Modernisation Projects

2020 Projects have started, update will follow soon 2020 Modernisation Projects
(For project updates, please see Modernisation updates)

Input Privacy-preserving Techniques

Due to staffing shortages at UNECE and the Covid19 pandemic, this project was on hold until 1 August. Colleagues and NSOs interested in joining the project can contact UNECE (support.stat@un.org).

CONTEXT
Statistical organizations are more and more investing on becoming part of a data ecosystem where they acquire and integrate data from multiple sources and provide richer statistical products. In this scenario, the issue of privacy preservation is particularly relevant: the more sources are acquired and integrated, the higher are the risks of disclosing information violating individual privacy rights. Hence, from a legislative perspective there are indications to take privacy into account throughout the whole data treatment process, through the ‘privacy by design’ concept. National Statistical Organizations (NSOs) are used to apply techniques for enforcing privacy by design on the output side, however, NSOs have still to invest on dealing with privacy protection on the input side, in a complementary but distinct way with respect to output privacy preservation investments.

PROJECT OBJECTIVES
The first objective of the project is to scope the goals and work packages and to prevent duplication by identifying the state-of-the art and current activities in the area (WP0). Initially, the project proposal was divided into four work packages. The approach is iterative and modular in a way that more mature techniques can be tested with PoCs to speed up their adoption and additional techniques could be added as new work packages and strengthen each other if we do them jointly.

• WP1. Documenting statistical use-cases relevant for application of privacy-preserving techniques
• WP2. Secure Multiparty Computation (SMC) methods
• WP3. Homomorphic Encryption (HE) methods
• WP4. Identify opportunities for operationalization of methods and sharing of solutions

During the initial stage (WP0), these might be further scoped.

Participation is open to staff from statistical organisations. Please contact the UNECE secretariat if you wish to participate in the project.

MACHINE LEARNING PROJECT 2020

CONTEXT
The interest in the use of Machine Learning (ML) for official statistics is rapidly growing. For the processing of some secondary data sources (including administrative sources, big data and Internet of Things) it seems essential to look into opportunities offered by modern ML techniques, while also for primary data ML techniques might offer added value, as illustrated in the ML position paper mentioned above. Although ML seems promising there is only limited experience with concrete applications in the UNECE statistical community, and some issues relating to e.g. quality and transparency of results obtained from ML still have to be solved. The second year of the Machine Learning Project.

PROJECT OBJECTIVES
Based on mutual interest and building on existing national developments, the objective of the project is to advance the research, development and application of machine learning techniques (ML) to add value (relevance, timeliness, quality, efficiency) to the production of official statistics. To achieve this objective the Machine Learning (ML) will aim in year two, to:

• Report on the various Pilot Studies to demonstrate the value-added of ML.
• Identify and share best practices in the implementation of ML techniques.
• Share knowledge, tools and best practices on implementing the ML techniques, and how National Statistical Organisations (NSOs) are organized to move them quickly to the production processes.
• Propose a quality framework components for evaluating ML processes and statistics produced using them, as well as to bridge the gap between these components and those in existing frameworks.

Participation is open to staff from statistical organisations. Please contact the UNECE secretariat if you wish to participate in the project.

Earlier Modernisation Projects

Strategic Communication Project 2019 (Phase II)

MACHINE LEARNING PROJECT

CONTEXT
Within the context of today’s ever-changing data environment, many statistical organizations are in the process of developing or reviewing their strategic objectives and their business models – leading to the articulation or a review of their mission and/or vision statements. More and more statistical organizations are involved in government-wide data strategy formulation. For statistical organizations to become strategic partners in the development of a national data strategy and for the successful development of a solid business model or the transition to a new business model, the vision must resonate with staff at all levels. For mission and vision statements to resonate with employees, staff need to be engaged.

PROJECT OBJECTIVES

The objective of the Strategic Communication Framework Project is to guide statistical offices in the development of a strategic approach to protect, enhance and promote the organization’s reputation and brand. Phase 2 of the Project will build on the experience and momentum gained in Phase 1 and will focus on developing a strategic approach to internal communications and stakeholder management/analysis in support of two priority topics for 2019 identified by HLG-MOS - Communicating our value and Setting the vision. It will also explore the experience of national statistical organizations in the development of government-wide data strategies in support of a third HLG priority – National Data Strategies.

