Mainstreaming Digitalization in the NSDS:

A Driver for NSS Modernization

14th Session of OIC-StatCom

2 October 2025

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The Changing Landscape

- National statistical systems (NSS) are under increasing pressure: timeliness, granularity, and integration across sectors

  - Resources remain limited, yet expectations continue to grow

- Digitalisation and AI are no longer "add-ons" – they are strategic enablers

- But adoption must move beyond pilots and into sustained, system-wide strategies

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Digitalization & AI Contribute to a Stronger and Modern NSS

Efficiency
- Automate processes and reduce costs

Quality
- Improve timeliness and reliability

Innovation
- Enable the use of new data sources

Trust
- Strengthen governance, ethics and user engagement

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National Strategy for the Development of Statistics (NSDS) as the Gateway

The National Strategy for the Development of Statistics (NSDS) is a national blueprint for statistical development

- It provides a strategic entry point for digitalisation and innovation

- It ensures alignment with:

  - National digital transformation plans and digital strategies

  - Data governance and protection frameworks

  - Development priorities (including national development plans) and the SDGs

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Embedding Innovation and Digitalisation into the NSDS Lifecycle
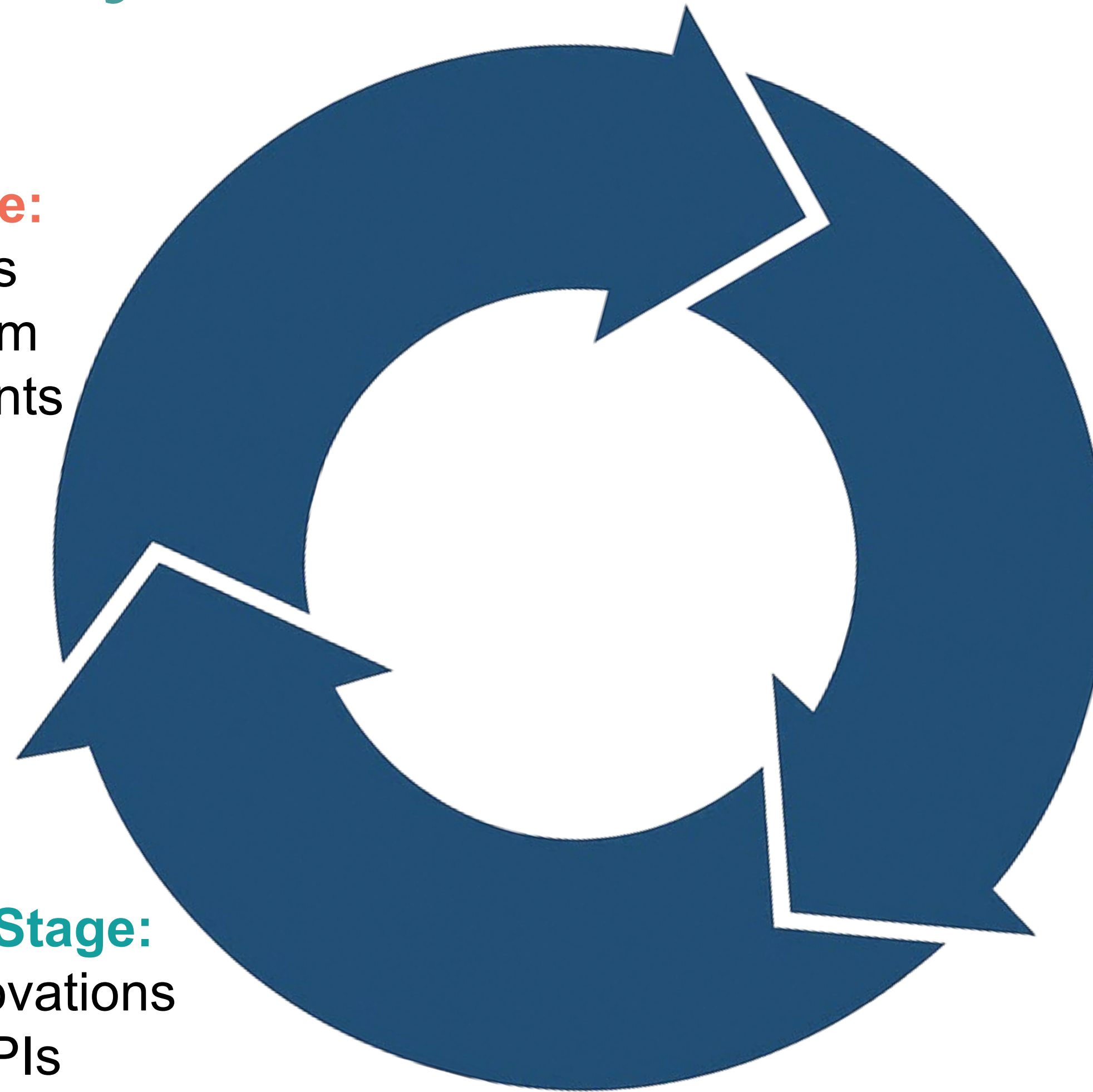
1. Preliminary Stage:
- Align with policies
- Map the ecosystem
- Nominate focal points
- Foster dialogue

