Innovation is a new or improved product or process (or combination thereof) that differs significantly from the unit’s previous products or processes and that has been made available to potential users (or brought into use by the unit).
Why an ESS Innovation Agenda?

- ESSC acknowledgment of the importance of innovation and the necessity to make it an indispensable element of the ESS activities
- Joint vision and approach scaling up innovation and strengthening the innovation culture
- Taking innovation in the ESS to the next level

From separate innovations

Towards joint approaches and joint learning
Policy Context

- The **ESS Vision 2020 Programme** ended in 2020 delivering a wide range of results
- The recent crisis has proved that *innovation is more important than ever* in a rapidly changing data ecosystem and to respond to new user needs
- A broad consensus on the need to keep a focus on **ESS innovation as part of the Multi Annual Plan** with a broad scope (product and process innovation)
- New measures and new indicator demands …
ESS Innovation Agenda Goal

‘the ESS innovation agenda is meant to structure and sustain the innovation streams in the ESS in order to make the production of European official statistics fit for the future and the ESS in better condition to respond to the challenges ahead’
Goals

- Strengthen the ESS ability to respond rapidly to new and urgent user needs
- Augment products and service portfolio for meeting policy needs
- Realize efficiency gains to free up resources
- Strengthen resilience to shocks and adapt to societal change

Means

- Leverage key innovation drivers and enablers, offered by the recent technological developments
- Promote internal and external cooperation
- 'Cross-domain' thinking and working
- Focus on implementing in statistical process
ESS innovation agenda

**Strategic approach to innovation**
- Conducting innovative projects
- Accelerating and enabling innovation
- Reaching out to a larger community of stakeholders active in innovation activities

**Operational action plan**
- Annual rolling plan combining integrating various approaches (quick wins and longer term capacity building)
ESS Innovation agenda: Principles

- Guiding principles for rolling out the ESS Innovation agenda
  - User information **needs** are the key innovation driver
  - Innovation encompasses the **entire ESS**
  - Innovation needs a ‘**fail fast**’ approach
  - Innovation results are **integrated** in the statistical **production**
  - Participation by an ESS member in the innovation is **voluntary**
  - The **optimal role** distribution between ESS members is established
Rolling out innovation

Meet policy needs for new statistics

Increase efficiency

Technical and methodological developments: incrementally strengthen generic ESS capabilities for making future production processes efficient and robust

Enhance capacity for quick and flexible reaction

Adapt to shifting social norms and shocks

Cross cutting development

Lighthouse project: realizing innovation in statistical domains: new product and lean processes
Lighthouse projects examples

1. **Innovative dissemination** tools for Principal European Economic Indicators
2. From experimental statistics to a statistical process: **Distributional National Accounts**
3. Working towards **early estimates** for short-term business indicators
4. **Microdata linking** techniques (MDL) for improved efficiency and new business statistics
5. Implementing measures for **improved European social statistics**
6. New wave of **Household Budget Survey**
7. Development of **environmental ecosystem accounting**.
8. Use of **Automated Identification Systems of vessels** data for improved maritime statistics
9. ML for **automatic classifying** entities according to NACE
Methodological and Technological innovations

TOP priorities

ESS innovation cross cutting domains

- Artificial Intelligence and Machine Learning
- Privacy enhancing techniques
- Smart technologies
- Methods for data integration
- Geospatial capabilities
- Cloud
- Quality
AI/ML One-Stop-Shop for NSIs

A single-entry point for NSIs staff

- Sandbox infrastructure to test and pilot AI/ML approaches together with training and coaching
- Reference implementation of AI approaches in the production of official statistics (e.g. information extraction, data editing and imputation, automatic coding, use of LLM to support users of statistics)
- Communities to share ideas, experiences, success stories and lessons learned to stimulate innovation based on the use of AI/ML.
- Best practices to facilitate the transition from development and experimentation of AI/ML-based solutions to industrialisation and production
- Time horizon: 2024-2028
Implementing Smart Surveys

• Applied research (NSIs, universities) to advance, develop and demonstrate the concept of smart surveys i.e., use of smart devices combining active and interactive data collection
• Identify the sharable components of the solutions that could be further developed and used among the NSIs
• Identify and promote good practices for privacy and communication methods for engaging respondents.
• Time horizon (2023-25)
• Twinning with HBS modernisation
Privacy Enhancing Techniques

- Accelerating the adoption of Privacy Enhancing Technologies (PET) with the ESS as an alternative to direct exchange of personal data between different organisations, lowering privacy and security risks, improving acceptance by data providers and general public.
- Build a shared PET infrastructure based on the concept of Multi-Party Secure Private Computing-as-a-Service (MPSPCaaS).
- Detailed specification, feasibility analysis, prototyping and demonstration (2025-26) - IT procurement and piloting (2026 onwards)
Innovation mechanisms

TOP Priorities

1. Peer-to-peer knowledge sharing
2. Capacity building through training and similar activities
3. Process design and framework
4. Communication
5. Legal Framework
6. Citizen engagement and citizen science approaches
Partnerships – reinforced of collaboration

Academics

Citizens’ Engagement

Private sector

International organisations

Ecosystem landscaping

Challenges & prizes

Collaboration with Universities

Research grants

Hackathon
ESS Innovation Network (EIN)

Brings together ESS innovation champions to support the Innovation execution

Tasks of the EIN include:

- **Liaison** with member states to learn from experiences and good practices
- **Boost** innovation process (new ideas, reuse of capabilities, transition from LAB to FAB)
- **Initiator** of contact with member states, EU organization and external partners

Projects look beyond statistical offices and also enable collaboration with **external partners / innovation community**
ESS innovation and HLG MOS

Key principles

- Sharing knowledge: Combining perspectives leads to more innovative solutions.
- Avoid duplication and seek complementarity: Dividing tasks increase speeds.
- Collaborate on deployment of existing assets: Do not reinvent the wheel.
- Two ways communication.

Maintain links between ESS innovation and HLG.
Identified Areas of Collaboration

**AI - ML**
AI/ML One Stop Shop - HLG AI network

**Privacy Enhancing Techniques**
ESS PETaaS and UN Task Team on PETs

**Training and skills**
Meta Academie and European Statistical Programme / EMOS
Next Milestones

Communication
Raising awareness
Changing culture

ESS Innovation HUB platform
Upgrade Collaboration on Research and Methodology for OS
Beginning 2024

Innovation workshop with Joint Research Centre
28 February 2024

EIN Plenary meeting
29 February 2024
Thank you