National Audit Office

Report
by the Comptroller
and Auditor General

HM Revenue & Customs

The Customs Declaration Service

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National Audit Office

HM Revenue & Customs

The Customs Declaration Service

Report by the Comptroller and Auditor General

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Sir Amyas Morse KCB
Comptroller and Auditor General
National Audit Office

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This report looks at HM Revenue & Customs' development of the new Customs Declaration Service.

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Key facts

255m

HMRC's current estimate of the maximum number of customs declarations per year after March 2019 based on current levels of UK/EU trade, subject to the new customs arrangement negotiated with the EU – around a 200 million increase on the 55 million existing declarations each year

January 2019

date by which HMRC expects all traders to use its new customs system. This is two months before the UK intends to leave the existing European Union (EU) customs union

£34bn

approximate value of customs and excise duties and value added tax collected by HMRC at the border annually

8,700 users and intermediaries, including freight suppliers, customs agents and software providers directly affected by the new customs system (approximate)

180,000 traders currently estimated by HMRC who will make customs declarations for the first time under the new system, assuming the UK leaves the EU customs union. This is in addition to the 141,000 traders who currently make customs declarations for trade outside the EU

£696 billion estimated trade in goods across the UK border in 2015

Summary

1 In October 2013, the European Union (EU) changed a number of the rules and procedures governing the way that customs duty is levied, calculated and collected by EU member states. As part of these changes, it introduced a new Union Customs Code (UCC), which, together with other associated changes, also require all communications between customs authorities and economic operators to be electronic by December 2020.

2 In 2013-2014, HM Revenue & Customs (HMRC) started planning to replace its customs system, known as CHIEF (Customs Handling of Import and Export Freight). HMRC decided that updating CHIEF's ageing technology, which it has operated for more than 20 years, would be too expensive and would cause significant delay in meeting the requirements of the UCC. The new system will collect customs and excise duties, and value added tax (VAT) from transactions at the border. These are currently collected by CHIEF and are worth around £34 billion annually. The new system is also intended to grow in line with the government's plans both to increase international trade, and to improve the government's ability to identify and respond to risks to international trade and taxation. The new system is called the Customs Declaration Service (CDS). HMRC plans that CDS will handle all customs declarations from January 2019. The CDS programme is one of 15 major programmes in HMRC's wider transformation portfolio.

3 On 23 June 2016, the United Kingdom voted to leave the EU. In March 2017, the government triggered Article 50 of the Lisbon Treaty, having signalled its commitment to leave the EU single market and seek a new customs arrangement from March 2019. HMRC currently estimates that, subject to the new customs arrangement agreed with the EU, these changes could increase the number of customs declarations from around 55 million to a maximum of around 255 million each year, based on current volumes of UK/EU trade. This number is subject to the new customs arrangement negotiated with the EU, and other scenarios exist which may result in different volumes. HMRC's existing CHIEF system can currently process 100 million declarations a year which reinforces the need for the new service.

4 The new relationship between the UK and the EU also brings forward the need for the new system to be fully implemented, from the end of 2020 (when EU member states must implement the UCC) to March 2019 when the UK leaves the EU and a new customs arrangement may apply if no transitional arrangements are in place. HMRC is still planning to deliver a system which is based on the UCC as this approach is already familiar to industry and is compliant with World Trade Organization rules.

5 In 2015, nearly £700 billion of goods crossed the UK border and the continued smooth operation of these crossings is critical to the UK's economy and consumers, for example maintaining the trade flow of perishables such as food products. In 2016, the UK came fifth out of 160 countries in the World Bank's ranking of the efficiency of the border clearance process, including customs. The government aims to maintain or improve this position while supporting effective border and customs controls. Having a fully functional customs system is an important factor in safeguarding against undue disruption to trade after the UK leaves the EU.

Scope

6 This report is based on a short review of the deliverability of the CDS programme. We set out some facts about the CDS programme, and highlight the risks and issues HMRC is managing ahead of implementation of the new service in January 2019. The report describes:

- the need for the CDS;
- CDS programme delivery; and
- the impact and management of programme risks.

We have not evaluated the overall value for money of the CDS programme.

7 Our report does not cover other aspects of the government's overall customs regime which are outside the scope of the CDS programme. In particular, the following are not covered in our review:

- Border Force, which controls the movement of goods, people and transport at the border, and the work of other government departments and agencies; and
- wider changes to border systems, infrastructure and any requirements for new staff resources.

Findings

8 HMRC has made progress in designing and developing the new Customs Declaration Service. It has prepared and updated its business case and procured major suppliers. It has also designed the overall service model and shared technical specifications with third party software suppliers and intermediaries to allow them to develop the tools they will need to interact with the new system (paragraph 2.10).