2. Design Stage:
- Conduct readiness assessments
- Define strategic goals
- Plan actions
- Secure financing

3. Deployment Stage:
- Implement innovations
- Monitor KPIs
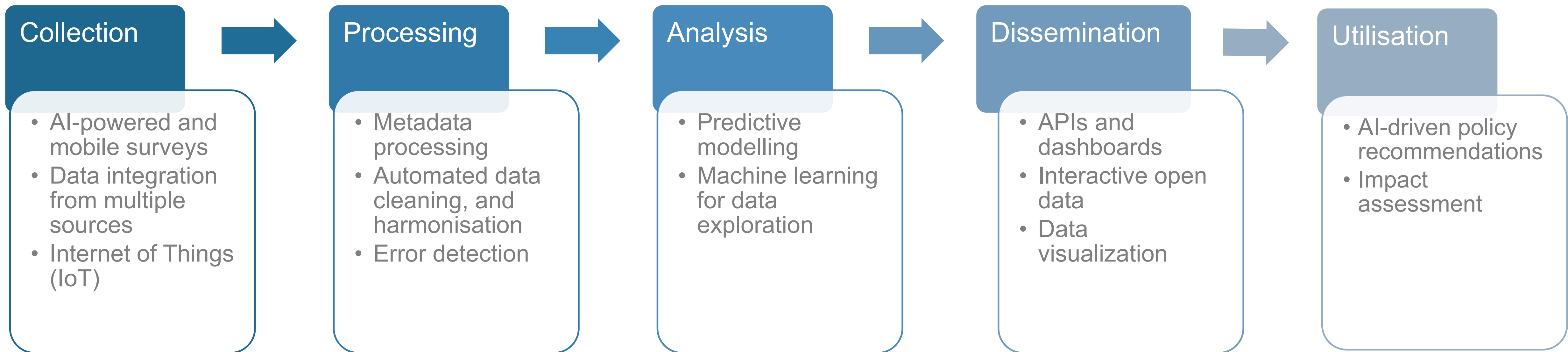- Evaluate results
- Adjust strategy

