

15 Years with PX-Web: Kosovo's Journey from Data to Digital Dissemination

From publishing statistical outputs to building a connected digital dissemination ecosystem.

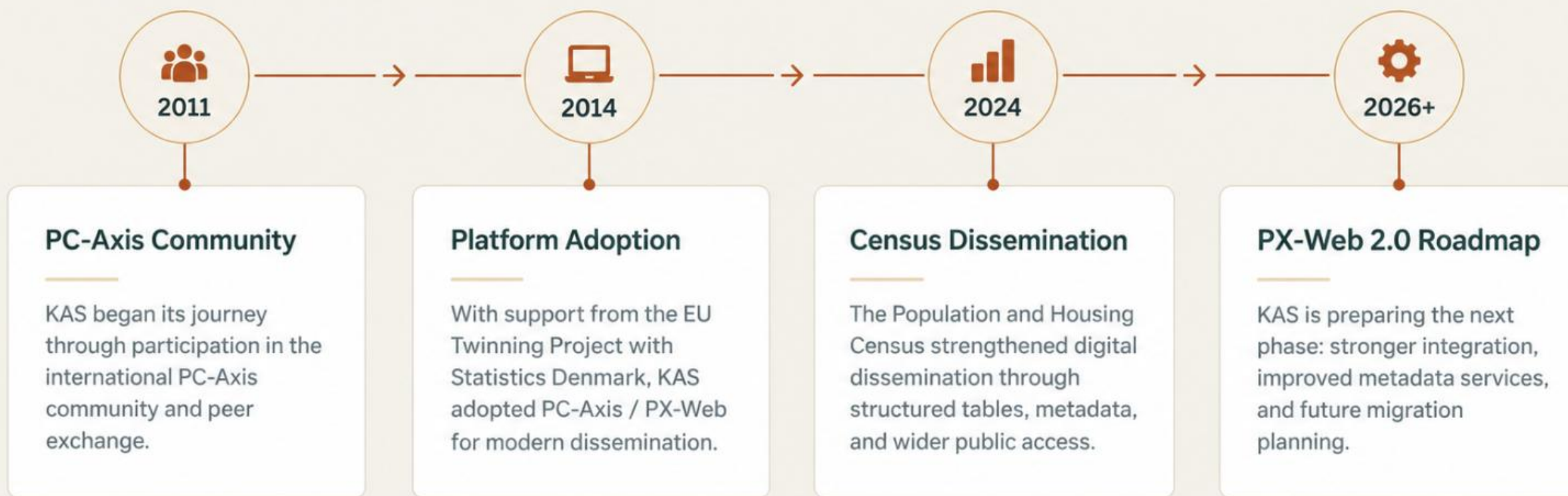
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Pristina, 21-22 October

Our PX-Web Journey: Key Milestones

A single view of the main milestones in KAS's journey from international cooperation to a connected digital dissemination ecosystem.



From shared knowledge to a modern dissemination ecosystem.

Where We Started: Statistical Dissemination in 2014

2014 · STATIC STATE

Document-centred, manual effort

-  **Fragmented outputs** across statistical domains
-  **Limited self-service** – users request tables or scan reports
-  **Repetitive preparation** of tables and publications
-  **Weak linkage** between data, definitions, and metadata

EMERGING DIRECTION

Dissemination as a service

The opportunity was to treat dissemination **not as a publication step, but as an ongoing service** – structured, self-service, and connected to metadata.

-  Structured statistical tables, reusable across channels
-  Multidimensional selection and self-service access
-  Preserved classifications, units, notes, and metadata

2014: Choosing the Right Platform for the Future

Segoe UI Variable Text Semibold

-  **Publish structured statistical tables** — move beyond static documents to machine-readable, well-defined data tables.
-  **Support multidimensional data selection** — let users choose variables, classifications, and periods freely.
-  **Reuse the same data across channels** — one authoritative source feeding website, dashboards, and APIs.
-  **Preserve classifications, units, notes, and metadata** — keep context attached to every figure.
-  **Grow from a technical platform into a public service** — scalable, sustainable, and user-oriented.

THE PLATFORM DECISION

More than software: a public service foundation

DaWinci had supported dissemination of the 2011 Population Census. In 2014, KAS selected PC-Axis / PX-Web as the long-term path from source tables to reusable, online dissemination.

→ PC-Axis / PX-Web offered standardized tables, easier maintenance, and flexible access — a practical bridge from national statistical production to modern web dissemination.

 **Key principle: the platform had to serve both producers and users — structured, reusable, and metadata-driven from the start.**

International Cooperation: A Key to Our Success

PEER LEARNING IN PRACTICE

Shared experience accelerates institutional capability

Kosovo's progress was accelerated by learning with peers and working through international cooperation. The value was practical, not ceremonial — tested methods, candid exchange, and a shared standards base.

-  **Shared experience** with PC-Axis and PX-Web implementations across national offices.
-  **Tested methods** and documentation reduced trial-and-error in dissemination design.
-  **Metadata & standards support** for SIMS, classifications, and structured table definitions.
-  **Peer exchange** on governance, quality, and user needs across institutions.
-  **Confidence to scale** from a pilot to an institution-wide statistical service.

“Digital transformation is faster when knowledge is treated as a shared asset.”

COOPERATION DIVIDEND

15 years with the PC-Axis community

EU Twinning Project with Statistics Denmark (2013–2014), plus the PC-Axis community, provided technical assistance, practical training, and experience exchange.