9 There is still a significant amount of work to complete, and there is a risk that HMRC will not have the full functionality and scope of CDS in place by March 2019 when the UK plans to leave the EU. HMRC recognises this risk. The decision to leave the EU could increase the number of transactions by around 200 million and more than double the number of traders having to go through customs processes. HMRC faces some significant challenges to deliver the programme within the current timetable. Our assessment of the key risks and issues in the programme include (paragraphs 2.3 to 2.5 and 2.7, Figure 7):

- HMRC has only two months between January 2019, when it plans to complete the transition to CDS, and March 2019 when the UK plans to leave the EU. This provides little contingency time should the programme overrun or unexpected problems occur. Transition from CHIEF is planned to start in August 2018, with all users expected to make declarations in CDS by January 2019.

- HMRC is in the early stages of integrating a number of new systems with each other and with its existing technology, which could be challenging. HMRC has chosen commercially available software for the management of customs declarations and the calculation of tariffs. HMRC has already identified issues with how the new software communicates with other parts of HMRC's technology and could identify more issues as it continues to integrate these systems.

- Core parts of the system work in other countries but have not yet been used at the volume and intensity the UK might need. For example, the customs declaration management component has been tested to cope with 180 million declarations a year compared with the 255 million which may be needed. Until it is shown to work at this level and with the UK's specific systems, there is a risk that this new component may not meet the UK's requirements.

- HMRC has a well-established forum for engaging with some stakeholders but has significant gaps in its knowledge of important groups. In particular it needs to know more about the number and needs of the smaller and less established traders who might be affected by the customs changes for the first time.

- HMRC's plans to ensure traders are ready to use CDS are not yet fully developed. It has a high-level transition strategy, including a phased approach from August 2018 when the first users start to make declarations using CDS, but does not yet have a detailed transition plan. HMRC does not yet know how many of the estimated 180,000 traders that currently interact solely within the EU will make customs declarations under a new arrangement with the EU, nor their readiness to make declarations from March 2019.

- HMRC has a high-level plan that sets out 13 key milestones through to January 2019. It is managing the programme with a high-level overview of milestones supported by detailed plans for rolling 10-week periods. This approach relies on plans being regularly maintained and monitored to prevent slippage of key milestones and ensure clear management oversight. It also requires skilled staff, trained in the methodology, to ensure risks and dependencies are identified and monitored. HMRC must continue to closely maintain the plan to ensure overall delivery is not delayed.

- The programme has been operating with a significant number of staff vacancies. At the end of March 2017, there were 67 vacancies in the programme team, with 9 required immediately to prevent an adverse impact on delivery of the programme. By 27 June 2017, the vacancies had reduced to 48, with 4 required immediately. These totals include some planned future resource requirements.

- The CDS programme may incur additional costs that are not covered in the programme's business case. HMRC's business case has total costs of £157 million. This will fund the creation of a system with the technical capacity to handle 150 million declarations each year, rather than the estimated 255 million. HMRC is seeking additional funding for increased volumes through its separate Border Systems Programme. It plans to seek additional funding for requirements relating to the UK's exit from the EU as negotiations progress. The CDS business case does not include costs to upgrade the CHIEF system to develop contingency options.

10 HMRC is implementing the CDS programme using agile techniques, which is consistent with government guidance for technology projects. HMRC believes that its programme management methodology, combined with the skills and capabilities of its staff, means that programme risks and issues are currently being effectively managed (paragraph 3.2).

11 HMRC has identified contingency options should the CDS programme not deliver a fully functional new service by 2019, but has not yet planned these in detail. Its options include modifying the existing CHIEF system and operating it in parallel with elements of the new service to help cope with the increase in transactions after March 2019, or using CHIEF to handle all declarations if CDS is not ready in time. HMRC believes CHIEF could be upgraded to handle the additional volumes, but does not know whether it would be able to deliver all the necessary functionality. Both would require additional investment of time and money by HMRC to explore and make the changes needed. If HMRC can make these changes to CHIEF, these options could reduce the risks associated with the performance and capability of the new service in the short term (paragraphs 3.3 and 3.4).

12 Following the UK's decision to leave the EU, both parties must now negotiate the terms of leaving. One factor under negotiation is a new customs arrangement. Until UK/EU customs negotiations are complete, the programme is operating with some uncertainty, which increases the risk that management does not have a clear view on the amount of work still required. The UK's negotiations with the EU could result in changes to customs processes in the UK and other EU member states. These negotiations could introduce changes to the new system requirements shortly before the planned implementation date. They could also provide a transition phase for leaving the customs union which gives more time to implement CDS. HMRC will use change control procedures to evaluate what any new requirements mean for the programme's cost, time and delivery schedules. The cost and time needed to make such changes could range significantly. For example, they could require CDS to implement an entirely new data model or they may require a relatively simple change to tariffs. More significant changes could mean HMRC has to rely on contingency arrangements for a period of time, or require a negotiated transitional period beyond March 2019 to implement all the necessary changes (paragraphs 1.11 to 1.13, Figure 4 and Figure 7).

