

# The 2011 Census

## Securing the Census for ONS and NISRA

### ABOUT THE 2011 CENSUS

*Every ten years, the office for national Statistics (ONS) and Northern Ireland Statistics and Research Agency (NISRA) carry out a census of England, Wales and Northern Ireland.*

The questionnaire for the 2011 census contained questions over 32 pages, for up to six people in the household. In all, around 60 million people, their residences, employment, ethnicity, religion (voluntary) and other matters are recorded. After collation and analysis, the resulting statistics inform government policies and funding allocations for years to come. For example, the statistics will help reveal the demographic information that will influence funding for councils, hospitals and other public bodies.

### THE CHALLENGE

The Census is a mammoth exercise. To give a sense of scale, it involved sending out over 30 million forms – enough to fill 240 42-tonne lorries. There was a secure website for people filling in the form online. Around 35,000 enumerators offered assistance to help people, ensuring that the forms were returned. Scanning the handwritten forms would take about 12 months, with scanners working 24-hours-a-day. Then the data has to be analysed – a process that will take several years with the first results becoming available in mid-summer 2012.

The entire exercise cost around £480 million.

The security of census data is paramount – no personal information will be made public for 100 years. Legislation covers some aspects. For example, everyone working on the census signed a census confidentiality undertaking, CCU, (which includes penal consequences for any breach), while ONS denies access to any raw census data to government departments, even police and the security services.

But ensuring the privacy of census data throughout the process, from printing forms to data storage, is another matter.

### THAT'S WHERE CGI CAME IN.

The collection of information for 2011 census was delivered to ONS and NISRA by a Lockheed Martin UK-led team of nine companies. Lockheed Martin provided the data centre equipment and software for use by the UK

### CASE STUDY

PUBLIC SECTOR  
CENTRAL GOVERNMENT

*“CGI has been a crucial element in our team. Any potential problems were uncovered and resolved at a very early stage, enabling the census to take place smoothly and securely.”*

Graham Emmons,  
Lockheed Martin UK  
Census Programme Director

data capture company; Barron McCann provided laptops for people in the field; BSS was responsible for the call centre; Cable & Wireless provided secure communications; Polestar printed the census forms. Steria provided systems administration and WTG was in charge of the website and web help systems.

Our job was to help design the security around the consortium element of the Census and the companies supporting it, and to provide a very high level of assurance to ONS and NISRA, and ultimately, the public, that every care had been taken to preserve the confidentiality of the service.

## OUR ANSWER

First, we defined what needed protection – from paper and data to business processes and physical locations – for every party in the LMUK consortium. This was undertaken in consultation with ONS, NISRA and other government specialists.

Then we quantified the security implications of any security event or combination of events on what was being protected, ranking them from negligible to very high, from that, we worked out how things could go wrong.

For example:

- technology – viruses, Trojan horses, worms, failures, programming defects
- Physical – burglary, fire, flood, power failure
- People – making mistakes or breaking rules.

The exercise covered each task being provided by the LMUK consortium for the census; every employee, every building, every process and every organisation involved ultimately, we developed a 27-dimension matrix that mapped the risks onto the information and services, which helped us define how adverse events could be prevented. If it was impossible to prevent an event, we showed how it could be detected at a very early stage so that its impact could be mitigated. For example, not only did we consider fire detection and suppression systems, we also helped design and implement coherent and comprehensive business continuity and disaster recovery plans.

Our team also prepared an overarching business continuity plan, which dovetailed into the vast suite of plans and procedures across the whole consortium, detailing the practical measures needed to cope with an event.

Within the consortium partner organisations, we provided support to enable them to play their part and, ultimately, we audited them against the BS25999 Business continuity Management Standard.

We examined each party's paperwork to check that they had complied with recommendations. If they had not or could not prove that they had, they were told to revisit their processes. We checked that individuals had signed the CCU

Two government security specialists sampled the results to check again and then an independent third-party security company, SOPRA, checked everything once more.

We also ran exercises with the partner companies to test that security would not be compromised if a major event took place.

Security for the census had to conform to government standards, so we designed and produced a unique security regime for our approach and recommendations, which was checked and signed off by a government accreditor.

As a double-lock, we also made certain that measures were in line with the international security standard ISO/IEC 27001, which provides an auditable security path and ensures continuous improvements. All the consortium companies rigorously applied the standard and, although not specifically required by contract, two went on to gain formal certification, while the others are in a position to do so.

*We are not only assured that the census is secure but we also have a full audit trail to support that assurance – of paramount importance to us, is being able to demonstrate and instill confidence within the public that we are managing the security of the census appropriately.*

Steve McMahon, ONS Head of Information Assurance and Security,  
2011 Census

## A SUCCESS STORY

Four high-speed scanners made their way through millions of forms at a secure location in Manchester, where authorised personnel will interpret any handwriting that cannot be interpreted by the electronic systems. Data has been backed up and encrypted. Paper forms, once scanned and confirmed, will be securely destroyed.

## WHY CGI

Our consultants have worked with governments and corporations around the world to design and implement security in many sensitive programmes and locations. We are recognised as the leading security consultancy and we employ more than 400 full time security experts in the UK alone.

“The project referenced in this case study was delivered by Logica, which CGI acquired in August 2012”

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## About CGI

With over 69,000 professionals in 40 countries, CGI fosters local accountability for client success while bringing global delivery capabilities to clients' front doors. Founded in 1976, CGI applies a disciplined delivery approach that has achieved an industry-leading track record of on-time, on-budget projects. Our high-quality business consulting, systems integration and outsourcing services help clients leverage current investments while adopting new technology and business strategies that achieve top and bottom line results. As a demonstration of our commitment, our average client satisfaction score for the past 10 years has measured consistently higher than 9 out of 10.