From Our First PX Tables to ASKdata Today

The PX Table Journey

- 1 First PX Tables**
Structured source tables that preserved classifications, units, and notes, ready for reuse.
- 2 Multidimensional Structure**
Dimensions, periods, and classifications encoded in PX format for flexible selection.
- 3 PX-Web Publishing**
A web catalogue that exposed the tables through a structured, queryable interface.
- 4 ASKdata Public Catalogue**
A single discovery point where users select indicators, dimensions, and periods themselves.

ASKdata Today · 1,500+ tables by 2026

- 1,500+ tables by 2026** across population, economy, prices, labour, agriculture, and education.
- Self-service selection** of indicators, dimensions, periods, and classifications.
- Consistent download** and reuse-ready table structures.
- Foundation for charts, APIs,** and other digital products, with dissemination in Albanian, Serbian, and English.
- Direct connection** between official statistics and users.

→ From “find the publication” to “find, select, understand, and reuse the data.”

? The transformation: from static publications to a self-service data catalogue built on the PX standard.

Behind ASKdata: Preparing Data and Metadata with PxEdit



The production chain for reusable PX tables

- 1 Validate the source data** – confirm consistency and completeness before any structuring.
- 2 Define the table structure and dimensions** – set the statistical cube, variables, and hierarchies.
- 3 Prepare labels, values, units, notes, and classifications** – document every value and its meaning.
- 4 Check consistency and disclosure-safe presentation** – ensure confidentiality rules are applied.
- 5 Publish a reusable PX table** for ASKdata and downstream services.



Quality at the point of preparation makes every later channel more reliable.



What PxEdit structures and documents



Table structure & dimensions Define statistical variables, classifications, and hierarchy for multidimensional selection.



Labels, values & units Document value labels, measurement units, and notes so users can interpret every figure.



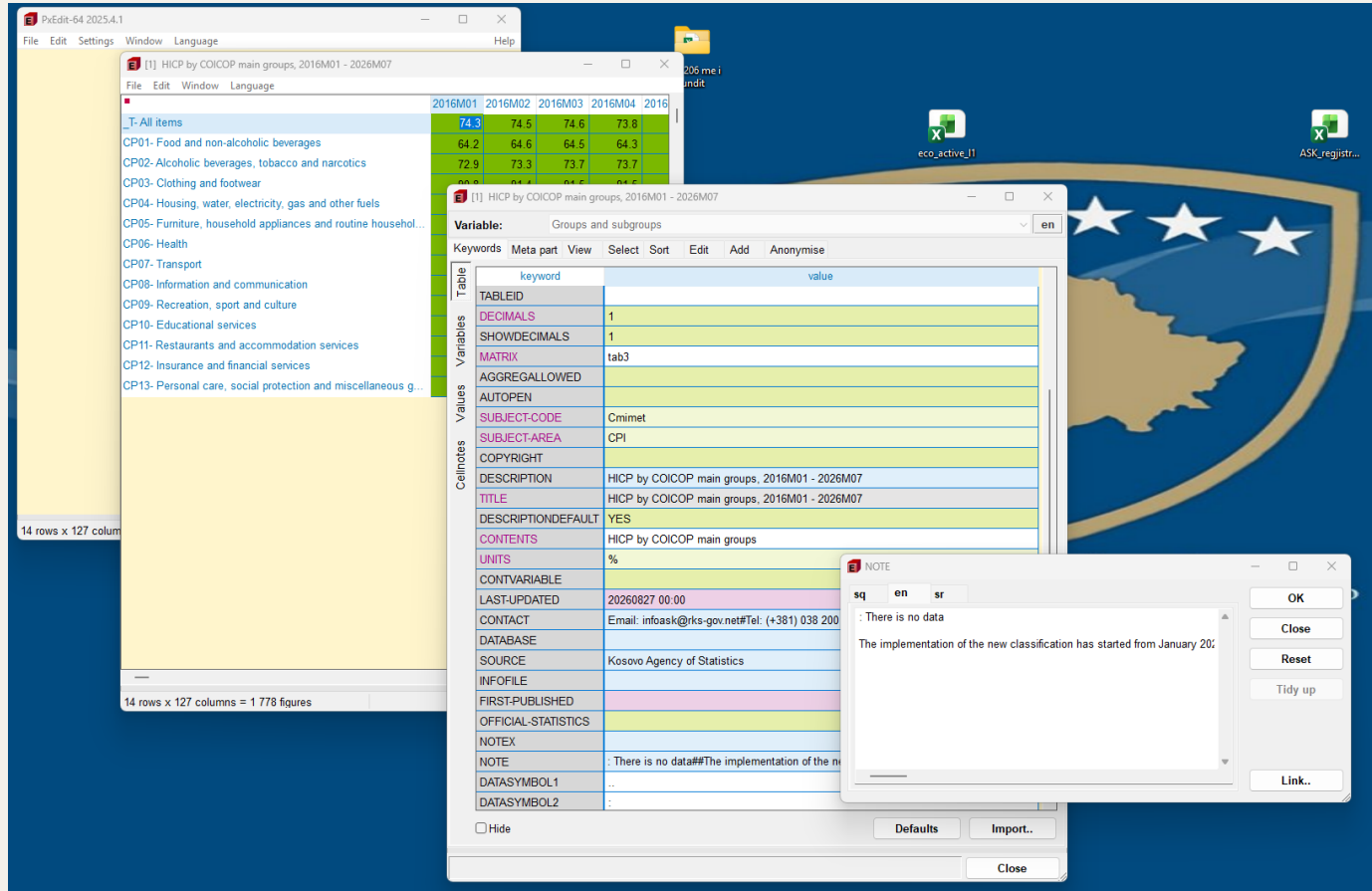
Coherence & disclosure safety Consistent releases with controlled rounding and confidentiality rules applied at source.