Concluding comments

13 HMRC set out to replace its existing customs system to meet legislative requirements and respond to changing business needs. These remain valid reasons. However, HMRC started the project to replace the system before the UK triggered Article 50 of the Lisbon Treaty and formally started the process of withdrawing from the EU. The result of that process could have a significant impact on the requirements for the system.

14 We know that the UK will be leaving the EU by March 2019 but we do not know what customs arrangements will be in place at that point, or whether the Article 50 negotiations will lead to transitional customs arrangements. What is clear is that the timeline for completing the CDS programme under its current scope allows very little flexibility should the programme overrun or unexpected problems occur. While HMRC is working to manage the risks and issues identified in this report, and is developing contingency plans, the whole of government must choose now whether it needs to do more to help HMRC to mitigate the risk of the system being needed, but not ready in time. For example, by prioritising funding and resources to speed up progress with the programme, and by supporting HMRC to develop contingency options. What is not reasonable is leaving HMRC to decide alone what mitigating actions are needed. Government as a whole must decide what priority it attaches to the CDS programme, and whether any extra costs linked to having a suitable customs system in place by early 2019 are an insurance premium worth paying.

Part One

The need for the Customs Declaration Service

1.1 This part sets out an overview of the customs process and the need for the new Customs Declaration Service (CDS).

The customs process

Overview of the customs process

1.2 When businesses import goods into, or export goods from, the UK, the goods pass through UK customs. Taxes and duties may be payable on the goods depending on their nature and origin or intended destination. This includes value added tax (VAT), excise duties (for example on tobacco products) and customs duty. Businesses may have other obligations depending on the nature of their trade: for example, they may need to apply for import or export licences for items such as firearms, some textiles and clothing made in certain countries, and medicinal products.

1.3 The UK is currently a member of the European Union (EU) customs union. This means that it does not levy customs duty on goods arriving from other EU member states and businesses must only make a customs declaration if they are importing from or exporting to countries outside the EU.

1.4 HM Revenue & Customs (HMRC) is responsible for processing customs declarations and collecting the associated revenue. It is also responsible for setting the policy for detecting and preventing non-compliance with customs procedures. Border Force (a part of the Home Office), alongside its other duties, is responsible for controlling the movement of goods and transport at the UK border, and undertakes enforcement activity on behalf of HMRC. In total, 26 government departments and agencies operate at the UK border. **Figure 1** sets out some of the main steps in the customs process and the different roles and responsibilities of traders and government. Appendix One provides a simplified process flow for imports and exports, showing some of the main parties involved.

Figure 1
Overview of the customs process

There are a number of steps in the customs process that a trader must go through, which may interact with a number of different government departments and agencies

	Key steps for trader	Key steps for government body
Registration	Trader registers for the Economic Operator Registration and Identification (EORI) scheme to trade with non-EU countries. Traders quote this number in all customs documentation submitted to HM Revenue & Customs (HMRC).	HMRC processes the EORI registration. On completion of the registration, HMRC issues a unique registration number to the trader to use when making customs declarations.
Licences and approvals	Trader applies for an import/export licence if applicable. These are required for importing or exporting certain goods, including: • goods subject to import and export controls; • food and animal products; • chemicals and medical products; and • heritage items (eg works of art).	Different government agencies are responsible for issuing different types of licence and approval. Licensing bodies include: • Department for International Trade; • Department for Environment, Food & Rural Affairs; • Health and Safety Executive; • Medicines and Healthcare products Regulatory Agency; and • Arts Council England.
Customs declaration	Trader makes a customs declaration for goods imported from and exported to countries outside the EU through HMRC's CHIEF system. Declarations will often be made by a customs agent or freight forwarder/ courier on behalf of the trader. Some trusted traders can make simplified declarations at the border and provide a supplementary declaration later.	CHIEF processes declarations and runs them against risk profiles to determine the need for any additional checks. This could include documentary checks by HMRC, physical inspections by Border Force or referral to other government bodies as applicable, depending on the nature of the goods.
Payment of tax and duty	Trader pays any tax and duty which is due on imports. Payment is due on clearance at the border, unless the trader is part of the duty deferment scheme and pays a single sum each month. These traders must register with HMRC, provide a financial guarantee and quote their deferment number on their customs declaration.	CHIEF calculates and accounts for tax and duties due on imports. Border Force releases goods at the border once all necessary checks have been completed.

