation in Official Statistics ▪ IT tools/services available in the ESS to perform validation and future developments <p>The course also foresees the possibility for participants to share national experiences on validation practices.</p> <p>It should be noted that the course will focus on validation of data to be provided to Eurostat, i.e. the verification of statistical data. The course will not cover the topics of editing and imputation.</p>
EXPECTED OUTCOME	<p>By the end of the course, participants should:</p> <ul style="list-style-type: none"> • Be familiar with validation best practices and with the resources for validation available at ESS level • Be able to identify where these best practices and resources could best be used to improve validation in a national context
TRAINING METHODS	<p>The course will employ the following training methods:</p> <ul style="list-style-type: none"> ▪ Theoretical presentations and lectures ▪ Exchange of views/experiences on national practices via e.g. presentations from the participants. ▪ Individual/group exercises based on concrete case studies/use cases. These exercises may include hands-on work with the available IT tools/services for validation
REQUIRED READING	None

SUGGESTED READING	The Data Validation section of the Eurostat Website: http://ec.europa.eu/eurostat/data/data-validation In particular, accessible from this section: - Business Architecture for ESS Validation - ESS Methodology for data Validation (i.e. Methodological Handbook)
REQUIRED PREPARATION	Participants will be invited to prepare a short presentation (with supporting slides) about their national validation practices or about particular issues they are currently facing regarding validation.
TRAINER(S)/ LECTURER(S)	Vincent TRONET (Eurostat) and Eurostat staff Possible participation of selected national experts

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
21 - 22.11.2018	2 days	Eurostat, Luxembourg	EUROSTAT	Deadline: 21.09.2018

<h2 style="margin: 0;">COMMON STATISTICAL PRODUCTION ARCHITECTURE</h2>	
COURSE LEADER	Marco SILIPO
TARGET GROUP	IT Architects, Statistical Experts, NSIs' Managers – Introductory course
ENTRY QUALIFICATIONS	Sound command of English. Participants should be able to make short interventions and to actively participate in discussions.
OBJECTIVE(S)	The main objective of the course is to introduce the participants to the new architecture concept for the production of official statistics, the associated challenges and opportunities, and on-going development at UNECE and Eurostat level and practical realization so far including the IT aspects.
CONTENTS	<p>The contents are:</p> <ul style="list-style-type: none"> ▪ Definition and usefulness of architecture concepts; ▪ Definition and benefit of CSPA and service oriented architectures (in broad sense); ▪ Use cases of this architecture; GSBPM and GSIM as a framework for describing statistical production process and supporting information, business process modeling and granularity of services; architecture pattern and models for implementing CSPA; ▪ Service communication and wrapping; current open challenges and perspective; <p>With its focus on concrete implementation (CORE platform, CSPA proof of concept), the course demystifies the sometimes abstract concept of SOA and demonstrates how SOA approach can meet the current challenge for official statistics.</p>
EXPECTED OUTCOME	<p>Participants will become familiar with the Common Statistical Production Architecture.</p> <p>In particular they will learn about:</p> <ul style="list-style-type: none"> ▪ technical aspects of the CSPA architecture ▪ business aspects of sharing software ▪ principles underlying a real implementation of a platform for the automated execution of statistical processes ▪ international standards like GSBPM and GSIM ▪ how to integrate applications in a CSPA environment ▪ how to reuse IT tools possibly developed on different platforms and by different NSIs.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Theoretical sessions and presentation of case studies. ▪ Exercises.
REQUIRED	None

READING	
SUGGESTED READING	<p>GSBPM (Generic Statistical Business Process Model) ver. 5.0 2013 http://www1.unece.org/stat/platform/display/GSBPM/GSBPM+v5.0</p> <p>CSPA: https://statswiki.unece.org/display/CSPA/Common+Statistical+Production+Architecture</p> <p>HLG: https://statswiki.unece.org/display/hlgbas/High-Level+Group+for+the+Modernisation+of+Official+Statistics</p>
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Mauro BRUNO, Marco SILIPO, Carlo VACCARI (ISTAT)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
21 -23.11.2018	3 days	Rome, Italy	ICON-INSTITUT Public Sector GmbH	Deadline: 21.09.2018

STATISTICS4BEGINNERS	
COURSE LEADER	Rebecca KILLICK
TARGET GROUP	The course is targeted to any non-statistician NSIs staff, in different kinds of positions, wishing to improve their basic knowledge on descriptive statistics and statistical data analysis.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ Sound command of English. Participants should be able to make short interventions and to actively participate in discussions ▪ Basic skills with Excel
OBJECTIVE(S)	<ul style="list-style-type: none"> ▪ This course wishes to introduce non-statistical NSI staff to the basic concepts and logic of statistical reasoning and gives them introductory-level practical ability to choose, generate, and properly interpret appropriate statistical descriptive and inferential methods.
CONTENTS	<ul style="list-style-type: none"> ▪ Descriptive analysis ▪ Average, Median, modal values ▪ Variance and standard error ▪ Confidence intervals ▪ Basic data analysis ▪ Survey and panel data ▪ How to prepare a short questionnaire
EXPECTED OUTCOME	After the course, participants will be familiar with the most common concepts used in statistics. Participants will be also provided with the skills and the tools to implement some basic statistical data analysis.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Practical exercises in Excel ▪ Group discussions
REQUIRED READING	None
SUGGESTED READING	<ul style="list-style-type: none"> ▪ Madsen B. (2011) "Statistics for non-statisticians". Springer. ▪ Weiss N.A. (2015) "Introductory statistics (tenth edition)". Pearson. ▪ Diez D.M., Barr C.D., Cetinkaya-Rundel M. (2017) "OpenIntro Statistics (third edition)". Openintro.org
REQUIRED PREPARATION	None
TRAINER(S)/ LECTURER(S)	Rebecca KILLICK