Reusability for downstream services A single well-prepared PX table feeds ASKdata, charts, APIs, and future products.

Source: KAS dissemination workflow · PxEdit production chain

PxEdit: Preparing Statistical Data for Publication



What Does PxEdit Do?

Organizes Statistical Tables

Defines variables, dimensions and classifications..

Manages Metadata

Adds titles, units, sources and explanatory notes..

Supports Multiple Languages

Provides labels and notes in different languages..

Prepares Data for Dissemination

Supports consistent, well-documented PX files for publication through PX-Web..

Source: KAS dissemination workflow · PxEdit production chain



Quality at the point of preparation makes every later channel more reliable.

ASKdata in Action: From Data Selection to Results

The PX Table Journey

The screenshot displays the ASKdata web application interface. At the top, the logo 'ask' is visible, along with the text 'AGJENCIA E STATISTIKAVE TE KOSOVES' and 'AGENCIA ZA STATISTIKE KOSOVA'. Below the logo, the text 'ASKdata' is prominently displayed. The interface is divided into two main sections: 'Choose table' and 'Choose variable'. The 'Choose table' section features a search bar labeled 'Search in ASKdata:' and a list of categories including Agriculture, Census population, Culture and sport, Education, Energy, Enterprise Investment, Environment, External trade, Geographical data, Health and welfare, Household Budget Survey, ICT in Households and Enterprise, Income and Living Conditions, and Justice. The 'Choose variable' section also has a search bar and a list of variables, including Buildings and Housing at country level for the years 2011 and 2024, Buildings and dwellings (inhabited and vacant) at the national and municipal level for the years 2011 and 2024, Household economies by number of members and municipality at the national and municipal level for the years 2011 and 2024, Private Households by Household Residency Status at the National and Municipal Level for the Years 2011 and 2024, Housing units used according to occupancy status and type of housing unit, 2024, Number of households and individual per household 1921-2024, Occupied conventional dwellings by the period of building construction at, Number of occupied conventional dwellings, Average number of household, Buildings with at least 1 occupied conventional dwelling by number of occupied, Institutional households by type of institutional household and municipality, Persons usually resident in institutional households by type of institution, Persons temporarily present in institutional households by type of institution, Private households by housing arrangement and municipality 2011, and Private households in conventional dwellings by tenure status of the house. The 'Show result' section displays a bar chart titled 'Buildings and dwellings (inhabited and vacant) at the national and municipal level for the years 2011 and 2024'. The chart shows two bars: one for 2011 (approximately 180,000) and one for 2024 (approximately 100,000). The Y-axis is labeled 'Number per decade' and ranges from 0 to 200,000. The X-axis is labeled 'Year'.

Explore official statistics in three simple steps:

- Choose a Table**
Browse statistical topics or search for a specific dataset.
- Select Variables**
Customize the table by selecting indicators, years, municipalities, and other dimensions.
- View and Download Results**
Foundation for charts, APIs, and other digital products, with dissemination in Albanian, Serbian, and English.
- Direct connection** between official statistics and users.

→ From “find the publication” to “find, select, understand, and reuse the data.”

? The transformation: from static publications to a self-service data catalogue built on the PX standard.

Making Statistics More Transparent: Metadata and SIMS 2.0

Data becomes more useful when users understand how it was produced. Metadata and SIMS-style reporting add the essential context needed to interpret an indicator responsibly and build trust in official statistics.



Concept & Definition

What exactly is being measured? A precise statement of the statistical concept, its operational definition, and the scope of the indicator prevents misinterpretation and supports consistent comparison.



Population & Coverage

Who or what is covered? The target population, territorial scope, and any exclusions or special groups must be explicit so users know the limits of the data.



Reference Period

When does the data refer to? The time period, frequency, and any seasonal or calendar adjustments are documented to avoid confusion over time-based comparisons.



Classifications & Units

How is the data organised? Standard classifications, measurement units, and value-domain definitions are reported to guarantee a consistent interpretation across the statistical system.



Sources & Methods

Where does the data come from? Data sources, collection methods, estimation techniques, and revision policies are described so users can assess data quality and comparability.



Limitations

What are the known caveats? Explicitly documented limitations, gaps, and methodological constraints help users avoid drawing unsupported conclusions from the data.



