HEXAGON

HxGN Smart Census

End-to-end solution that digitizes the entire census process

Conducting a population and housing census every 10 years is a massive undertaking for National Statistical Offices. Planning, collecting, compiling and analyzing this demographic, economic and social data requires tremendous coordination across a large geographic area and is limited to a few months time.

What is HxGN Smart Census?

HxGN Smart Census is a client-server software platform developed primarily for census completion. Combining traditional GIS functionality with a powerful workflow and workforce management tool, HxGN Smart Census provides a total solution for each stage of the census cycle: Pre-enumeration mapping, digital enumeration, and post-enumeration dynamic mapping.

HxGN Smart Census is built on the foundation of more than 20 years domain expertise in understanding the approaches and methodologies in delivery of classic Population and Housing Censuses as well as intercensal surveys.

Choose The Modules You Need

HxGN Smart Census consists of three modules, with each module corresponding to a cycle of the census. You can select individual modules to customize your census workflows, or select all modules to utilize the complete, connected solution.

Pre-Enumeration Mapping

Pre-Enumeration Mapping combines imagery base maps and GIS functionality with a powerful workflow and workforce manager for you to create or maintain census enumeration areas (EAs). EAs represent the geographic area canvassed by a single enumerator.

Digital Enumeration

Digital Enumeration facilitates the planning and execution of digital census enumeration. Data can be collected via multimode electronic data methods with components for Computer-Assisted Personal Interviewing (CAPI), Computer-Assisted Web Interviewing (CAWI), and Computer-Assisted Telephone Interviewing (CATI).

Reduce your data processing time converting questionnaires from analogue to digital while benefitting from significant improvement in the data quality.

HxGN Smart Census supports custom/bespoke questionnaires or integrates with third party software such as CSPro or Survey Solutions.

With CAPI methodology, enumerators use a mobile device to conduct interviews on site. This component includes the questionnaire as well as support for navigation and progress updates. In remote areas where data access is limited or non-existent, advanced caching allows for offline use. If required, the enumerator can work offline for days or even weeks. Management can also use the CAPI Enumeration module to track progress, manage issue reports, and monitor logistics.

CATI and CAWI components for households allow households to complete census questionnaires via the telephone or online without the need for field worker visits. CATI and CAWI methodologies reduce the cost, administrative burden and environmental impact of census-taking, while increasing privacy for households.
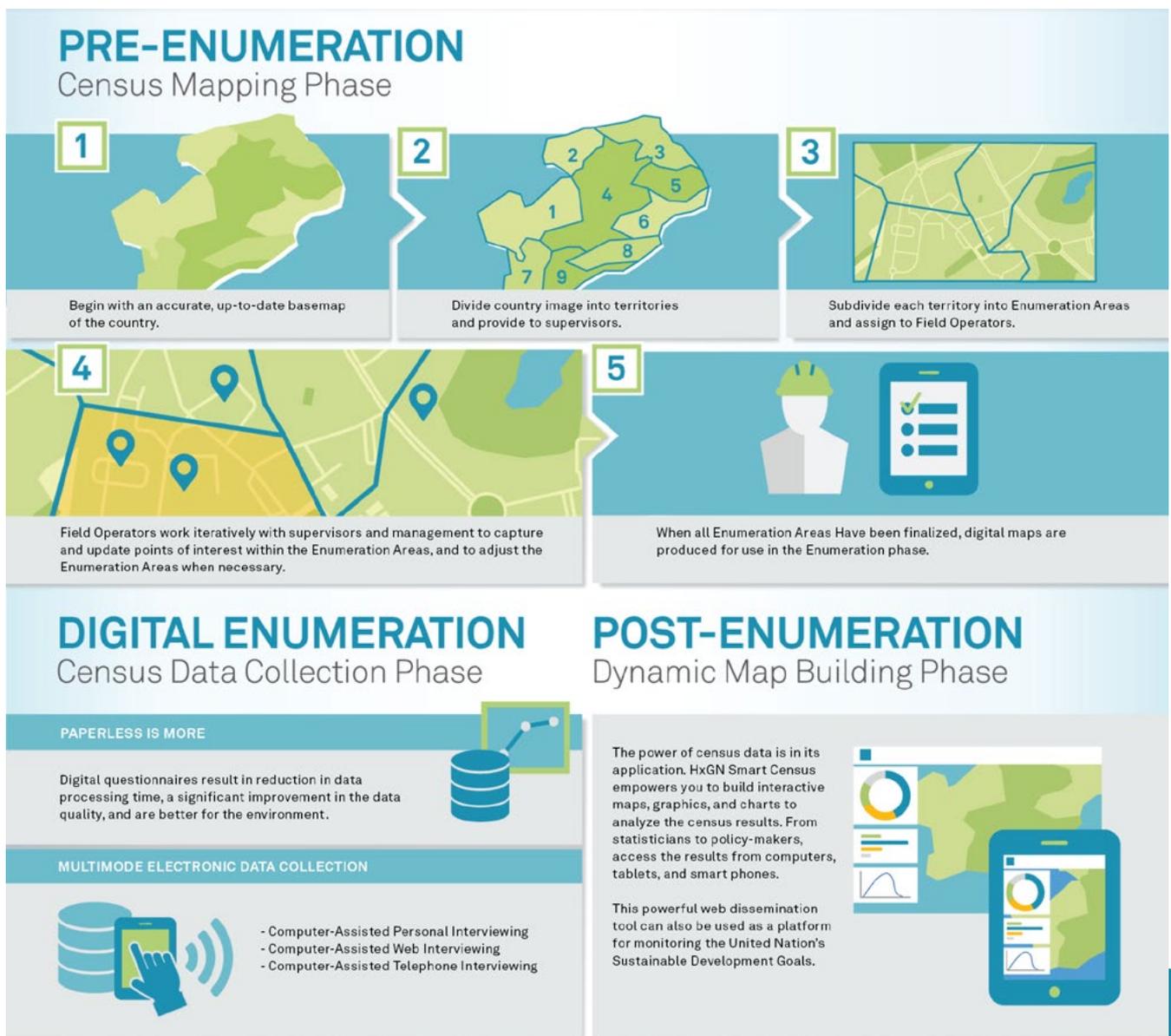
Post-Enumeration Dynamic Mapping