Source: National Audit Office

The legacy CHIEF system

1.5 HMRC has operated its current declaration processing system, CHIEF (Customs Handling of Import and Export Freight), for more than 20 years. CHIEF records customs declarations on imports and exports.[1] It connects with a number of organisations (known as Community System Providers or CSPs) that directly serve hundreds of carriers, transit sheds and freight forwarders. CHIEF is well regarded by its users. It is currently designed to handle up to 100 million transactions a year. Its functions include:

- tax and duty accounting, invoices and payments;
- risk profiling and data validation to identify the need for additional goods checks;
- information management support for government and traders; and
- producing trade statistics.

1.6 In 2015-16, HMRC processed around 55 million import and export customs declarations. It collects around £34 billion in tax and duty on imports from countries outside the EU each year. Such imports accounted for around half of all imports to the UK (**Figure 2**). Under current EU arrangements, the UK and other member states pay around eighty per cent of the customs duty they collect directly to the EU.

Changes to the customs process

The Union Customs Code

1.7 In October 2013, the EU adopted a new Union Customs Code (UCC) to modernise customs processes and to serve as its new framework for the rules and procedures applicable to goods imported into and exported from member states.[2] The UCC provides the legal basis for the full computerisation of customs procedures, obliging economic operators and member states to use IT systems for declaring goods, lodging declarations and the associated processing. Changes came into force in 2016, with some transitional arrangements operating until the end of 2020.

1 CHIEF does not handle customs declarations for goods sent using postal services.
2 Regulation (EU) No 952/2013 of the European Parliament and of the Council.

Figure 2
UK customs volumes and values

Traded goods are worth £696 billion with tax revenue of £34 billion

	EU goods	Non-EU goods	Total
Customs declarations	0	55m	55m
Traders	180,000	141,000	321,000
Goods import value	£223bn	£188bn	£411bn
Goods export value	£134bn	£151bn	£285bn
Total goods value	£357bn	£339bn	£696bn
Customs duty	0	£3bn	£3bn
Import VAT	0	£25bn	£25bn
Excise duty	Not known	Not known	£6bn
Total tax	Not known	Not known	£34bn

Notes

1 Of the 55 million customs declarations made in CHIEF in 2015-16, 47 million are import declarations and 8 million are export declarations. Of the import declarations, 20% are frontier declarations which must be cleared before the goods leave the border. The remaining 80% are supplementary declarations which can be made once the goods have passed into the UK. Customs declarations and any associated duties are only currently due for trade with countries outside the EU, so the number of declarations and amount of duty collected from intra-EU trade are both zero. Import VAT is also paid only on trade with non-EU countries.

2 Based on trade statistics from 2015, HMRC estimates that 180,000 traders trade solely within the EU. However, HMRC does not have reliable information on these traders and acknowledges that there is significant uncertainty associated with this estimate as there is no obligation to collect this information within the single market. Of the 141,000 traders currently involved in importing or exporting goods to and from the rest of the world, 68,000 trade exclusively with countries outside the EU and 73,000 trade with both EU and non-EU countries.

3 Import and export values are 2015 figures for trade in goods from the Office for National Statistics, *Pink Book 2016*, table 9.4.

4 HMRC does not report information on the geographical split for excise duty receipts.

Source: HM Revenue & Customs and Office for National Statistics

The new Customs Declaration Service

1.8 In 2013-14, in anticipation of the new UCC, HMRC started work on replacing CHIEF with the new CDS. It decided that the ageing CHIEF technology would be too expensive and slow to update to meet the requirements of the UCC. HMRC planned the new system to take over the same high-level functions of the old system (see paragraph 1.5) and in addition to be:

- flexible – to meet any new customs process requirements;
- more modular than the previous CHIEF system – allowing HMRC to reuse some of its existing technology;
- efficient to maintain and scalable to grow in capacity – in line with government plans to increase international trade; and
- cost effective and simple to use – for traders when doing business in the UK.

1.9 The new service will use commercially available software to manage customs declarations (provided by IBM) and software to calculate tariffs (provided by European Dynamics). The CDS design integrates these software modules with existing HMRC technology that carries out functions such as financial and risk management, reporting and communication. **Figure 3** is a high-level summary of this arrangement.

Leaving the European Union

1.10 On 23 June 2016, the UK voted to leave the EU. HMRC paused elements of the CDS programme while it considered the implications of this decision on the proposed design of the new system. It concluded that the plans to date remained substantially valid and it resumed development in September 2016. Part Two provides further information about the programme's timeline.