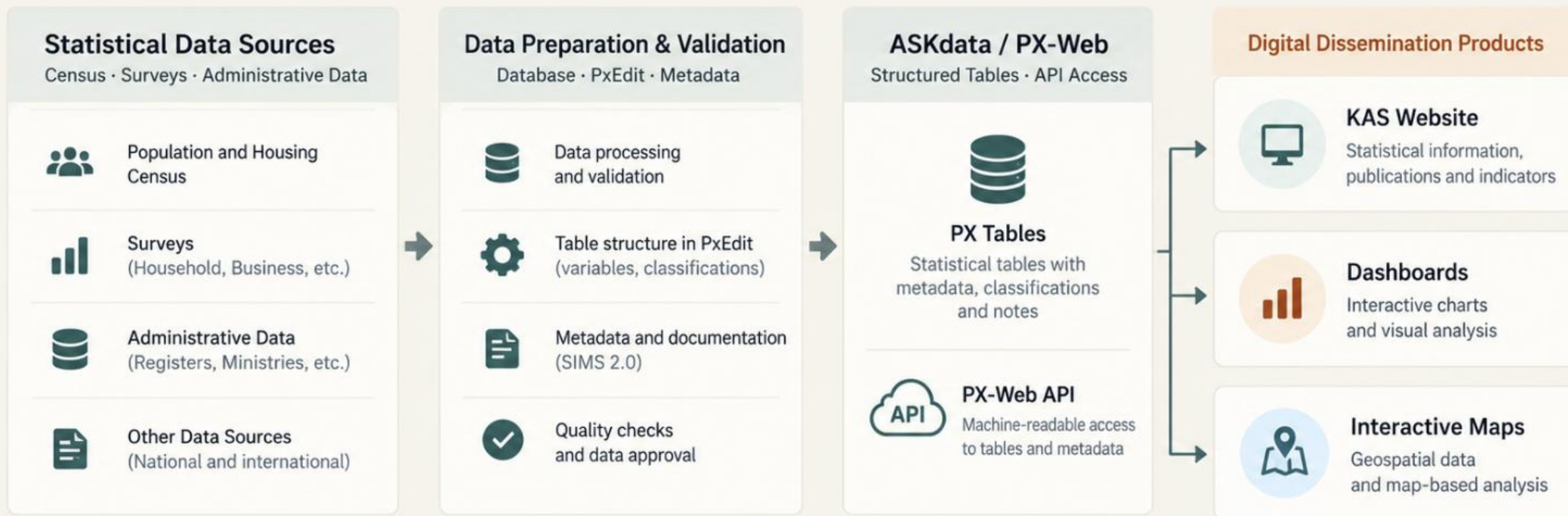
Transparency is not an extra layer around the data — it is part of the data product itself.

	- Full view - REKOS2024 National Reference Metadata in Single Integrated Metadata Structure (SIMS) Compiling agency: Kosovo Agency of Statistics – KAS	
Eurostat metadata Reference metadata 1. Kontakti 2. Përditësia / metadata 3. Presioni statistikor 4. Niveli e matjes 5. Perioda Referuese 6. Manti i Institucional 7. Konfidencialiteti 8. Politika e Publikimit 9. Shprehja dhe Shprehja 10. Aksesueshmëria dhe qartësia 11. Metadatum / Cilësuar 12. Rrjedha 13. Saktësia 14. Kohëzgjatësia dhe saktësia 15. Kohësorja dhe kohësorja 16. Kosto dhe Niveli 17. Rrjedha / të dhëna 18. Presioni statistikor 19. Komenti Metadata përkrahje Javëshe (duke përfshirë funksionet)		
Për çdo pyetje rreth të dhënave dhe metadata-ve, ju lutemi kontaktoni: Agjencia e Statistikave të Kosovës		
1. Kontakti Not available. 1.1. Kontakti i institucionit Agjencia e Statistikave të Kosovës (ASK) 1.2. Niveli e organizatës së kontaktit Projekti-Regjistri i Popullsisë dhe Banesave 2024 1.3. Emri i kontaktit Bekim Canoli Burm Limoli 1.4. Funkcioni i personit të kontaktit Drejtor i DMTI Shef i TI 1.5. Adresa postare e kontaktit Rr. Zenel Sahbu, Nr. 4, 10000 Prishtinë, Kosovë 1.6. Adresa e emailit të kontaktit burm.limoli@kso.gov.net 1.7. Numri i telefonit të kontaktit +383 (0)38 200 31 129 1.8. Numri i faksit të kontaktit +383 (0)38 235 033		
2. Përditësim i metadata Not available.		
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2. Përditësim i metadata Not available. 2.1. Metadata e fundit e certifikuar 19.09.2023 2.2. Metadata e fundit e postuar 19.09.2023 2.3. Metadata e fundit e përditësuar 19.09.2023		