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Building the Foundations

- Digital maturity and AI-readiness assessments

- Introduce AI governance, ethics and risk frameworks early

- Establish innovation working groups across the NSS

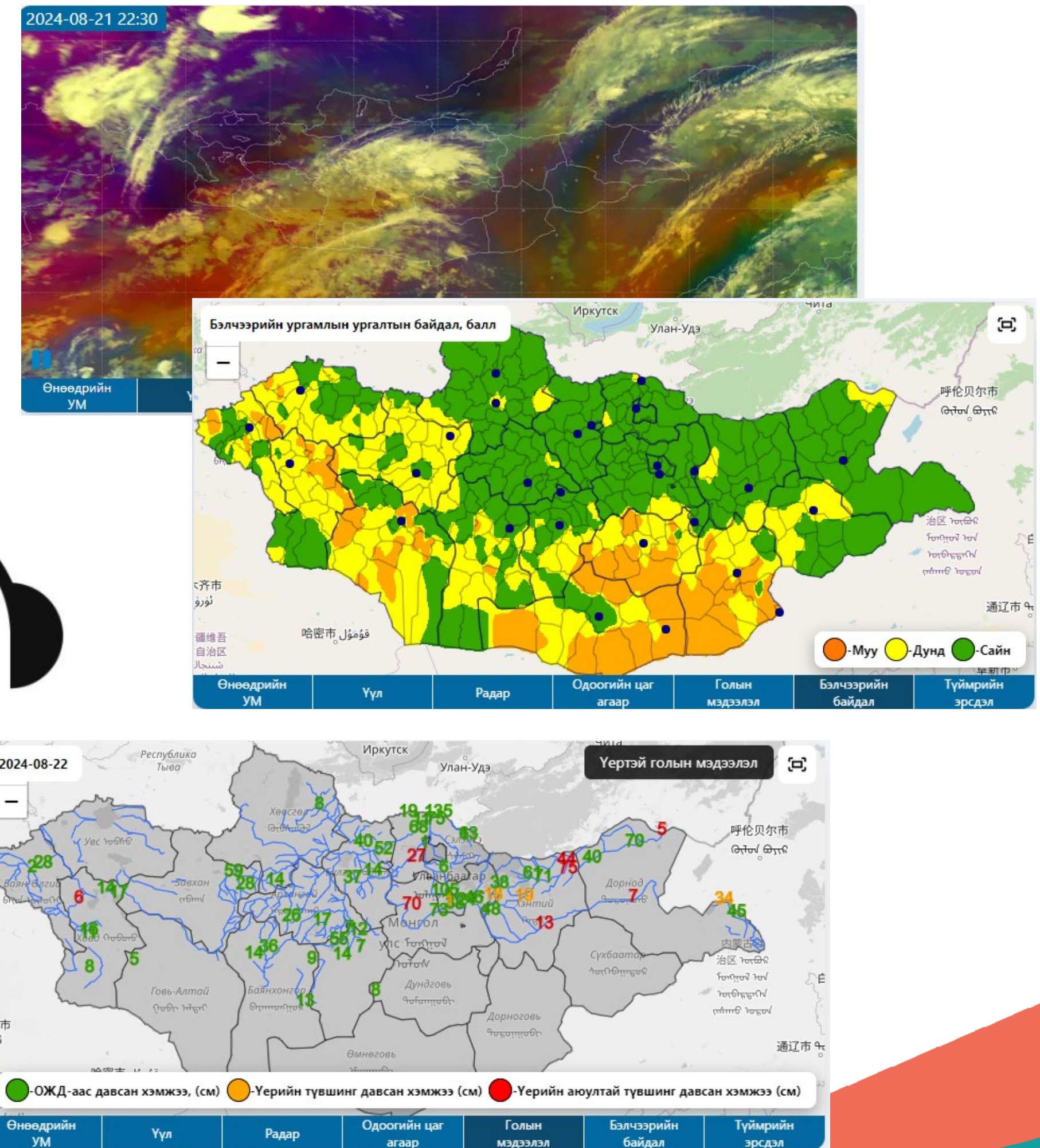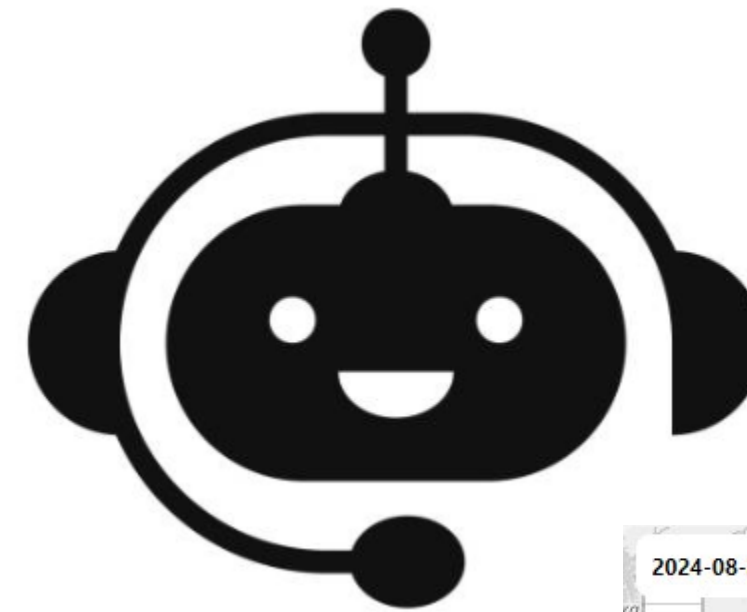- Anchor digitalization in inclusive, participatory approaches

How AI and Digitalization Can be Adopted Across the Data Value Chain

Collection
- AI-powered and mobile surveys
- Data integration from multiple sources
- Internet of Things (IoT)

Processing
- Metadata processing
- Automated data cleaning, and harmonisation
- Error detection

Analysis
- Predictive modelling
- Machine learning for data exploration

Dissemination
- APIs and dashboards
- Interactive open data
- Data visualization

Utilisation
- AI-driven policy recommendations
- Impact assessment

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AI as a Catalyst for Modernization