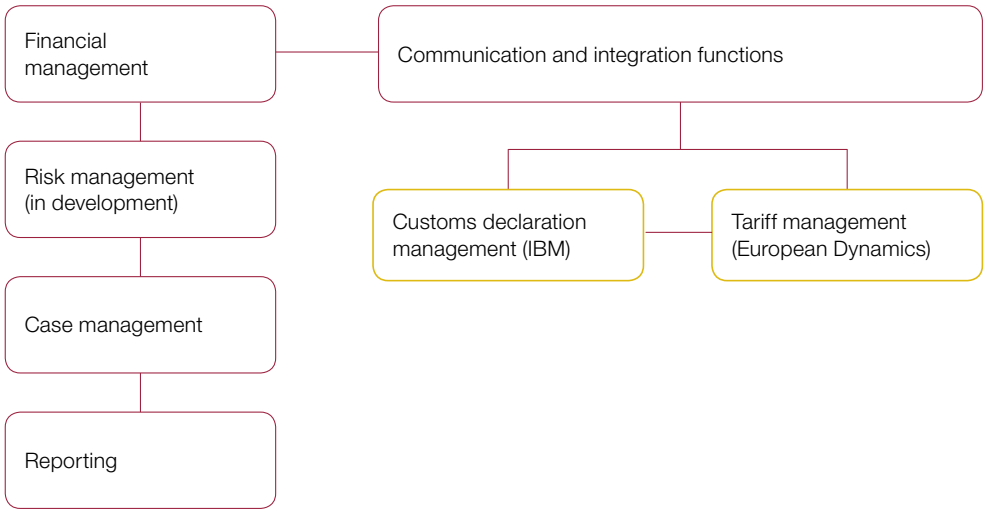
1.11 In March 2017, the government triggered Article 50 of the Lisbon Treaty having signalled its commitment to leave the EU single market and seek a new customs arrangement with the EU from March 2019. This means that importers and exporters currently trading solely within EU countries may need to start making customs declarations from 2019. HMRC currently estimates that, subject to the new customs arrangement agreed with the EU, the number of declarations it might need to handle annually could increase to around 255 million, with peaks and troughs throughout the year.[3] There is significant uncertainty attached to this current estimate, and numbers are subject to ongoing analysis and review as evidence improves. This estimate is based on current volumes of UK/EU trade. This estimated number of declarations is much more than the current capacity of the legacy CHIEF system and reinforces the need for the new CDS system.

3 Of these 255 million transactions, HMRC currently estimates that 138 million will be import declarations and 117 million will be export declarations. There is significant uncertainty attached to these estimates.

Figure 3

Logical model of the new Customs Declaration Service

The CDS system will bring together off-the-shelf products providing customs declaration management and tariff services with existing HMRC software



Source: National Audit Office analysis of HM Revenue & Customs information

1.12 Negotiating a new customs arrangement with the EU could also have implications for the way that UK and other EU country customs processes work. In terms of these processes, there are a number of potential outcomes from negotiations between the UK and EU. **Figure 4** overleaf shows that the CDS programme is currently set to deliver a system which will support the new customs arrangement from March 2019 in three out of four of those outcomes.

Figure 4

Assessment of the Customs Declaration Service compatibility with potential outcomes from the UK/EU negotiations

HMRC's current plans for CDS should be compliant with the Union Customs Code (UCC) and World Trade Organization (WTO) rules, however a bespoke deal with the EU may put the programme's timeline at risk

	UK/EU negotiation outcome	Consistency with current system designs	Compatibility with delivery timeline
1	A negotiated agreement to remain compliant with the UCC. This could include a transition period.	Consistent	Compatible
2	No negotiated agreement and no transitional arrangement in place, with trade governed by WTO rules.	Consistent	Compatible
3	A bespoke negotiated agreement which varies minimally from the UCC.	Inconsistent	Likely to be compatible
4	A bespoke negotiated agreement which varies significantly from the UCC.	Inconsistent	Unlikely to be compatible

Source: National Audit Office analysis

1.13 CDS will be compatible with the UCC and World Trade Organization (WTO) rules. However, HMRC will review the implications of a negotiated agreement which varies from the UCC by using its established change control procedures. Although the new system is designed to be more flexible than the existing system, a negotiated agreement which varies from the UCC introduces an element of uncertainty and may require changes too late in the programme timetable to ensure delivery by January 2019. HMRC could manage some changes associated with a bespoke agreement relatively easily, for example a simple change to tariffs. More significant changes such as a new customs data model will be more challenging to implement in the current delivery timeframe. Such changes could mean HMRC has to rely on contingency arrangements for a period of time, or require a negotiated transitional period beyond March 2019 to implement all the necessary changes.

Part Two

Customs Declaration Service programme delivery

2.1 This part covers the current status of the Customs Declaration Service (CDS) programme and the risks and issues that we believe are currently the highest priority for HM Revenue & Customs (HMRC) to manage.