3. Prezentimi statistikor	Tog
Not available.	
3.1. Përshkrimi i të dhënave	
♦ Regjistrimi i Popullsisë dhe Banesave (RPB) 2024 i realizuar nga Agjencia e Statistikave të Kosovës (ASK) ofron të dhëna gjithëpërfshirëse mbi numrin, shpërndajen dhe karakteristikat e popullsisë rezidente, ekonomive familjare dhe banesave në territorin e Kosovës. Regjistrimi mbledh informata mbi karakteristikat demografike, sociale, ekonomike dhe të banesave, duke mundësuar analiza në nivel kombëtar, rajonal, komunal dhe vendbanimi.	
3.2. Sistemi i klasifikimit	
RPB 2025 përdor standarde ndërkombëtare dhe kombëtare për krahasueshmëri dhe harmonizim:	
- NUTS / NUTS-like: Rajonet statistikore të Kosovës (në përputhje me Eurostat). - ISCO-08: Klasifikimi Ndërkombëtar i Profesioneve. - NACE Rev.2: Klasifikimi Statistikor i Aktiviteteve Ekonomike. - ISCED 2011: Klasifikimi Ndërkombëtar i Arsimit. - Rekomandimet e UNECE-Eurostat (raundi 2020) për konceptet demografike dhe të banesave. - Legjislativi kombëtar: Ligji për Statistikat Zyrtare të Kosovës.	
3.3. Mbuleshmëria – sektori (Coverage – sector)	
Regjistrimi mbulon:	
Popullsinë: të gjithë individët me vendbanim të zakonshëm në Kosovë.	
Ekonomitë familjare: të gjitha ekonomitë private dhe institucionale.	
Banese dhe ndërtesa: njësitë e banimit dhe ndërtesat e përdorura për qëllime banimi.	
3.4. Konceptet dhe përkufizimet statistike	
Vendbanimi i zakonshëm (Usual residence)	
Vendbanimi i zakonshëm është vendi ku një person zakonisht kalon periudhën e pushimit, pavarësisht mungesave të përkohshme (pushime, vizita, trajtime mjekësore, shërbime fetare).	
Rezidentë të zakonshëm janë: Personat që kanë jetuar në atë vend për të paktin 12 muaj para Ditës së Referencës. Personat që janë vendosur brenda 12 muajve me qëllim të qëndrimit ≥ 1 vit.	
Në rast të tjera, përdoret banimi i regjistruar ligjërisht.	
Gjinë (Sex)	
"Gjin" i referohet karakteristikave biologjike në lindje që përcaktojnë personat si mashkull ose femër.	
Moshë (Age)	
"Moshë" shprehet në vite të plota në Ditën e Referencës.	
Statusi martesor (Marital status)	
Statusi martesor tregon gjendjen ligjore të një individi sipas ligjeve ose zakonëve të Kosovës.	
Personat klasifikohen sipas statusit të fundit të fluar deri në Ditën e Referencës.	
Te ndarët ligjërisht fligjohen si të martuar ose në bashkëshortësi të regjistruar.	
Familja bërthamë (Family nucleus)	
Familja bërthamë është:	
një çift me ose pa fëmijë, ose	
një prind i vetëm me fëmijë.	
Vetem lidhjet direkte prind-fëmijë (shikalla e parë) përfshihen.	
Ekonomia familjare (Household status)	
Ekonomitë familjare përcaktohen sipas:	

From Data Production to Public Dissemination

KAS transforms data from various sources into structured statistical tables and digital products, using PX-Web for tabular data and separate systems for dashboards and interactive maps.



A connected ecosystem turns data into trusted, accessible and reusable statistical information.

Connecting ASKdata to the KAS Website through APIs

ARCHITECTURAL PRINCIPLE

APIs Turn ASKdata from a Destination into a Service

Instead of a standalone catalogue, ASKdata becomes a service that feeds the wider KAS digital environment. The website surfaces current indicators without duplicating the source table, and the same definitions and metadata are reused across pages—so dissemination becomes modular and easier to scale.

CONTROLLED DATA UPDATE PIPELINE

- ✓ Data updates flow through a controlled, governed pipeline
- ✓ Website indicators stay current without manual table duplication
- ✓ Developers and analysts build new views without rebuilding the database

WHAT API-BASED CONNECTION ENABLES

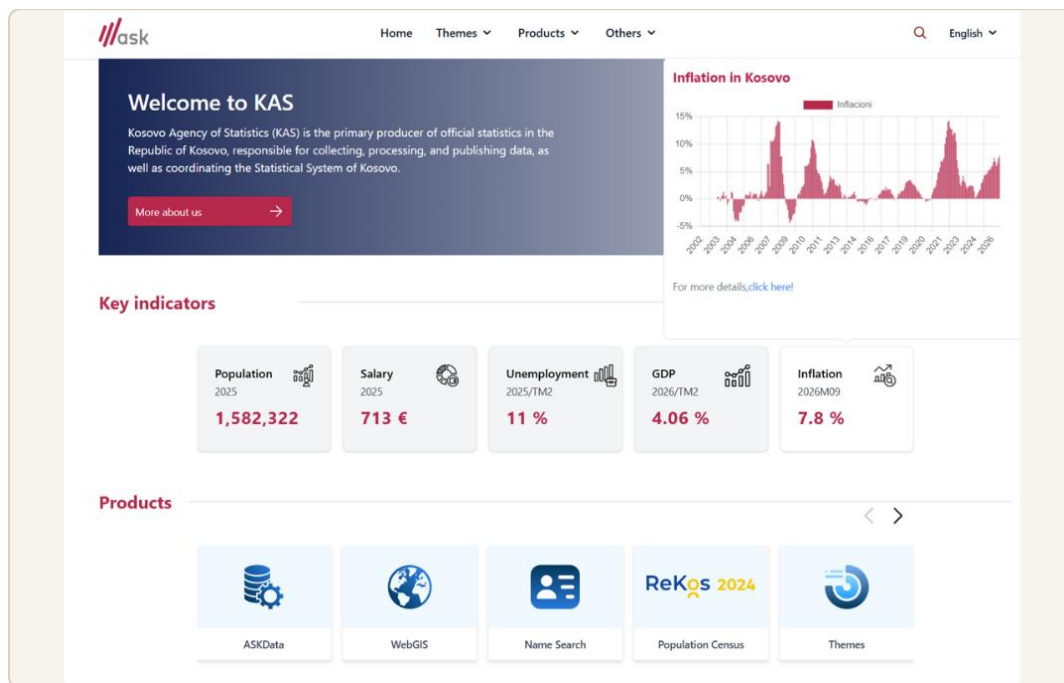
- Website surfaces current indicators without duplicating the source table
- Controlled pipeline keeps updates consistent and traceable
- Same definitions and metadata reused across all pages
- Developers build new views without rebuilding the database
- Dissemination becomes modular and easier to scale

Publish Once, Reuse Many Times

This is the architectural principle at the heart of the KAS digital ecosystem: authoritative data is maintained in one place and exposed through APIs to every channel that needs it.

