



National Audit Office

---

## **Report**

by the Comptroller  
and Auditor General

---

## **Home Office**

# E-borders and successor programmes

## Key facts

---

**£830m**

was spent on e-borders and successor programmes between April 2006 and March 2015

**86%**

Home Office estimate of the proportion of people entering the UK in September 2015 for which transport carriers supplied advance passport data to the Department; compares to 0% in 2003 and a target (set in 2007) of 95% by December 2010

**April 2011**

target set in 2007 for replacing legacy systems with the new e-borders system; these legacy systems are still in use

---

- 118 million** people entered the UK in 2014-15
- 32%** predicted increase in commercial air passengers travelling through UK airports between 2014 and 2030
- 15%** reduction in total spending by the Border Force between 2011-12 and 2014-15. In the same period the number of people arriving in the UK increased by 11%
- 8** programme directors on e-borders and successor programmes between 2003 and 2015
- 10 of 13** external reviews of e-borders and successor programmes rated red or amber/red by the Major Projects Authority or predecessor bodies
- £150 million** settlement made in March 2015 by the Home Office to Raytheon Systems Limited resolving their dispute on e-borders
- £89 million** invested since April 2011 on improvements to the legacy systems that e-borders was intended to replace
- 355** individuals prevented from travelling to the UK by the authority to carry scheme between August 2014 and July 2015

# Summary

## Managing the UK border

**1** In 2014-15, 118 million people travelled to the UK and roughly the same number left. These include UK citizens returning home and people travelling to the UK for tourism or study, to work, to seek asylum or to migrate permanently. People and goods can enter the country by land, sea or air and may have travelled less than 30 miles or thousands of miles. Protecting our border across the many entry points, controlling migration and cross-border criminality, collecting revenues that are due and facilitating the legitimate movement of people and trade is primarily the responsibility of the Home Office (the Department).

**2** About 87% of those crossing the border in 2014-15 were either British citizens or from other European Union states. The Department's ability to decide for itself who from those countries can cross its border is constrained by UK and European law. Where those from outside the EU want to enter the UK, the Department has more freedom on the controls it can exercise.

## The need for advance data on travellers

**3** In 2003 UK border controls relied primarily on systems and procedures that operated at the border itself. In the early 2000s there was a growing realisation in the UK and elsewhere of the need to do more checks before people arrived in the country, and ideally before they left their point of origin.

**4** It was against this background that the Department set up its e-borders programme. The vision for this, which remains broadly similar to that of the current programme, is to enhance the use of traveller information by:

- collecting passenger information from plane, train and ferry carriers about individuals entering and leaving the UK;
- analysing data before individuals arrive at the border, including, in some cases, preventing travel;
- presenting the results of analysis to border officials so they can make better-informed decisions about whether to allow entry; and
- creating traveller records so the authorities know whether persons of interest are in the country, and their travel patterns.

**5** In November 2007, after four years of planning, piloting and procurement, the Department entered a contract with Raytheon Systems Limited, the UK subsidiary of a US-based technology and defence company. In July 2010 the Department terminated this contract claiming failure to deliver against milestones. From 2010 the Department has commissioned a series of successor programmes, including the Border Systems Programme and Digital Services at the Border programmes, to try to realise the original e-borders vision, although the strategy for achieving that vision has evolved over time.

**6** We and the Committee of Public Accounts have been keen to examine the reasons behind the termination of the e-borders contract for some time. However, following termination of the contract, a protracted legal dispute took place between the Department and Raytheon, which we did not want to prejudice. Following an August 2014 arbitration ruling that awarded Raytheon £224 million plus legal costs, the Department's Accounting Officer invited us to conduct a full review. The Department then applied to the High Court, which in early 2015 set aside the arbitration ruling and directed a new arbitration process, without itself producing a final attribution of blame between the parties. An out-of-court settlement was reached in March 2015, after which we concluded our examination.

### Scope of the report

**7** This report covers the Department's programmes for improving the way it collects and uses passenger data. It draws out lessons for current and future programmes and does not evaluate border operations in detail. We have considered three broad time periods: the e-borders period between 2003 and 2010; the successor programmes period 2010 to 2015; and the prospects for the future based on recent changes in approach since late 2014. We have defined good performance as:

- the technical solution is feasible and aligned with the needs of the Department's business;
- the programme has been managed according to good practice principles with appropriate leaders and skills in place;
- governance arrangements align with the chosen method of delivery and facilitate effective review and informed decision-making;
- an appropriate commercial strategy has been adopted to support delivery of the programme; and
- key stakeholders have been identified, have contributed to, and understand the programme's objectives.