Timetable

2.2 HMRC started planning to replace CHIEF in 2013-14. It is currently carrying out technical development work and plans for the first users to make declarations in CDS from August 2018. HMRC intends that all users will make customs declarations using CDS by January 2019 and expects the programme will finish during 2021-22 (**Figure 5** overleaf).

Changes to the timetable

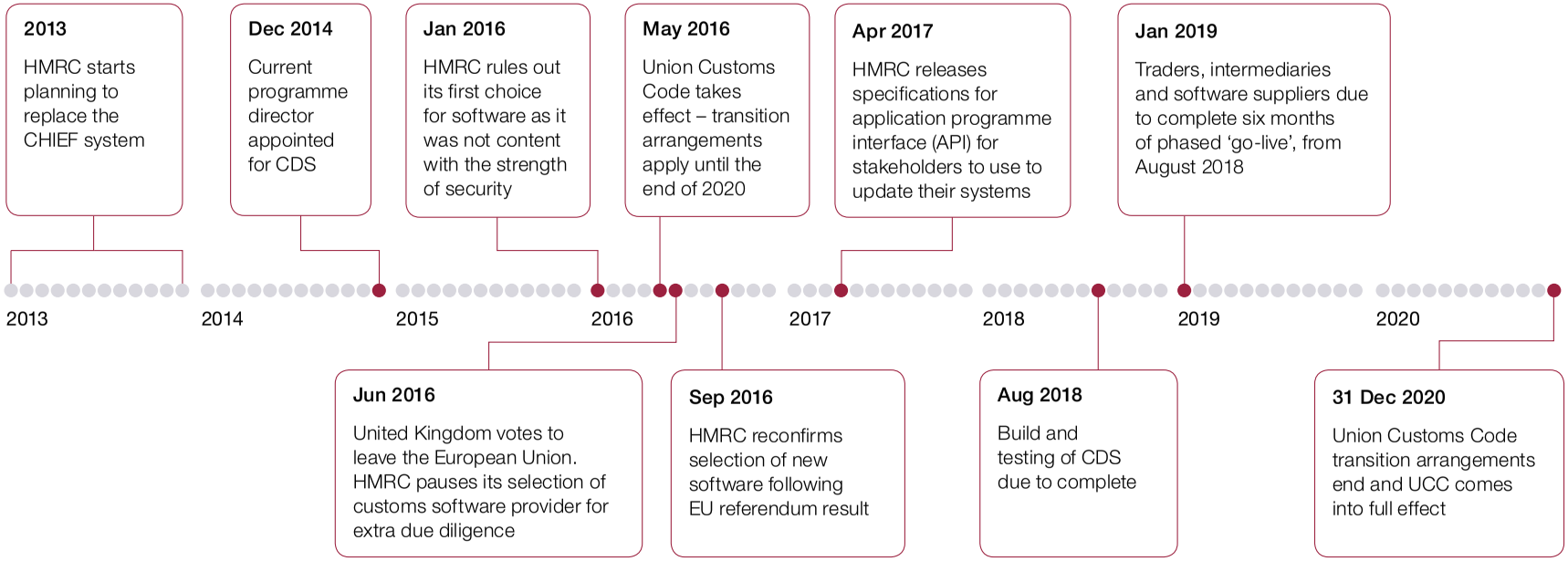
2.3 When HMRC started the CDS programme it expected to replace the existing system by early 2017. A number of changes have contributed to the new timetable.

- **HMRC decided to change the system's main database**, choosing a database that was consistent with HMRC's strategic direction to consolidate databases onto a single technology.
- **HMRC was not content with the strength of security in its first choice software** obliging it to select a different software provider.
- **The UK voted to leave the European Union (EU)**, requiring HMRC to carry out further due diligence on the selection of one element of the software.

Figure 5

Timeline of key events of the Customs Declaration Service programme

HMRC started planning to replace CHIEF in 2013 and the new service is due to be fully ready by January 2019



Source: National Audit Office analysis of HM Revenue & Customs information

2.4 Under European-wide transitional arrangements for the Union Customs Code (UCC), HMRC previously had until 31 December 2020 to adopt the code in full, giving additional time contingency for the implementation of CDS. Following the government's decision to seek a new customs arrangement with the EU, the new CDS system needs to be in operation by March 2019. This means the final deadline for completion of the programme has been brought forward by 21 months.

2.5 As a result of these changes, HMRC has lost significant time contingency and has around three years less time to develop, test and roll out the new system than it did when it started the programme.