From Statistical Tables to Interactive Indicators and Charts

KAS Digital Dissemination in Practice



KAS homepage — indicators, inflation trends, ASKdata, WebGIS, and Census 2024 products

What interactive charts can reveal

- **Change over time** — spot long-term trends and cyclical movements at a glance.
- **Differences between groups** — compare regions, sectors, or population segments side by side.
- **Peaks, gaps, and turning points** — identify anomalies and inflection points that tables hide.
- **Comparisons hard to scan** — multi-series views make relative performance intuitive.

 **The chart never replaces the table or metadata.** It provides a more approachable entry point while keeping the source, unit, definition, and download path visible.

 Interactive maps make geography explorable while preserving the statistical discipline of definitions, classifications, and source notes.

Explore Our Digital Statistical Platforms

Five connected front doors to the same institutional commitment:
make official statistics easier to **find, understand, and reuse**.

Each platform serves a distinct user need, yet they share one data core — authoritative tables, consistent metadata, and reusable definitions. The WebGIS portal is available at askgis.rks-gov.net/askgis_al/.



ASKdata Self-service tables



KAS Website News & releases



WebGIS Geographic exploration



Dashboards Focused topics



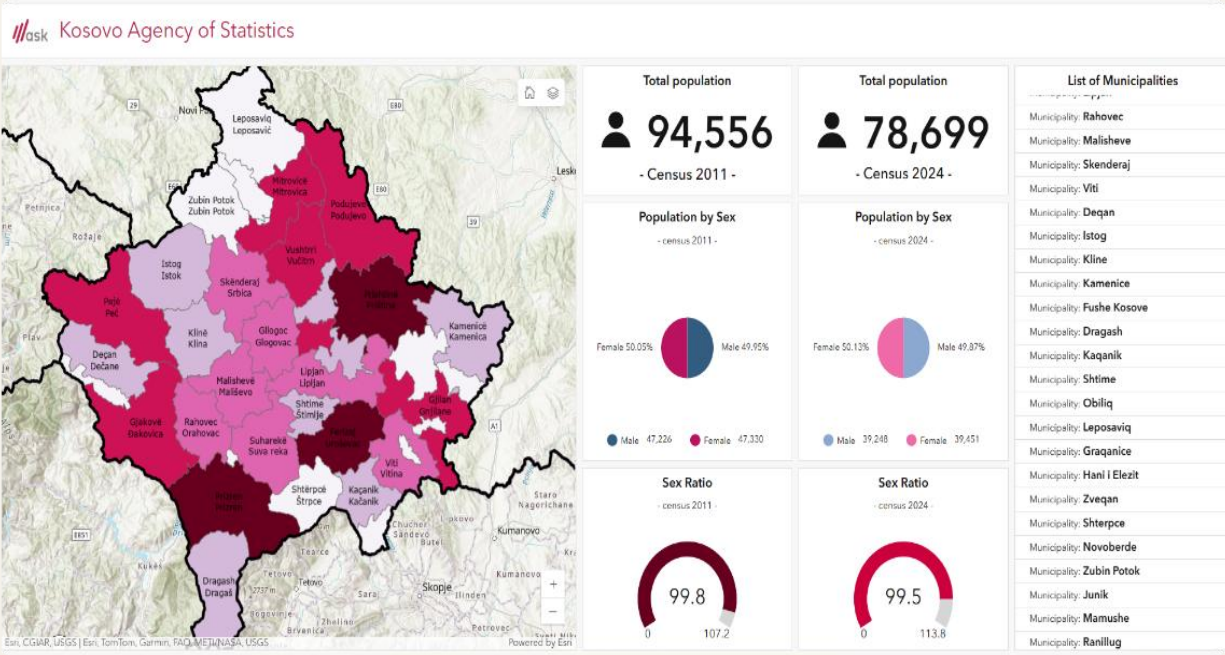
Census Products Deeper exploration

Each platform is a different front door — but they all open onto the same authoritative statistical core.

Beyond Tables: WebGIS and Geographic Visualization

WebGIS extends dissemination from "a map of values" to a full geographic information environment — combining statistical indicators with boundaries, thematic layers, and contextual geographic data.

-  **Statistical Indicators** Overlay official statistics directly on geographic boundaries
-  **Administrative Boundaries** Municipal and regional layers aligned with classification standards
-  **Thematic Layers** Switch between topics: population, housing, economy, and more
-  **Search and Filtering** Navigate to specific areas and narrow by indicator or period
-  **Links to Source Tables** Every map view connects back to ASKdata tables and metadata



A real KAS WebGIS dashboard

The dashboard brings map layers, municipal comparisons, and census indicators together in one place — turning official data into actionable geographic insight.