We examined the Department's documents, interviewed current and former officials of the Department and spoke to various stakeholders including current suppliers. Raytheon provided a written statement in answer to questions we raised. Full detail of our methods are in Appendices One and Two.

## Key findings

**8 Between 2003 and 2015 the Department spent at least £830 million on the e-borders programme and its successors, delivering some valuable new capabilities but failing to deliver the full vision.** The Department spent over £340 million between 2006-07 and 2010-11 on the e-borders programme, a further £150 million on the settlement with Raytheon and £35 million on legal costs.<sup>1</sup> Between 2011-12 and 2014-15 the Department spent £303 million on the successor programmes. With this expenditure the Department has developed new capabilities to receive and process data on those travelling to and from the UK. In September 2015, the Department received data in advance on an estimated 86% of those travelling to the UK, compared with zero in 2003. However, this is still considerably short of the target in the e-borders business case of 95% by December 2010 and 100% by March 2014 (paragraphs 1.15 and 1.26).

**9 The Department spent £89 million, between 2011-12 and 2014-15, improving vital systems that e-borders should have replaced.** By 2010, the e-borders programme had built a centre, staffed by people from the Department, police and National Crime Agency, to analyse passenger data received in advance, and issue notifications to staff working at the border. However these data were, and remain to this day, processed on two systems that do not share data or analysis effectively. The e-borders contract had expected that these systems would be replaced by April 2011 and following the termination of that contract the Department prioritised improving the resilience and reliability of these systems. Relying on legacy systems means that current processes involve extensive manual effort, duplication of effort and restrictions on the use that can be made of travel history records (paragraphs 1.14, 1.17, 1.18 and 1.23 to 1.25).

## Lessons for the future

**10** Based on the history of these programmes, we have identified four critical success factors for future delivery. These four factors have, to varying degrees across the 12-year period, hindered the delivery of the e-borders programme and its successors.

- The Department has had a consistent vision for the programme but needs a more consistent strategy and realistic plan for implementing it.
- The Department needs to manage a large number of stakeholders well.
- The Department needs stability in its staffing arrangements, to fill gaps in its capability and learn better from history.
- The Department needs a culture that demands and uses high-quality data.

This report sets out the challenges the Department has faced in dealing with these issues to date, before considering the extent to which it is addressing them to maximise its chance of successful delivery in the future.

<sup>1</sup> Amounts for the period before 2006-07 are no longer available.

### **Agreeing how best to realise the vision**

#### **11 The delivery plans for e-borders were too ambitious to be achievable.**

The programme was developed against the backdrop of the July 2005 London bombings and the award of the London 2012 Olympic & Paralympic Games. In this context the Department felt it was necessary to be ambitious on scope and timescale to get the maximum improvement in border security in place by mid-2011. The Department therefore set a demanding timescale for designing and implementing the programme, taking confidence from a technical pilot which had not however tested the full e-borders requirement. The Department underestimated the scale of business transformation required within government agencies and multiple external stakeholders, which each had diverse information systems (paragraphs 2.5 to 2.7, 2.16).

#### **12 Following the cancellation of e-borders, the Department struggled to decide how to take the vision forward.**

The period between 2010 and 2013 was marked by several organisational changes for border operations and a number of changes of leadership. The Department also had to defer upgrades for six months to keep their systems sufficiently stable during the 2012 London Olympics. During this period the Department worked with existing suppliers to improve existing systems and looked to procure another contractor to do a similar job to Raytheon. In early 2014 the Department accepted the recommendation of an options review it had commissioned, with support from the Cabinet Office, proposing a change of approach to developing new systems in-house. The Department anticipated this would enable it to replace legacy systems by March 2016. Since May 2015, the Department has adopted a slower, more realistic approach to improving its systems, which will see the oldest legacy system fully retired in March 2018. It has yet to finalise when the other legacy system will be retired, but the Department's current plans target doing so by March 2019 (paragraphs 1.21, 3.2, 3.9 to 3.12).

#### **13 Throughout the 12-year period there have been some significant changes in the functionality of the proposed border control and security system.**

Some of these changes reflect the constantly changing nature of the threat the Department faces, such as the higher priority now placed on improved systems to target freight and to counter terrorism. But other changes have been tactical. For example, when the e-borders programme encountered difficulties, the Department reduced its expectations for data requirements without properly evaluating and reporting the impact this might have on outcomes from the programme. Similarly, the technical challenges it encountered in integrating border and visa management systems has led to this being de-scoped (paragraphs 1.4, 2.15, 3.13 and 3.14).