Programme costs

2.6 HMRC updated its estimate of the cost to deliver CDS in March 2017. The latest business case shows expected total costs of £157 million by 2022. The programme currently includes 201 FTE, of which 73 are core programme and 128 technical resources.[4] To date HMRC has spent £48 million on the CDS programme. **Figure 6** provides more detail on the programme costs.

Figure 6

HMRC's estimated costs to complete the Customs Declaration Service programme and actual costs incurred to date

HMRC has currently spent £48 million developing CDS against a planned total cost of £157 million

Cost element	Estimated cost (£m)	Actual cost to date (£m)
Resource	69	21
Capital	64	27
Total cash cost	133	48
Non-cash	24	0
Total cost	157	48

Notes

1 HMRC's estimate of total costs has increased from £144 million (including non-cash costs of £29 million) in the previous business case, approved in October 2015.

2 HMRC's early estimate of CDS costs in its strategic outline business case was £75 million (including non-cash costs of £4 million), however this figure did not include certain running costs or non-cash costs beyond 2017-18.

3 The primary objective of CDS is to replace CHIEF with a more flexible and strategically compliant service and is not in itself aimed at generating benefits. However, HMRC expects to achieve some benefits that partly offset the costs. The net cost of the programme, discounted to net present values, is £113 million.

Source: HM Revenue & Customs data

4 This does not include 48 known current and future vacancies. The total resource requirement for the programme has moved over time as needs have been clarified and in line with the skills required at each stage of delivery.

2.7 The CDS business case does not include some costs that it may incur. For example, the programme business case provided funding to create CDS with a capacity to process up to 150 million declarations each year. However, following the EU referendum result in 2016, HMRC currently estimates that CDS might need to handle in the region of 255 million declarations a year. HMRC is seeking funding for this increased capacity through its separate Border Systems Programme.[5] The CDS business case does not provide contingency for changes to CDS requirements that may result from negotiations with the EU and any associated costs for business change or technology development, testing and roll-out. It also does not include costs to upgrade the CHIEF system to develop contingency options.

Governance and assurance

2.8 HMRC's Director General Transformation is the programme's senior responsible owner and chair of the programme board. The Director General Transformation is also on HMRC's Executive Committee and is a member of an HMRC board committee examining the implications of the UK leaving the EU.

2.9 In November 2015, the Infrastructure and Projects Authority (IPA) undertook a project assessment review (PAR) and rated its confidence in the CDS programme as 'amber' – meaning that successful delivery appears feasible but significant issues require management attention.[6,7] The IPA has subsequently undertaken three 'critical friend' reviews of the CDS programme, with the most recent taking place in May 2017. These are limited lighter-touch reviews following up on previous actions raised.[8] None of these have changed the IPA's overall confidence rating. The CDS programme is one of 143 projects and programmes within the Government Major Projects Portfolio.[9] It is also subject to review and approval by the Major Projects Review Group as one of the higher-risk major projects or programmes.

5 The Border Systems Programme focuses on the changes needed to those IT systems that operate at the border (customs, excise and VAT) following the UK's exit from the EU.
6 A PAR is the assurance review used by the IPA to inform Major Project Review Group (MPRG) panel meetings, particularly at key approval dates in the programme. The review typically lasts 3 to 10 days depending on the scope of the review.
7 The full definition of the IPA's amber rating is: "Successful delivery appears feasible but significant issues already exist, requiring management attention. These appear resolvable at this stage and, if addressed promptly, should not present a cost/schedule overrun."
8 Critical friend reviews took place in February and June 2016, and May 2017.
9 Infrastructure and Projects Authority, *Annual Report on Major Projects 2015-16*, July 2016.

Major progress, issues and risks

2.10 Since establishing the programme in 2014, HMRC has made progress on the design of the new CDS. Specifically, HMRC has:

- **prepared and updated a business case**: this has quantified the costs, benefits and strategic rationale for the programme as well as setting out how HMRC will manage the programme;
- **procured major suppliers**: this has included the selection of its customs declaration management software (provided by IBM) and tariff calculation software (provided by European Dynamics);
- **evaluated the impacts of the EU referendum on its supplier selection and overall approach**: HMRC decided to focus on implementing the UCC as it thought this provided the best trade-off between certainty, which allows the programme to make progress, and flexibility for any future customs regime;
- **designed an overall service model and started the technical work to create it**: this includes its release of technical specifications for software providers and intermediaries to develop tools to submit their customs declarations into the new CDS; and
- **carried out high-level planning for the overall programme**: this is supported by more detailed planning for the programme in successive short-term planning windows.

2.11 The CDS programme still faces a range of challenges across key areas, including its programme management, stakeholder engagement and systems development. **Figure 7** on pages 22 and 23 summarises these challenges, which HMRC recognises.