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
27 – 29.11.2018	3 days	Valencia, Spain	DEVSTAT	Deadline: 24.09.2018

WASTE STATISTICS	
Course LEADER	Jörg HANAUER
TARGET GROUP	Staff members involved in the production of official waste statistics, advanced level.
ENTRY QUALIFICATIONS	<ul style="list-style-type: none"> ▪ 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)	<p>The course will enhance the theoretical and practical knowledge of waste statistics validation approaches.</p> <p>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.</p>
CONTENTS	<ul style="list-style-type: none"> ▪ 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	<p>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.</p> <p>Participants will have a chance to exchange experiences and thus learn about the practices of other countries.</p>
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Lectures and presentations ▪ Plenum discussions and group sessions ▪ Practical examples and exercises
REQUIRED READING	<p>Regulation (EC) No 2150/2002 of the European Parliament and of the Council of 25 November 2002 on waste statistics.</p> <p>Validation approach for waste statistics, available on CircaBC : 3.2 WStatR validation approach_rev1</p>

	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	<ul style="list-style-type: none"> ▪ 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-explained/index.php/Waste_management_indicators <p>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</p>
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)	Milla NEUBAUER (Environment Agency Austria) Jürgen GONSER (Argus)

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
04 - 05.12.2018	2 days	Vienna, Austria	SOGETI	Deadline: 08.10.2018

MACROECONOMIC IMBALANCE PROCEDURE (MIP SCOREBOARD)	
COURSE LEADER	Rosa RUGGERI CANNATA
TARGET GROUP	Staff (including newcomers) of national statistical institutes (NSIs, NCBs and Ministries) involved in the production process of the MIP headlines indicators
ENTRY QUALIFICATIONS	Sound command of English. Participants should be able to make short interventions and to actively participate in discussions. Interest in assessing macroeconomic imbalances.
OBJECTIVE(S)	<ul style="list-style-type: none"> • To give participants an overview and description of the policy context and background of the MIP • To help participants understanding the use of statistical indicators for summarizing growth, development, and competitiveness phenomena
CONTENTS	<ul style="list-style-type: none"> • The European Semester: the role of Eurostat and of DG ECFIN • Alert mechanism and Scoreboard Indicators • MIP indicators and indicative thresholds • MIP quality frameworks • Dissemination of MIP indicators
EXPECTED OUTCOME	Participants will have a good overview of the use of statistics in the MIP within the European Semester and a good understanding of the different roles of Eurostat, DG ECFIN and ESS partners.
TRAINING METHODS	<ul style="list-style-type: none"> ▪ Presentations and lectures ▪ Group discussions, exchange of views
REQUIRED READING	Being familiar with the content of the Eurostat MIP dedicated webpage
SUGGESTED READING	Any university book on Macroeconomics
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 MIP.
TRAINER(S)/ LECTURER(S)	Eurostat staff working in the MIP field and DG ECFIN

PRACTICAL INFORMATION				
WHEN	DURATION	WHERE	ORGANISER	APPLICATION VIA NATIONAL CONTACT POINT
06 - 07.12.2018	2 days	Eurostat, Luxembourg	EUROSTAT	Deadline: 05.10.2018

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	emilie.chatorier@economie.fgov.be
Bulgaria	National Statistical Institute	BG-ESTP-CONTACT@nsi.bg yanastassova@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	christian.brunhart@llv.li
Lithuania	Statistics Lithuania	LITHUANIA-ESTP-CONTACT@stat.gov.lt

COUNTRY	ADMINISTRATION	E-MAIL ADDRESS
Luxembourg	National Statistical Institute - STATEC	Estp@statec.etat.lu
Malta	National Statistics Office - NSO	james.briscoe@gov.mt sammy.mangion@gov.mt
Netherlands	Statistics Netherlands - CBS	estp-courses@cbs.nl
Norway	Statistics Norway - SSB	norway.estp.contact@ssb.no
Poland	Central Statistical Office - GUS	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
United Kingdom	Office for National Statistics - ONS	GSS.Capability@statistics.gov.uk

EFTA	EFTA Statistical Office (ESO)	efta-lux@ec.europa.eu
EUROSTAT	Eurostat Unit A2: 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 Former Yugoslav Republic of Macedonia	State Statistical Office	tatjana.velkova@stat.gov.mk tatjana.mitevaska@stat.gov.mk elena.qinovska@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 <i>Please note:</i> All applications should be sent to this address, <u>irrespective</u> 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
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(*) 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.