The project will focus on:

The interest in the use of Machine Learning (ML) for official statistics is rapidly growing. For the processing of some secondary data sources (including administrative sources, big data and Internet of Things) it seems essential to look into opportunities offered by modern ML techniques, while also for primary data ML techniques might offer added value, as illustrated in the ML position paper mentioned above. Although ML seems promising there is only limited experience with concrete applications in the UNECE statistical community, and some issues relating to e.g. quality and transparency of results obtained from ML still have to be solved.

PROJECT OBJECTIVES

Based on mutual interest and building on existing national developments, the objective of the project is to advance the research, development and application of machine learning techniques to add value to the production of official statistics. To achieve this objective the Machine Learning (ML) will aim to:

- Investigate and demonstrate the value added of ML in the production of official statistics, where “value added” is increase in relevance, better overall quality or reduction in costs.
- Advance the capability of ML to add value to the production of official statistics.
- Advance the capability of national statistical organisations to use ML in the production of official statistics.
- Enhance collaboration between statistical organisations in the development and application of ML.
Strategic Communication Project 2018

STRATEGIC COMMUNICATION PROJECT
OVERVIEW

CONTEXT

Official statistics are operating in a competitive and challenging environment – one that has changed significantly over the last twenty years. For traditional users of official statistics their values and importance is undisputed. Yet for the average citizen the digital and social media revolutions have meant that more and more people have instantaneous access to various data sources, outside official statistics. The 24/7 news cycle is reality, trust in government is decreasing and the fake news phenomenon is growing.

Data Architecture Project II 2018

DATA ARCHITECTURE PHASE 2 PROJECT
OVERVIEW

CONTEXT

Statistical organisations deal with many different data sources – each with their own set of characteristics. Statistical organisations need to find, acquire and integrate data from both traditional and new types of data sources in an ever increasing pace and under ever stricter budget constraints, while taking care of security and data ownership.
Now more than ever, timely and relevant data and stories produced by statistical organizations are essential to healthy democratic societies as they remain the only independent, impartial, trusted and reliable source of official statistics. For official statistics to be beneficial to society, policy debate, and decision-making they must be known, understood, communicated and used.

PROJECT OBJECTIVES

The objectives for the project are to provide statistical offices with:

- support in the development a strategic approach to communication and increase their capacity to review and renew their communication approach, methods and processes;
- with tools to increase their visibility, relevance and brand recognition; and
- tools to take a proactive approach to managing issues and reputation.

The outputs of the project will focus on enabling statistical offices to modernize their communications at the strategic level and help organizations look at communications strategies in a broader risk management and business continuity context. They include:

- Defining skillsets of a professional communication programme and organizational options for the strategic communication function within the statistical organization;
- Developing a Communication Maturity Model, including metrics and a description of how to use the model and examples of how the model can be used;
- Developing guidelines to create a communications strategy and its

The 2017 HLG-MOS Data Architecture project developed the first version of the Common Statistical Data Architecture (CSDA). This Reference Architecture is a template for NSOs in the development of their own Enterprise Data Architectures.

The project will focus on providing a more robust version of the Common Statistical Data Architecture as a result of validation against a number of use-cases and integration with the outcomes from other related groups. It will also provide guidance on implementing the architecture.

PROJECT OBJECTIVES

The objectives of this project are:

- To complete the development of the Common Statistical Data Architecture, testing the reference architecture defined in 2017 against other use-cases
- To apply and validate the Data Architecture against the outcomes from other groups like UN-GWG, Data Integration project and groups working on statistical ontologies.
- To provide guidelines to support statistical organisations in using the Common Statistical Data Architecture.

ALL OUTPUT PRODUCED BY THIS PROJECT IS AVAILABLE FROM HERE: https://statswiki.unece.org/x/4BazBw

TO BE ADDED:

Data Architecture Project I 2017
implementation plan (including examples);

- Developing the branding options that are most relevant for statistical organizations; and
- Establishing an issues management process including guidance and tools to support statistical organizations in times of issues or crisis management.

TO BE ADDED:

- Data Integration Project 2017
- Data Integration Project 2016
- CSPA Implementation Project 2015
- CSPA Implementation Project 2014
- CSPA Development Project (2013)

Implementing ModernStats Standards 2016
Linked Open Metadata
Implementing ModernStats Standards

- Big Data Project II 2015
- Big Data Project I 2014
- Frameworks and Standards Project 2013
To be added