# NTTS 2021 tracks & topics

## *Track A. Data collection and integration*

* Mixed-mode and web data collection
* Collection and use of paradata to improve surveys
* Adaptive and responsive survey designs
* Non-response, response propensity, respondent behavior and response burden
* Behavioral applied to surveys
* Measurement of longitudinal phenomena
* Data linking and statistical matching with different sources
* Multinational repositories and exchange/share/use of microdata
* Integrated data collection systems
* New challenges in the measurement of vulnerabilities (economic insecurity, inequality, poverty)
* Social data mining

## *Track B. Trusted Smart Statistics*

* New data sources
* Web Intelligence
* Designed data collection by (mobile) devices
* Smart Surveys and Trusted Smart Surveys
* Privacy preserving technologies applied to official statistics
* Novel methodological approaches for non-traditional data sources
* Quality aspects of non-traditional data sources
* Data Innovation

***Track C. Data analytics revolution***

* Data science and (big) data analytics
* Experimental statistics
* Blockchain, distributed ledgers and smart contracts applied to official statistics
* Artificial intelligence in statistics
* Semantic web and Natural Language Processing
* Machine learning
* Skills for tomorrow’s official statisticians

## *Track D. Estimation and analysis*

* Nowcasting and flash estimates
* Time series analysis and revisions
* Outlier detection
* Seasonal Adjustment
* Econometric Modelling
* Variance estimation
* Small area estimation
* Microsimulation
* [GIS](https://ec.europa.eu/eurostat/cros/lexicon/18/letter_g_en), regional and spatial statistics

***Track E. Data reuse and sharing***

* Data platforms and data-as-a-service
* Statistical disclosure control, confidentiality and privacy
* Technical and legal aspects around the use of confidential data of official statistics, GDPR
* Data validation
* (Linked) Open Data

## *Track F. Users outreach, communication and dissemination*

* Communicating uncertainty of official statistics
* Visualisations
* Crowdsourcing and Citizen statistics
* Data Storytelling
* Collaborative and participative analytics
* Methods for capturing user input, assessing user needs and user satisfaction
* (Statistical) literacy in the data age

## *Track G. Data ecosystem*

* Data stewardship models
* Digital economy, digitalisation (data from financial sector, health, environment, etc.)
* Sustainable Development Goals – opportunities for collaboration between statistical and social sciences research communities
* Sustainable use of natural resources
* Ethics, digital skills, cybersecurity
* Statistical systems in developing countries – opportunities and risk from alternative methods
* Producing Official Statistics in Emergency Situations: Reflections and challenges posed by the Covid-19 pandemic
* Data policies and governance
* Use of privately held data for public purposes

## *Track H. Frameworks, software and tools*

* Open frameworks for replicability and reproducibility
* Use of R in official statistics
* New Statistical tools and software (Python, Julia, Shiny, etc.)
* Open source and sharing codes (git, Github, etc.)
* Reusing tools and services
* Enterprise architecture and standards
* Data architecture
* Collaborating with private sector and academic researchers