Post-Enumeration Dynamic Mapping delivers a web-based application to display and analyze census data using Smart M.App technology. Smart M.Apps are lightweight, cloud-based map applications that are simple to use. They provide answers and present information in a visual and compelling way, including a map and a dashboard of insightful analytics alongside it, and users can also filter the data in various ways to focus on the specific results they're looking for. The cross-filtering capability of Smart M.Apps allows information consumers to explore data using multiple charts simultaneously. You can allow your user community to access the same maps and charts online using either desktop or mobile capabilities. When applying filters such as location, date range, and other statistics, Smart M.Apps automatically update the corresponding data based on the selected values, providing deeper insights into the selected indicator and allows for a simpler understanding of census change over time to aid in the creation of sustainable development goals.

Census Process

PRE-ENUMERATION
Census Mapping Phase

1 Begin with an accurate, up-to-date basemap of the country.

2 Divide country image into territories and provide to supervisors.

3 Subdivide each territory into Enumeration Areas and assign to Field Operators.

4 Field Operators work iteratively with supervisors and management to capture and update points of interest within the Enumeration Areas, and to adjust the Enumeration Areas when necessary.

5 When all Enumeration Areas Have been finalized, digital maps are produced for use in the Enumeration phase.

DIGITAL ENUMERATION
Census Data Collection Phase

PAPERLESS IS MORE

Digital questionnaires result in reduction in data processing time, a significant improvement in the data quality, and are better for the environment.

MULTIMODE ELECTRONIC DATA COLLECTION

- Computer-Assisted Personal Interviewing
- Computer-Assisted Web Interviewing
- Computer-Assisted Telephone Interviewing

POST-ENUMERATION
Dynamic Map Building Phase

The power of census data is in its application. HxGN Smart Census empowers you to build interactive maps, graphics, and charts to analyze the census results. From statisticians to policy-makers, access the results from computers, tablets, and smart phones.

This powerful web dissemination tool can also be used as a platform for monitoring the United Nation's Sustainable Development Goals.

Affordability

All National Statistical Offices (NSO) can afford HxGN Smart Census thanks to its unique transparent pricing model. A unique transparent pricing model means that the price calculation is based on a number of objective parameters of your country: population, land surface area, and poverty index. One license allows an unlimited number of users. NSOs who procure HxGN Smart Census via the United Nations benefit from an additional discount.

Benefits

- Modular system – can be implemented for one, two, or all three phases of a census

- Integrated approach to census planning –all teams involved in the different phases of the census work in a coordinated fashion

- GIS-platform agnostic – integrate with and complement (rather than replace) any existing GIS platform

- Configurable to meet the exact needs/ requirements of each unique census project

- Robust and reliable platform

- Digital approach improves efficiency, data quality and consistency, and reduces costs

- Real-time automated progress reporting

- Very intuitive for all users so only limited training is needed

- Transparent pricing based on objective criteria

- One license allows unlimited users

- Can be re-used for intercensal surveys

- Lays the foundation for a modernized National Statistics Office

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Hexagon is a global leader in sensor, software and autonomous solutions. We are putting data to work to boost efficiency, productivity, and quality across industrial, manufacturing, infrastructure, safety, and mobility applications. Our technologies are shaping urban and production ecosystems to become increasingly connected and autonomous — ensuring a scalable, sustainable future.

Hexagon's Geospatial division creates solutions that deliver a 5D smart digital reality with insight into what was, what is, what could be, what should be, and ultimately, what will be.

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