 Place-based insight

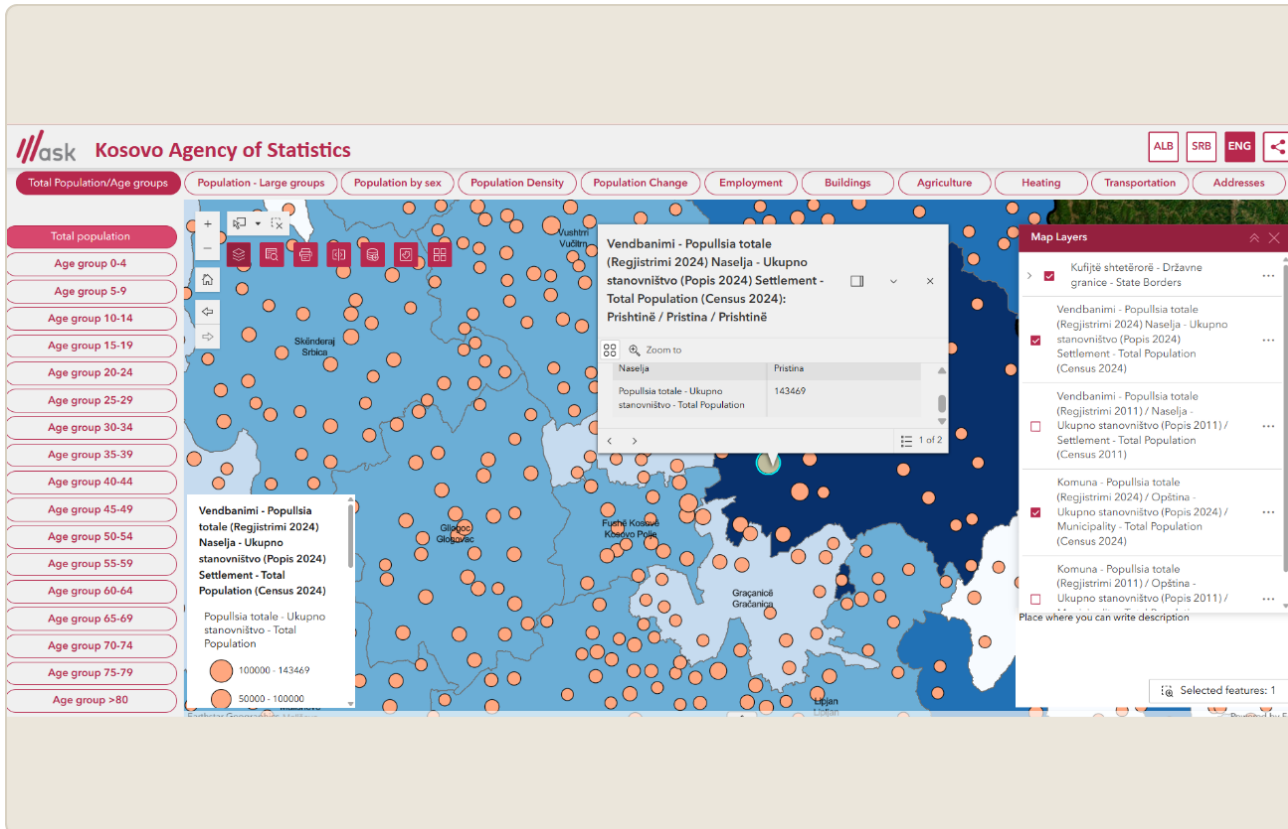
 Planning support

 Source-linked

 Public access

Exploring Census 2024 Results through WebGIS

Map-first exploration of Census 2024



Geographic layers of Kosovo: 38 municipalities, from national patterns to municipal detail.

Why WebGIS for Census 2024? · 38 municipalities

- 📍 Explore by geography and indicator: move from national overview to municipality and local areas.
- ⚖️ Compare areas directly: thematic views of population and housing topics side by side.
- 🗺️ Bridge map layers to statistical tables: definitions, classifications, and source notes stay attached.
- 📄 A more accessible public entry point than a long publication alone — designed for exploration.

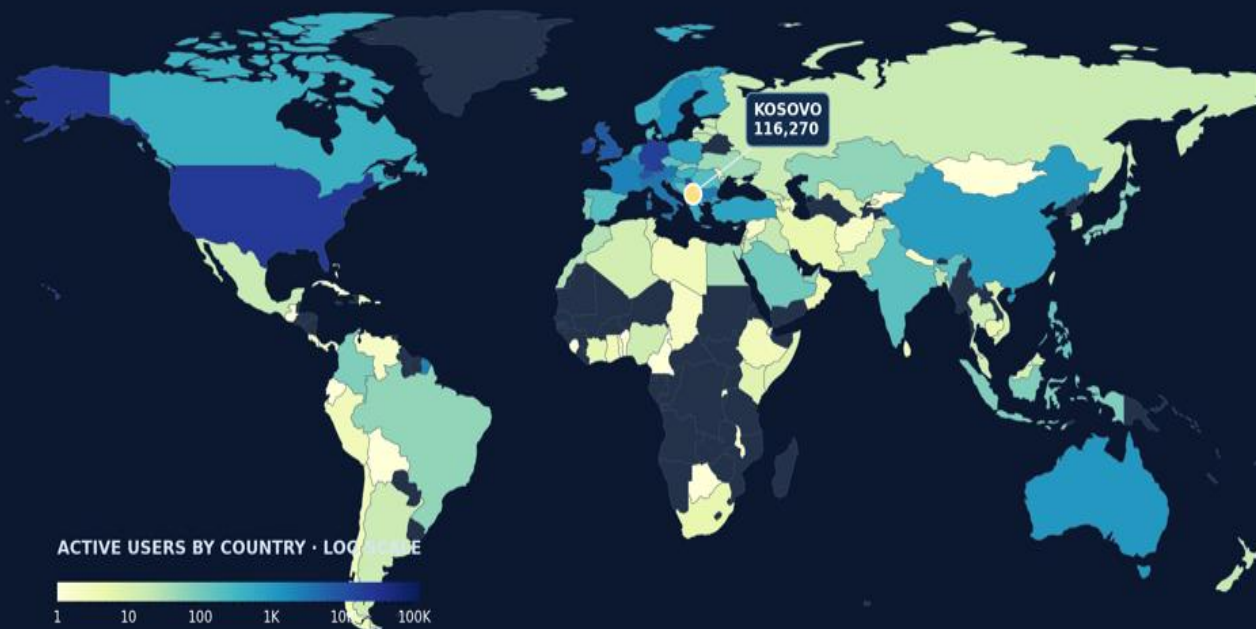
➡️ A major statistical operation becomes an ongoing public information service when its results are designed for **exploration**.

