

Committee on Development and Intellectual Property (CDIP)

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SUMMARY OF THE “SYSTEM FOR STANDARDIZATION, ENRICHMENT AND ECONOMIC ANALYSIS OF INTELLECTUAL PROPERTY AND INNOVATION DATA TO SUPPORT POLICY DESIGN (VERSION 3.0)”

prepared by the Secretariat

1. The Annex to this document contains the Summary of the “System for Standardization, Enrichment and Economic Analysis of Intellectual Property and Innovation Data to Support Policy Design (version 3.0).”

2. This system was developed in the context of the Development Agenda (DA) Project on “Systematization of Statistical Data and the Design and Implementation of a Methodology for Developing Impact Assessments on the Use of the Intellectual Property System” (document CDIP/26/4).

3. *The Committee is invited to take note of the information contained in the Annex to the present document.*

[Annex follows]

Summary of the “System for Standardization, Enrichment and Economic Analysis of Intellectual Property and Innovation Data to Support Policy Design (version 3.0)”

This document outlines the major improvements made in Version 3.0 of the system designed to standardize, enrich, and analyze intellectual property (IP) and innovation data, aimed at providing comprehensive economic analysis to inform policy design. Developed under the framework of the DA project on “Systematization of Statistical Data and the Design and Implementation of a Methodology for Developing Impact Assessments on the Use of the Intellectual Property System” ([CDIP/26/4](#)), Version 3.0 represents a consolidation and expansion of the system’s methodological and functional capabilities, developed during the Côte d’Ivoire pilot study. This version adapted the system to OAPI’s regional multi-country IP framework and introduced enhanced categorization features to distinguish Ivorian applicants, other OAPI member applicants, and non-member applicants. It integrated French-language terminology to align with the operational contexts of Côte d’Ivoire and OAPI, while incorporating incremental improvements in effectiveness and performance across data processing, indicator computation, and system outputs.

All pilot countries were retroactively updated to Version 3.0 architecture to ensure methodological consistency and cross-country comparability, guaranteeing that all pilot countries (El Salvador, Bhutan, Indonesia and Côte d’Ivoire) benefit from the same advanced analytical framework regardless of their institutional differences.

I. KEY IMPROVEMENTS IN VERSION 3.0

a. Collaborative Digital Working Environment

A major development in Version 3.0 is the creation of dedicated platforms for each partner country (available online on a JupyterHub server or locally on JupyterLab). These platforms centralize all components of the system, providing users with personal access to the full set of methodologies required for data ingestion, cleaning and enrichment, which are essential for constructing the systematized database. They also include the procedures for computing all indicators, the indicator datasets used in each country study, and the visualization methods applied in the analysis.

In addition to serving as a technical workspace, the platforms offer exercises designed to strengthen understanding of the concepts and indicators used in the studies, supporting long-term capacity-building within partner institutions. While currently deployed for the four pilot countries, the structure of Version 3.0 will allow future expansion and broader accessibility, enabling additional countries to adopt and apply the system’s methodological framework for their own IP data analysis.

b. Streamlined Data Ingestion and Cleaning

In Version 3.0, the data ingestion and cleaning processes have been further refined through incremental efficiency improvements across all steps of the workflow. These enhancements include the translation of categories and labels into Spanish and French, allowing the system to operate consistently across multilingual environments and ensuring alignment with the needs of partner countries such as Côte d’Ivoire and El Salvador. The updated procedures increase processing speed, reduce manual intervention and improve the system’s readiness to integrate additional countries in the future while maintaining uniform data standards.

c. Development and Codification of Indicators

In Version 3.0, the indicator computation process has been strengthened through an expanded scope of indicators and greater adaptability in combining applicant-country and application-office information. These enhancements allow the system to capture more nuanced patterns in IP activity and provide users with a broader and more flexible set of analytical outputs. The improved procedures support a deeper understanding of national and regional innovation dynamics while maintaining a direct and efficient pathway from raw data to policy-relevant insights. To ensure effective adoption and use of the system, a comprehensive package of implementation resources has been provided to partner institutions. This includes reproducible analytical tools in the form of Python scripts that enable users to independently generate and verify results. In Version 3.0, these scripts are organized into separate GitHub repositories for each country, with code tailored to national data structures and analytical needs to support better absorption of technical methods.

d. Technical training

The model implementation includes a structured training program tailored to each pilot country's institutional needs and capabilities. The program was delivered through four three-day sessions held in person in El Salvador, Bhutan, and Indonesia, and one online session for Côte d'Ivoire, with the participation of OAPI ; all sessions combined conceptual and practical components. The first component covered methodological foundations, including economic principles of innovation, the IP system's role in innovation dynamics, and thematic areas such as women's participation, innovation geography, and capability frameworks. The second component provided hands-on experience in computing and interpreting indicators, and in demonstrating Python-based workflows for data systematization, automated calculations, and visualization. Participants received personalized access to an online JupyterHub with Python scripts, sample datasets, and study outputs to support continued learning and enable independent replication of analytical processes.

e. Reports generation

Version 3.0 made substantial advances in transforming analytical outputs into comprehensive reports. Depending on data availability, each pilot country can receive a detailed profile of its innovation ecosystem containing up to five thematic reports:

- Report on IP systems: relying on aggregates of micro-level data such as application periods, classes and applicant types and origins, this study provides insights regarding the IP activities at the national IP office, such as the direction of innovation or the origins of predominant applicants. These insights will then feature in reports, including key statistics and charts.
- Report on Innovation Ecosystems: it investigates innovative and creative capabilities of residents from an innovation ecosystem, regardless of where they are filing for IP. In the case of El Salvador, this study relies on data sourced from the national IP office and WIPO's international data collections, enabling the provision of a global analysis disaggregated by classes, applicant types (inventor, designer or applicant), domestic and abroad activities, and markets identified and targeted by national applicants.
- Report on Gender: it contributes to addressing such challenges by mapping gender gaps in IP and innovation. Based on the outputs of the gender attribution process applied during data ingestion, the analysis provides key figures and charts on the integration of women in IP and innovation activities, and it assesses their importance for creative and innovative national capabilities.

- Report on Subnational Ecosystems: based on data geocoded during the ingestion process, this report identifies the concentration of innovators and creators and provides network analysis of the geography of innovative and creative capabilities.
- Report on Innovation Capabilities: it ranks innovation capabilities according to their sophistication. It identifies country capabilities and provides strategic indicators for country strengths, weaknesses, and opportunities to pursue smart diversification.

These reports are produced by WIPO's Department for Economics and Data Analytics and reviewed by the national experts and counterparts.

II. LESSONS LEARNED AND NEXT STEPS

The final version of the system (System 3.0) enabled the production of the four pilot country studies and delivered high-quality, tailored analytical outputs aligned with project objectives. Completion of the studies was followed by the dissemination and training phase, carried out between September and November 2025, according to schedule.

The training sessions demonstrated strong motivation among partner countries to understand and apply the methodologies required to generate empirical evidence for policymaking. At the same time, they highlighted the challenges associated with absorbing the more technical components of the system, which appears difficult for the participating local institutions to allocate data-science capacities in their local teams. Discussions with counterparts confirmed the need to reinforce these capabilities, either through collaboration with external private-sector providers or through partnerships with universities and other public institutions; both approaches require specific training to ensure that these actors can effectively support national IP and innovation data analysis.

The next steps will focus on how to distill the learnings from the pilot countries for all member states, ensuring that the methodologies, tools and resources developed under System 3.0 can be operationalized and sustained to a broader set of countries.

[End of Annex and of document]