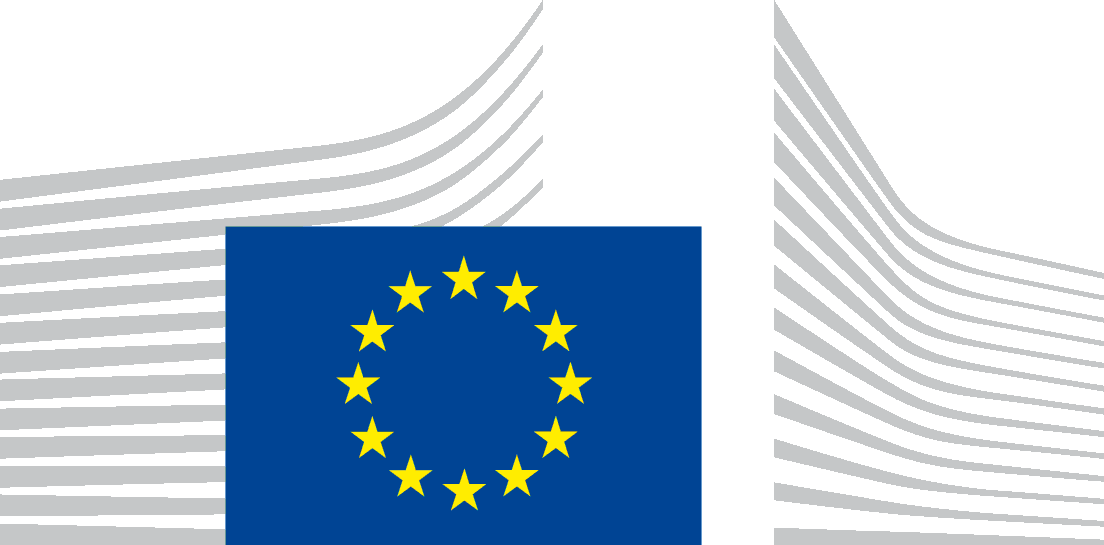
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**The Use of R in Official Statistics:   
model based estimates**

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| **Draft course programme** | |
| **Trainer** | Martijn Tennekes |
| **Description** | 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. |
| **Tool for practical session** | Laptop |
| 1st day |  |
| 9.00 – 10.00 | Introduction and installation |
| 10.00 – 10.30 | Questions and coffee break |
| 10.30 – 11.30 | Basic introduction to programming in R |
| 11:30 – 12:30 | Exercises |
| 12.30 – 13.30 | Lunch break |
| 13.30 – 14.30 | Descriptive statistics with R |
| 14.30 – 14.45 | Questions and coffee break |
| 14.45 – 15.45 | Reading and writing data with R (including JSON, XML and SDMX format) |
| 15:45 – 17:00 | Exercises |
| 2nd day |  |
| 9.00 – 10.00 | R packages: the tidyverse |
| 10.00 – 10.30 | Questions and coffee break |
| 10.30 – 11.30 | R packages in official statistics |
| 11.30 – 12.30 | Exercises |
| 12.30 – 13.30 | Lunch break |
| 13.30 – 14.30 | Data visualization with R |
| 14.30 – 14.45 | Questions and coffee break |
| 14.45 – 15.45 | Data visualization with R – continuation |
| 15.45 – 17.00 | Exercises |
| 3rd day |  |
| 9.00 – 10.00 | Modelling |
| 10.00 – 10.30 | Questions and coffee break |
| 10.30 – 11.30 | Imputation and synthetic data |
| 11.30 – 12.30 | Exercises |
| 12.30 – 13.30 | Lunch break |
| 13.30 – 14.30 | Graphical user interfaces and dashboards: shiny |
| 14.30 – 14.45 | Questions and coffee break |
| 14.45 – 17.00 | Exercises |
| 4th day |  |
| 9.00 – 10.00 | Introduction to spatial data |
| 10.00 – 10.30 | Questions and coffee break |
| 10.30 – 11.30 | Spatial data in R |
| 11.30 – 12.30 | Exercises |
| 12.30 – 13.30 | Lunch break |
| 13.30 – 14.30 | Thematic maps with R |
| 14.30 – 14.45 | Questions and coffee break |
| 14.45 – 15.45 | Creating thematic maps with R - continuation |
| 15.45 – 17.00 | Exercises |
| 5th day |  |
| 9.00 – 10.30 | Version control: how to use Github |
| 10.30 – 10.45 | Questions and coffee break |
| 10.45 – 11.45 | Data reporting with R - tables, markdown, LaTeX |
| 11.45 – 13.00 | Exercises |
| 13.00 – 13.45 | Lunch break |
| 13.45 – 14.45 | Project management |
| 14.45 – 15.00 | Questions and coffee break |
| 15.00 – 16.00 | Capstone session: recap and suggestions |