



Intergraph® in Census Mapping



GeoSpace is a specialist census mapping solution provider and an authorised distributor of Intergraph® Security, Government and Infrastructure (SG&I) products.

Census process flow

A Population and Housing Census project process flow can be summarised as follows:

PRE-ENUMERATION CENSUS MAPPING	ENUMERATION	DATA PROCESSING	ANALYSIS & DISSEMINATION
Methodology development, testing & database development	Base map acquisition	Enumeration Area (EA) demarcation fieldwork	EA Demarcation office work & final map printing
Intergraph® software is compatible with all the mainstream database options.	Hexagon's® range of Digital Mapping Cameras (DMCs) provide: <ul style="list-style-type: none"> • Entire digital ortho photo production workflow solution (from flight planning to final delivery) at various pixel resolutions to meet the exact needs of census mapping; • Image Station, ERDAS Apollo and ERDAS Imagine software for processing manipulation and management of all sources of imagery (aerial photography and satellite imagery). 	Hexagon's® Leica rugged tablets with GeoMedia Mobile and/or GeoMedia Smartclient provide a perfect digital fieldwork solution. Depending on the methodology, conventional hardcopy image maps can be produced using a GeoMedia Pro map printing application.	<ul style="list-style-type: none"> • Data capturing; • Integration and QC/QA using GeoMedia Pro; • GeoMedia Smartclient; • ERDAS Apollo; and • GeoMedia Webmap. • GeoMedia Pro and Smartclient provide solutions for bulk EA/SA map creation and printing.

- GeoMedia Smartclient and GeoMedia Webmap provide integrated tools for project tracking and reporting.
- GeoSpace International provides sales, technical support and training in Intergraph® SG&I software solutions.

GeoSpace Population and Housing Census Mapping Solutions

Introduction

Population and Housing Censuses require current and detailed maps for the accurate delineation of enumeration area (EA) boundaries.

In most developing countries these maps are either dated or do not exist.

The solution? Modern satellite imagery and digital aerial photography base maps that are packaged in a GIS-based census mapping application.

GeoSpace is a specialist GIS company focusing on spatial data capturing through remote sensing (airborne and satellite imagery) and GPS fieldwork. Pre-enumeration census mapping is key specialist focus area of the company.

What do we offer?

Total pre-enumeration census mappings solutions, including:

- Situational assessments;
- Methodology development;
- The preparation of census mapping project documents (including methodology outlines, budgets, resource calculations, and project scheduling);
- Project implementation;
- Database development and software customisation;
- Provision of hardware, software and imagery base maps; and
- Training, technical support and project management.

GeoSpace is a member of the United Nation's Expert Group on Population and Housing Census Mapping, as well as:

- The census mapping specialist partner of Astrium GEO - the operator of the SPOT and Pleiades range of satellites;
- An authorised reseller and census domain technology partner of Intergraph® SG&I.

Our track record

Over the years, national statistical offices (NSOs) in several African countries have benefitted from our census mapping solutions, technical support, training and related services:

- Namibia (2001 & 2011) - census;
- South Africa (2001 & 2011) - census;
- Tanzania (2002 & 2012) - census;
- Lesotho (2006) - census;
- Southern Sudan (2008) - post-enumeration mapping EA project;
- Botswana, Ethiopia, Ghana, Kazakhstan, Malawi, Nigeria, Seychelles, Swaziland, The Gambia and Zambia - technical support and training to the NSOs.

Our clients include:

- World Bank;
- UNFPA;

- UNSD;
- Lux Development;
- Sida;
- Statistical agencies - many have opted for our services in consecutive censuses.

As a result, GeoSpace has established itself as a reputable company and the leading census mapping service provider in Africa.

What makes us unique?

The key to our success is our application specific knowledge.

We understand censuses and surveys and hence also the mapping requirements thereof:

- Our core group of specialist census mapping consultants have been part of the company for the last two census cycles - our expertise and experience are unrivalled in the industry;
- We're a leading socio-demographic field survey company in South Africa - we understand mapping needs associated with censuses and large surveys.

We understand the (appropriate) technology:

- Current, national coverage image maps at appropriate levels of detail is a fundamental component of our methodology;
- SPOT6 1.5m pixel resolution natural colour satellite imagery provides a cost effective base map at national level;
- Complemented by digital aerial photography (DAP) or very high-resolution satellite imagery for dense urban settlements.
- As a registered aerial survey operator we do large format DAP and we source satellite imagery from the relevant satellite operators;
- Appropriate software is used as the enabler of the total solution.
- In most cases our census mapping GIS software solutions (office and field) are developed on the Intergraph® software platform. Intergraph's® GeoMedia Pro provides superior GIS data capturing (digitising) functionality - a critical consideration in census mapping.

We provide a total solution:

- Our edge lies in integrating our knowledge of census taking with modern remote sensing and GIS/GPS capability to provide a total solution that is:
 - *Realistic;*
 - *Cost effective; and*
 - *Relevant (to the unique circumstances of a country).*
- This guarantees superior results within the timeframe of the bigger census project.

GeoSpace is a proud sponsor of the Africa Symposia on Statistical Development (ASSD) since the inaugural event was held in 2006.