Our Global Reach: Where KAS Website Visitors Come From

Our Global Reach: Where KAS Website Visitors Come From

Where our website visitors come from

Active users by country • 1 January – 31 December 2025



Source: KAS / Google Analytics 4 (ask.rks-gov.net) | Kosovo shown as a point because the base map does not include its boundary.

Geographic distribution of KAS website visitors

135

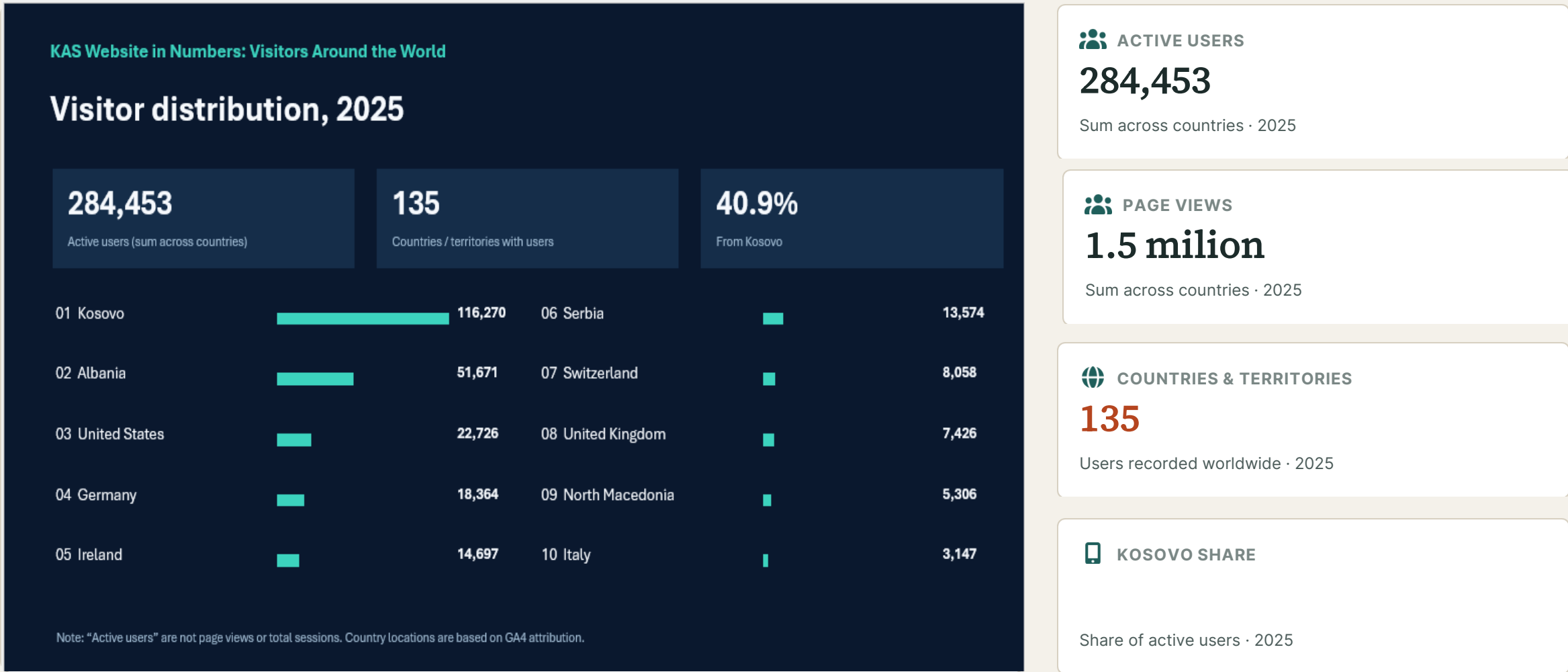
COUNTRIES & TERRITORIES

Kosovo • 40.9%

Albania • 51,671

United States • 22,726

KAS Website in Numbers: Visitors Around the World



Looking Ahead: Our Journey to PX-Web 2.0

PX-Web 2.0

ASKdata → migration → PX-Web 2.0

The next iteration of the same commitment:
open, trusted, reusable statistics.

Clearer, more discoverable UX

Modernize ASKdata through migration to PX-Web 2.0, with a more intuitive path from question to indicator.

API-first integration

Build once, reuse everywhere: controlled pipelines feed the website, dashboards, and external consumers.

More reusable metadata

Structured definitions and classifications travel with the data, keeping context intact across channels.

Charts & geographic products

Native support for visual exploration that complements tables, maps, and WebGIS layers.

Accessibility & mobile use

Designed for all devices and assistive technologies, expanding who can reach official statistics.

Aligned governance

Explore automated data flows from the KAS Data Warehouse while keeping data, metadata, and visual products aligned.

Thank You for Being Part of Our Journey!

With gratitude to

 PX- community

 KAS colleagues

 Developers

 International partners

 Data producers

 Users of statistics

Thank you for your attention and for being part of our PX-Web journey. We are proud to host this international meeting in Kosovo, and we look forward to continuing our cooperation with the PX-Web community.