- Several applications already tested in official statistics:
  - Automated coding and imputation
  - Satellite imagery for agriculture and land use
  - Forecasting and predictive modelling
  - Chatbots for user interaction
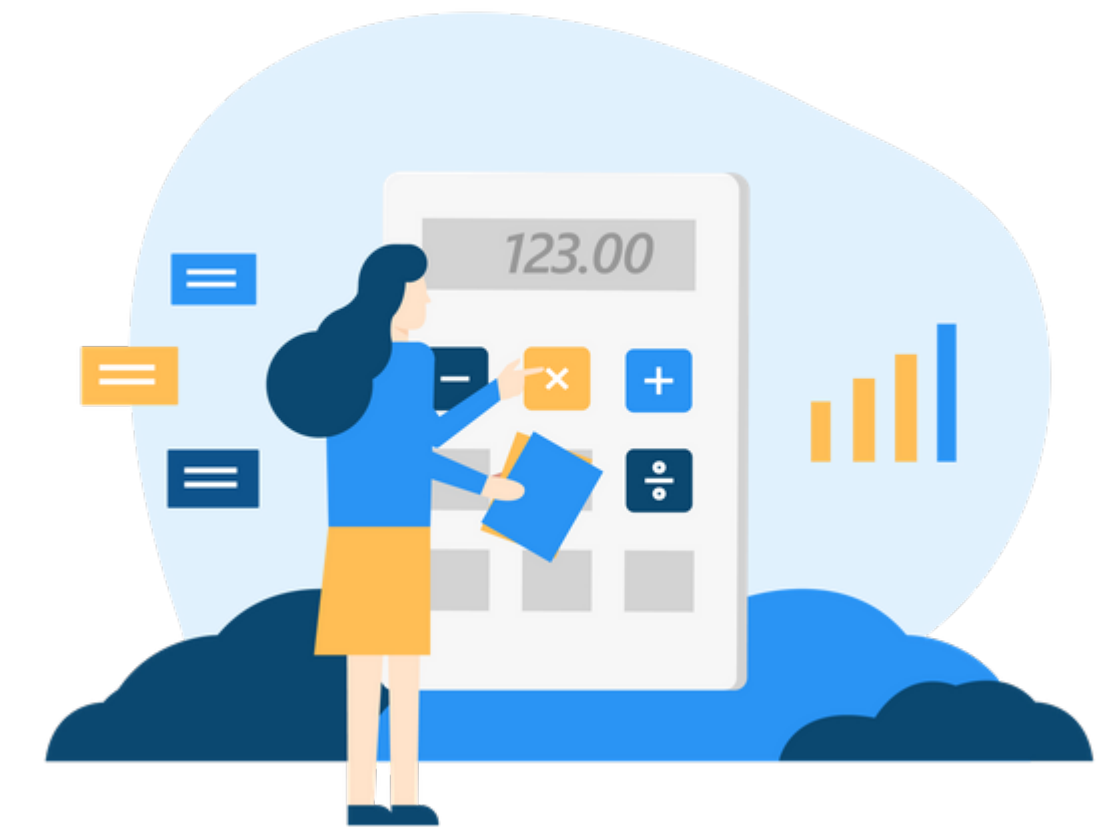- Must be accompanied by capacity-building, safeguards, and accountability mechanisms

Examples of Digitalization Mainstreaming from OIC Members

Türkiye — Big data + Machine Learning for CPI
- TurkStat operates a big data environment that web-scrapes online prices and uses machine learning classification for CPI compilation.

Morocco — 2024 Census Modernization
- Shifted from paper to electronic tablets and used satellite-based cartography

Senegal — National Data Strategy
- Developed through a multi-stakeholder participatory process, the strategy was adopted under the broader Senegal Digital Strategy

PARIS21 Supports National and Global Modernization Efforts

Task Team on AI for Official Statistics

- Focus on knowledge sharing and peer learning, with three products to be delivered in 2025:
- Catalogue on generative AI use cases for official statistics
- AI-readiness assessment tool and white paper
- AI risk management framework

Global AI-Ready Official Statistics Project

- Technical support for NSOs to make their data "AI-ready"
- Three main areas of focus:
- Structured metadata
- Trusted quality controls
- Clear terms of access

Guidelines on mainstreaming innovation in the NSDS

- As part of the PARIS21 NSDS Guidelines, a new module and accompanying resources will be unveiled in the coming months
- Special sub-feature on AI, and practical resources on other new technologies

AI Trainings for Key Stakeholders

- NSO leaders and middle managers
- Parliamentarians
- Civil servants from other relevant ministries (e.g., environment, gender, planning, health, etc.)
- Civil Society Organisations

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The PARIS21 Approach: Partnership

- A strong global partnership is necessary to avoid a growing AI and digital divide

- Partnering is at the core of PARIS21's work, and we will continue to work on AI and related innovation themes through this lens

- Key partners span a number of stakeholder groups

  - Countries: NSOs, line ministries, policymakers and parliamentarians

  - CSOs and NGOs, research institutions and the private sector

  - Knowledge partners, including other international organisations (UN, OECD, development banks, etc.) and technical experts

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Key Takeaways

- Digitalization & AI are essential drivers of NSS transformation and modernization, not optional extras or "nice-to-haves"

- The NSDS is a useful vehicle to strategically embed them into the NSS

- Success depends on:

  - Inclusive engagement

  - Governance and safeguards

  - Long-term capacity development

- OIC-StatCom can act as a platform for peer learning and co-operation

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THANK YOU

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