### **Underestimating the importance of stakeholder management**

**14 During the period of the e-borders programme the Department made unrealistic assumptions about programme delivery without recognising the importance of managing a diverse range of stakeholders.** Delivering the e-borders vision requires that more than 600 air, ferry and rail carriers supply data on people they are bringing in and out of the country, while around 30 government agencies supply data on persons of interest. During the e-borders period, the contract made Raytheon responsible for connecting e-borders to these stakeholders' systems, under the Department's strategic direction. But carriers and agencies expressed general concerns about the costs and other implications of revising their systems to connect to e-borders, including the interfaces they were expected to use. The contract strongly incentivised Raytheon to deliver the roll-out to the agreed schedules but provided less incentive for Raytheon to offer a wider choice of interfaces. Raytheon's initial plans for roll-out would have placed some carriers at a disadvantage to their competitors in terms of costs and the burdens on passengers. Lack of clarity on what was legal under European law further exacerbated the difficult relationships with carriers. These difficulties affected progress in rolling out e-borders from the outset (paragraphs 2.7 to 2.14).

**15 Since 2010 there have been signs of an improved relationship with plane, ferry and rail carriers.** Following the cancellation of the e-borders contract in 2010, the Department took more direct ownership of external relationships instead of working through Raytheon. Transport carriers told us there is now a better understanding of needs and requirements between themselves and the Department. This is demonstrated by the extension, in April 2015, of data collection to cover all ferry and rail carriers, which was completed without major incident. Such carriers have shown readiness to collect more passenger data than they did before e-borders. However, transport carriers did tell us of ongoing concerns about being placed at a competitive disadvantage due to being treated differently (paragraphs 4.9 to 4.11).

### **An inability to make decisions due to gaps in capability and resourcing**

**16 Across the 12 years, there has been insufficient continuity of key staff and the programme has had to rely on contractors.** During the e-borders period there were five programme directors, including three interim postings. Between 2010 and October 2014 there were a further two programme directors, at which stage the role was split in two and new appointments were made. We also observed high turnover at more junior levels. Since at least 2014, the programme has had to rely on a large number of contracted staff to fill technical roles; 40% of posts in the core programme were filled by non-civil servants in May 2015 (paragraphs 2.21, 3.3 to 3.6).

**17 The Department has not found timely solutions to serious concerns raised by successive internal and external reviews.** Between 2007 and 2015, the Major Projects Authority or its predecessors carried out 13 reviews. Ten of these reviews rated the programme, or the element examined, at serious risk of failure. In 2015 the Major Projects Authority was still raising serious concerns about the deliverability of the programme and flagging weaknesses around governance and capabilities (paragraphs 2.30 and 3.22).

**18 In this context, leaders have made ill-conceived decisions.** The e-borders commercial strategy (fixing the price and deadline but leaving requirements too open) meant transferring risks to the supplier which the Department considers to have been a consistent approach with a number of government ICT programmes at the time. However, Raytheon proved ill-placed to manage these risks. The Department had incorporated Raytheon's proposed design within the contract with the company. But the proposals had been based on too high-level requirements, leading to disputes after contract award over whether proposals would meet actual needs. The Department frequently found Raytheon's solutions unconvincing; conversely, Raytheon felt that requirements were growing and shifting, leading to major disputes, including varying interpretations of different parts of the contract. Nor could Raytheon compel cooperation by agencies or carriers. More recently, the expectation approved in early 2014 that legacy systems could be replaced by March 2016, a timescale significantly faster than that agreed with Raytheon, was overly ambitious. While the approach of taking greater control of the solution in-house was reasonable, and the Department considers the strategy to have been correct, the timeline adopted took little account of the difficulties earlier programmes had encountered and the Department's lack of track record of managing delivery in-house (paragraphs 2.20 to 2.25, 3.9 to 3.12).

#### **A culture that does not demand and use high-quality data**

**19 Data collection and manipulation is at the heart of the entire programme, but the Department has been critically weak in this respect.** The Department has only had measures of data quality since 2014 and these are limited in what they cover. Previously, the Department focused on collecting greater volumes of data from transport carriers and other government agencies and paid less attention to the quality of these data. We identified gaps in the management information used by the Department, including poor information on the number of people checked against the list of persons of interest and poor information on the effectiveness of processes. Our earlier reports on border functions have consistently identified weaknesses in the use of data for intelligence and performance monitoring purposes and it is a concern that such deficiencies persist.<sup>2</sup> Against this background of poor data management it is unsurprising that the Department has struggled to produce robust business cases (paragraphs 3.17 to 3.21).

<sup>2</sup> For example, see Comptroller and Auditor General, *The Border Force: securing the border*, Session 2013-14, HC 540, National Audit Office, September 2013.



