



## Smart, agile IT use helps to protect the public during Britain's wettest winter

**During the winter of 2013/14, many parts of the UK were hit by the worst flooding on record. Capgemini helped a key government agency stay agile during the floods, using and adapting its IT to help it and the public tackle the threats to property and lives**

As a key outsourcing partner to Corporate Information Services (CIS), the internal IT function of the UK government's Environment Agency, Capgemini facilitated intelligent use of IT and information to help deal with a flooding emergency that threatened lives and property. IT played a crucial role in protecting around 1.1m homes and businesses and 2,470 km<sup>2</sup> of agricultural land from flooding, issuing flood warnings for 217,000 properties and handling 50,000 incoming calls. Service levels were sustained throughout the emergency thanks to scaled-up, proactive support operations, with IT responding round the clock. As well as sustaining critical operations, the joint team supported two major government initiatives that could help ensure future flood protection. For example, one project provided better asset information and additional ideas to help protect lives and properties from future floods.

During the winter of 2013/14, many parts of the UK experienced the worst flooding on record. Prolonged periods of heavy rain, gale-force winds, tidal surges and large waves affected almost every part of England. December 2013 – the stormiest since records began – was followed by a further series of gales into early 2014, resulting

in coastal, river, surface and groundwater flooding. For significant periods many roads were impassable, some rail services and flights were disrupted, and up to 250,000 homes were without power.

In early December 2013, the country also faced the largest tidal surge along the east coast in 60 years. Sea levels at many locations were higher than those during the devastating floods of 1953 – Britain’s worst 20th-century natural disaster – which claimed more than 300 lives in England.

IT played a major part in helping the Environment Agency limit the harm caused by the 2013/14 crisis. The Environment Agency had already recognised that IT was much more than just a back-office support service as set out in its IT strategy, which states, “Innovation, consumer-oriented design and ease of accessibility has made IT an intrinsic part of how we deliver outcomes. We need to embrace technology as an enabler.”

To help it achieve this strategic role, the Environment Agency’s Corporate Information Services (CIS), has partially outsourced infrastructure and application management to Capgemini under a seven year contract begun in 2009. The business case for outsourcing was based on a drive to transform ageing IT infrastructure, reduce overall costs of the IT estate, and to create an agreement that would be recognised as the most sustainable contract in government.

During the floods it was vital for the Environment Agency and its IT teams to stay agile. CIS and Capgemini needed to maintain 24x7 availability of critical systems and services, ensuring systems security and stability to safeguard operational effectiveness, and maintaining accurate information.

In addition, the Environment Agency supported two government initiatives:

- The Flood Hack, a one-off event where external developers designed innovative solutions to support flood relief efforts using real data. This took place over a weekend and was set up in response to a government request to work with technology and social media companies to consider how flood response efforts could be helped by developing websites and apps and sharing data.
- Operation Pitchpole, where military personnel from across the Armed Forces inspected the Environment Agency’s 150,000 flood assets. The purpose was to ascertain damage to assets so that work could be prioritised and commissioned to ensure defences would be in place for winter 2014 and beyond. The inspection covered over 27,000 miles of flood defences, including structures, seawalls and flood banks, plus pumping stations, locks and sluices.



Additional requirements emerged during the emergency. These included a Blackberry operating system upgrade and an accelerated release of the Asset Inspection Management System (AIMS), a tool used by asset inspectors for displaying and editing details of flood defences and rivers, which are shown superimposed on maps.

All this had to be achieved under severe time constraints. The Environment Agency, as a Category 1 responder under the Civil Contingencies Act, must meet its civil protection duties quickly, as well as securely. The Flood Hack platform and data had to be set up and provided within 36 hours. For Operation Pitchpole, we had just 10 days to put in place support, purchase, configure and distribute 250 sets of equipment, and train members of the Armed Services.

### **Collaborating to support life-saving work in the field**

Capgemini worked closely with the Environment Agency to provide support beyond its contractual commitment to help the Environment Agency meet its responsibilities to the public.

Successful IT support was maintained through a strong partnering approach with clearly defined roles. “We’re in it together” was a recurrent theme. The team’s shared understanding of objectives was strengthened by the fact that the flooding was declared a national emergency, and by an appreciation of the pressure and scrutiny the Environment Agency – including its IT capability – was facing.

This was already a long-standing partnership: the partners were used to relying on each other’s expertise and commitment, and working as one team with shared objectives. The trust between the partners was demonstrated by the fact that during the emergency Capgemini responded to extra or changed requirements immediately, without question or formality. Often there was no time to test proposed responses using the formal contracted framework, but exceptional trust between client and outsourcing provider made a risk based approach feasible.

Such flexibility was vital. Priorities had to be flexible too: planned work such as server migration was postponed. Resourcing was shaped around deadlines rather than vice versa. As the emergency heightened, Capgemini scaled up support as necessary to cover the mounting workload and unforeseen requirements. The team provided round-the-clock cover when needed.



