

# LINK Empowers CAPMAS with End-to-End Census Mobility Platform

الجهاز المركزي للتعبئة  
العامة والاحصاء المصري



Customer:	CAPMAS
Industry:	Government
Solution:	Census Mobility Platform
Technology:	UWP

CAPMAS needed to automate the end-to-end process of census in Egypt before it commences a nation-wide enumeration run where 44000 agents will count Egypt's population in the duration of six months. CAPMAS chose LINK Development's Microsoft-based platform: NUSMS (National Unified Survey Management System) to empower agents with Windows 10 based mobile solution for data collection, agent routing and monitoring as well as rich data analysis and reporting on KPIs using executive dashboards and color-coded Esri maps.

## CAPMAS, Statistics at Play

Central Agency for Public Mobilization and Statistics (CAPMAS) is the official statistical agency of Egypt that collects, processes, analyzes, and disseminates all official statistical data and the Census. CAPMAS is a very important pillar in supporting state planning, decision making and policy assessment

### Automation & Efficiency; a Necessity

CAPMAS is charged with providing accurate information all social, economic and population aspects of a country with 90 million citizens. In conducting field surveys, the agency used to dispatch its agents to manually collect data from citizens via physical documents. Documents are then collected and sent to central location for rounds of manual review and analysis.

The manual processes were lengthy, tedious, and prone to human error. The physical documents were subject to damage, loss and multiple other hazards. At the very end of day, margins of data errors in final formal reports were at risk of mounting.

As part of its nation-wide 2030 strategy, the Egyptian government and its governmental agencies are opting for technology and automation of operations and services as platforms for establishing transparency and efficiency. In the light of this strategy, CAPMAS has undertaken the mission of automating one of the most vital operations in the country; the Census process; a process that provides critical input to almost all government initiatives and mega projects.

The agency needed to complete the automation process before commencing a nation-wide enumeration run where 44000 agents will count Egypt's population in six months. To ensure that the solution is done accurately, in time and with ultimate security, they handpicked the Microsoft-based NUSMS (National Unified Survey Management System) platform created by LINK Development, a preferred ICT partners for a huge base of government customers in Egypt.

## Census, from Manual to Digital

NUSMS is a platform, developed by LINK Development. The platform helps customers to manage and enhance all field surveys, censuses and office record statistics with the correct workflow and processes either in field or at office. The solution covers the full automation of all research procedures covering planning, data extraction, transfers, management and reporting on statistical dashboard and color-coded maps.

NUSMS enables CAPMAS to conduct organized survey planning and preparation with its capacities in stage definition, human resource allocation, survey building and assigning in addition to specifying user roles, responsibilities and authorizations for every stage in the survey management process. Easy survey building, editing, updates and management helps specialized teams in configuring surveys of multiple types with a rich pool of questions and possible range of answers.

### Mobility, the Driver for True Agility

The platform empowers CAPMAS with Windows 10 based mobile solution that will organize the fieldwork of 44000 agents. They can securely the solution from their handheld devices, see their assignments and routes for the day, interface with citizens and input their survey responses on the spot, while being alerted if they miss entering any data. Agents can also see the progress made during their assignments period and get notified with updates. In case of network issues, collected data is stored and sent when the internet connection is back.

On the other hand, the supervisors in the agency can monitor agent's location and abundance to route via clever geo-fences and notifications; opening a room for incident recording, management and resolution.

### Data Quality, Core Ingredient for Impeccable Analysis

For data inspection, once agents collect the data, it is sent over for review by authorized office supervisors before being synchronized and send to the CAPMAS datacenter to be centrally hosted and processed then moved to the master database in final stages. The platform opens a window during each survey phase for more quality assurance and data assessments by allowing the authorized auditors to perform data checks over phone or re-interviews then update the system once more.

### Integration, BI & GIS

LINK helped CAPMAS to digitally do the work that used to consume armies of data entry specialists and data analysts thanks to the integration with CAPMAS data warehouse systems and smart analysis tools. At any given point in time, the responsible team can generate adhoc and historical reports that showcase the enumeration status from multiple perspectives over attractive, easy-to-use dashboards.

LINK also provided CAPMAS with census information on their existing map of Egypt powered by Esri technologies. Collected data are plotted on rich color-coded and interactive maps to present citizens' demographics on every part of the map. The rich visualization is a powerful tool for CAPMAS team to have a bird's eye view of what's going on and where.

To match the different lifestyle and cultural needs of the people, LINK delivered an online portal for citizens to key in their data in case they are out of country or can't meet the agents for one reason or another.

## Benefits: Cost saving, Efficiency and Acceleration

- Reduce manpower effort involved in survey implementation, research data gathering as well as data entry and review.
- Improve the citizen's perception of governmental operations and enhance the quality of interaction with citizens.
- Improve the efficiency of work, boost operational performance, accelerate releases of data collection results.
- Optimize the cycle time for responding to requested analysis on which nation-wide initiatives and mega projects are built.

## Technologies

- UWPA (Universal Windows Platform Application)
- Windows 10
- Windows 8.1
- Visual Studio
- SQL Lite

“We are happy with LINK Development dedication and excellence. We, as part of the government, are undergoing a critical digital transformation. Automating the end-to-end census process is central for realizing the accurate implementation of many nation-wide mega projects. Of the many important parts of this best-in-class platform, I would single out the Windows-based mobile app; that empowers 44000 agents to successfully run their surveying missions, as the most critical. It helps us to easily recruit, train and monitor the workforce then send them out in a country of 90 million citizens; simply with confidence.”

Nevine Hegazy, Head of IT Sector, CAPMAS