## Prospects for future delivery

### **20 Changes since late 2014 give some cause for optimism looking forward.**

The programme is currently led by three individuals who collectively have a mix of operational, technical and stakeholder management experience necessary for delivering it successfully. The Department is adopting a slower approach to developing new systems, which is realistic given its inexperience in developing systems in-house and the likelihood of an evolving threat at the border. There is increasingly effective stakeholder management within the programme. The Department is also renewing its focus on the use of data. In particular, issues such as making full use of the data collected from plane, ferry and rail carriers and improving the timeliness, completeness and accuracy of that data now have more prominence (paragraphs 4.2, 4.3, 4.9, 4.12 and 4.17 to 4.18).

**21 Nevertheless, delivering the programme's vision is very important to the Department and more widely, and this remains at risk.** Increasing the automation of border processes and making earlier and better-informed decisions about those wanting to cross the border have the potential to bring both financial and security benefits that are essential in the current environment. Although progress has been made, continued weaknesses in the programme are not yet fully mitigated and there are early signs of slippage in the programme's current timeline. Three areas in particular need greater focus:

- designing systems in a way that embeds a greater focus on data quality and results in better-quality management information on Departmental processes;
- prioritisation of projects within the programme to maximise business benefits; and
- greater embedding of new ways of working within programme procedures.

We have outlined some key areas of focus for the current programme in our recommendations (paragraphs 4.4 to 4.7 and 4.17).

## **Conclusion on value for money**

**22** By March 2015 the Department had spent at least £830 million on e-borders and its successor programmes. For this it has got some valuable new capabilities to help assess the risk passengers pose before they reach the UK border, although there is limited information available on the effectiveness of these. However, the Department has not yet built an integrated system and as a result border processes remain inefficient with the Department unable to fully exploit the potential of the data it is receiving. Given the elapsed time since 2011 when the e-borders programme was due to deliver, the Department cannot be said to have achieved value for money so far.

**23** There are some early signs that the Department is beginning to grip this vital programme. However, continued weaknesses in areas such as being clear on how best to deliver the vision, oversight of the programme's progress at a senior level in the Department and using data are not yet fully mitigated.

## **Recommendations**

The Department's current programme

- a The Department needs to place much greater priority on understanding and improving the way it uses data given its critical importance for effective border operations and systems.** The Department has limited measures on the quality of data it receives from transport carriers and government data owners. It also has limited information on the volume, efficiency and effectiveness of its processes. Improvements are needed to both areas to maximise the benefit of the programme.
- b The Department now has a more realistic strategy for the programme but needs to tailor its ambitions in the short term so as to build capability and confidence.** The Department has a limited track record in developing new systems in-house and is likely to have constrained financial resources for the foreseeable future. The programme is currently trying to deliver multiple technical and commercial projects, which are likely to stretch its capability too far. Better understanding of its data will help it prioritise the capabilities it does have on the projects with highest value.
- c The Department needs to work out how best to integrate the systems it has developed, and is developing, within its business processes.** The Department has little clear idea of how it expects business processes to change in the future to meet security, immigration and efficiency challenges. It needs to develop this quickly so that it can fully align the work of the programme with the major challenges it faces.

- d **Retaining key staff and reducing the general level of turnover within the programme should be a priority.** A consistent theme in a number of our recent reports has been turnover of key staff on projects. The Department needs to work with the Cabinet Office, HM Treasury and other government departments to identify barriers to retention, such as pay and rotation policies, and find common strategies to alleviate them.
- e **The Department needs to ensure it does not become complacent in the way it manages stakeholder relations.** The Department needs to remain aware of the commercial realities faced by external stakeholders. The programme needs to work closely with the government's new One Government at the Border programme as this has the potential to mean that the Department's own programme is outdated before it has delivered.

### Commercial and programme management

The Department's experience on e-borders provides a salutary case study for government generally, but we emphasise three particular recommendations here:

- f **Departments must procure complex programmes in ways that allocate risks and responsibilities to the parties best able to manage them.** This well-known principle was breached during e-borders, where the contractor bore responsibilities for key relationships with transport carriers that it was poorly placed to understand and manage.
- g **Departments undertaking IT-enabled change programmes should ensure they do sufficient work before awarding contracts to understand how achievable the complete vision is.** Pilots should test not just whether technical challenges can be overcome but also whether the business changes required across participating government or non-government organisations are feasible.
- h **Departments should carefully match commercial arrangements to the nature of the programme.** E-borders used a high-level specification that allowed the contractor to put forward detailed, innovative solutions after the contract was awarded. However, the criticality of the infrastructure being developed, and the need for stakeholder cooperation, meant that the Department was always going to require more control over the solution than a commercial arrangement involving a fixed price and deadline was able to bear. A two-stage contract separating design and build phases, like those commonly used in construction, may have been more appropriate in these circumstances.