The partners also brought technical innovation to bear. For example, existing, contracted solutions and new technology were combined to support Operation Pitchpole, which reduced training time for internal users, allowing more time to be spent on training the military and external consultants. Innovation was also required to protect sensitive data while providing the information required for the Hackathon.

### **Strong IT governance helps control the impact of flooding**

Strong but flexible IT governance by the Environment Agency and Capgemini maintained control over an unprecedented situation, and created efficient ways to tackle new challenges like the Flood Hack and Operation Pitchpole. Again, regular meetings and clear roles and responsibilities helped; governance was adapted to accommodate the emergency.

Constant knowledge sharing and a one-team approach were keynotes of the work. Additional expertise and subject matter knowledge were brought in as needed, and shared. Processes were robust enough to be adapted where necessary, for example to provide Flood Hack data.

Continuous monitoring of automatically produced statistics and reports helped to ensure targets were met. During Operation Pitchpole, frequent progress reporting and daily meetings kept inspections on track, moving resources into areas most at need.

Communications, formal and informal, were also critical. At the height of the emergency, there were scheduled hourly updates and daily situation response reports. Co-location facilitated communication, particularly for Operation Pitchpole. The accelerated Flood Hack preparations depended on almost hourly discussions.

### **IT helps the Environment Agency meet its responsibilities to the public**

By helping to support vital IT services and systems that inform the public and assist Environment Agency staff, Capgemini enabled a timely round-the-clock response to the wettest winter on record. During the peak December/January period, almost 217,000 properties were contacted with flood warnings and almost 50,000 incoming calls were handled. About 1.1m homes and businesses and 2,470 km<sup>2</sup> of agricultural land were protected from flooding.



The work helped the Environment Agency meet its responsibilities to the public in many other ways:

- Timely, accurate information for government and public, helping to minimise damage and disruption, and protect lives and properties over an extended period. An important tool was Floodline, a free service giving advance flood warnings to the public.
- Maintenance of critical operational support without any adverse impact from Operation Pitchpole and the Flood Hack.
- Service levels sustained throughout the emergency thanks to scaled-up support operations that predicted and proactively managed stress points within the system due to heavy usage and high data volumes.
- A precise picture of where work was needed to maintain assets to reduce flood risk. This was the result of Operation Pitchpole, which – enabled by the CIS-Capgemini team – inspected the 150,000 assets in six weeks instead of the normal two years.
- New ideas to improve response to future floods, for example a Twitter account recruiting volunteers for flood relief efforts, a web service advising customers who to call about a power cut, and a data visualisation tool that presents flood information.
- Safe, controlled acceleration of change facilitated by Capgemini’s change management process: e.g. during Operation Pitchpole an upgrade to Blackberry operating systems was carried out within 24 hours as required by the Cabinet Office Briefing Room (popularly known as “COBRA” after Cabinet Office Briefing Room A). The response to the emergency went beyond contracted deliverables. Not only did the partners effectively maintain services as agreed in the outsource contract, they also undertook two additional programmes of work without affecting agreed work.

### Preparing for future emergencies

A partnership-based management approach facilitated collaboration between the Environment Agency, various branches of the military and the private sector. Governance forums speeded up decision-making, requirement design and commercial approvals, again thanks to the partners’ willingness to act as one team with one set of objectives, and to push aside commercial/contractual formalities during the emergency. This innovative approach has become a blueprint for emergency response support across other Capgemini public sector accounts.



The work the Environment Agency and Capgemini did together during the emergency will reduce the impact of flooding on communities in future as well as last winter. Operation Pitchpole identified any substandard assets in order to enable funding to be optimally directed; this will position the Environment Agency and partner organisations (police, local authorities, fire services) better to prevent and respond to flooding. The Flood Hack produced innovative ideas to be taken forward, with the data now being Open Use.

The Environment Agency's strategy specifically recognises the criticality of IT in responding in an efficient and robust way to flooding, and the importance of a reliable and resilient infrastructure for dealing with incidents. The experience of 2013-14 demonstrates the progress it has made towards these objectives, and is feeding into further improvement projects. The work has also enhanced the outsourcing partnership between the Environment Agency and Capgemini, leaving both parties with a strengthened common understanding of drivers and objectives, and criticality of IT systems and services.



### About the Environment Agency

We work to create better places for people and wildlife, and support sustainable development.

EA is an executive non-departmental public body, sponsored by the Department for Environment, Food & Rural Affairs.

Established in 1996 to protect and improve the environment, it has around 10,000 employees.

The Environment Agency's internal IT function supports it to achieve its corporate plan and objectives.



### About Capgemini

With 180,000 people in over 40 countries, Capgemini is one of the world's foremost providers of consulting, technology and outsourcing services. The Group reported 2014 global revenues of EUR 10.573 billion.

Together with its clients, Capgemini creates and delivers business, technology and digital solutions that fit their needs, enabling them to achieve innovation and competitiveness.

A deeply multicultural organisation, Capgemini has developed its own way of working, the Collaborative Business Experience™, and draws on Rightshore®, its worldwide delivery model.

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