Figure 7
Programme context, issues and risks

The CDS programme still faces a range of challenges across key areas

Programme context

Timetable

- HMRC plans for all users to make customs declarations through CDS by January 2019. The UK plans to leave the EU in March 2019.

System development

- The system will be a mix of off-the-shelf products and HMRC's existing products. This approach reduces implementation risk as individual products are known to work. For example, HMRC is reusing messaging, risking and financial components it uses elsewhere.
- The system will need to integrate with other HMRC systems and a range of third-party systems. It will need to provide information to 85 systems across 26 other government bodies.
- HMRC is directly managing the technical development and is carrying out this work using its own resources, independent contractors and the resources of its government technology company, RCDTS.

Stakeholder engagement

- HMRC is starting to engage with industry on transition planning to establish the scale of business change needed to deliver the new customs regime.
- HMRC has a forum for consulting businesses, the Joint Customs Consultative Committee, which is mainly focused on larger, well-established organisations.

Programme and scope management

- HMRC is using an agile methodology to manage the programme. This approach is consistent with government guidance and focuses on successively implementing small parts of the overall system within a clear framework. This also means that detailed plans are not prepared for the entire project but instead are prepared for each short-term (10-week) planning window.
- In March 2017, HMRC recalculated the number of system features it plans to implement from 968 to 519. HMRC considered that there were many duplicated and redundant features listed in its programme backlog.

Resourcing

- HMRC has prepared a business case that provides funding to create CDS with a capacity to process up to 150 million declarations each year. HMRC currently estimates that CDS might need to handle around 255 million declarations a year. Additional costs may be incurred to make changes to CDS requirements that result from negotiations with the EU.
- There are 201 people currently working on the programme including project managers and technical systems experts.

Note

1 This Figure only includes risks and issues from HMRC's delivery of the CDS programme as currently scoped. It does not include risks associated with the outcomes of UK/EU customs negotiations following the UK's decision to leave the EU, which are not yet known and are not currently within the scope of the programme. HMRC will review the implications of a negotiated agreement which varies from the UCC by using its established change control procedures. More detail on these considerations is provided in paragraphs 1.12 and 1.13, and Figure 4.

Source: National Audit Office analysis

Issues and risks

- **HMRC has only two months between its planned date to complete the transition to CDS and the date that the UK plans to leave the EU.** This provides little time contingency should the programme overrun or if unexpected problems occur. Transition from CHIEF is planned to start in August 2018, with all users expected to make declarations in CDS by January 2019.
- **HMRC is in the early stages of integrating a number of new systems with each other and with its existing technology, which could be challenging.** HMRC has chosen commercially available software for the management of customs declarations and the calculation of tariffs, which need to be integrated with its existing technology estate. System integration on this scale often raises unexpected issues and the window for testing can become highly pressured. HMRC has already identified issues with how the new software communicates and integrates with other parts of HMRC's technology. It could identify more issues as it continues to integrate these systems.
- **Core parts of the system work in other countries but have not been used at the scale and intensity the UK might need.** For example, the customs declaration management component is used in the Netherlands but is not integrated with other systems, as it would be required to do in HMRC, and handles only 14 million declarations each year. This component has been tested in laboratory conditions to cope with 180 million declarations, but the UK might need to process 255 million declarations each year. The UK may also process daily volumes several times greater than this component has handled before. Until this component is shown to work at this level and with the UK's specific systems, there is a risk that it may not meet the UK's requirements. HMRC has told us that it is working with Dutch authorities to understand lessons learned from their implementation.
- **HMRC currently lacks knowledge of important stakeholder groups.** HMRC currently lacks information on the third-party systems operated by key stakeholders. Based on trade statistics from 2015, it estimates that 180,000 new traders could be brought into the customs regime. HMRC knows little about the smaller and less established traders who might be affected by the customs changes for the first time. There is a risk that these users might not be ready to use the system by March 2019.
- **HMRC's plans to ensure traders are ready to use CDS are not yet fully developed.** HMRC has a high-level transition strategy, including a phased approach from August 2018 when the first users start to make declarations using CDS, but does not yet have a supporting detailed plan. HMRC does not know the current state of the systems used by its key stakeholders. It also does not know how many of the estimated 180,000 traders that currently interact solely within the EU will make customs declarations, nor their readiness to make declarations from March 2019. HMRC's transition plans will remain immature until it increases its knowledge about its stakeholders.
- **HMRC has a high-level plan that sets out 13 key milestones through to January 2019.** It is managing the programme with a high-level overview of activities and milestones supported by detailed plans for rolling 10-week periods. This approach requires skilled technical and project management staff trained in this methodology. It also relies on plans being regularly maintained and monitored to ensure changes do not result in slippage of key milestones and management has a clear view of project progress, issues and risks. HMRC must continue to closely maintain the plan going forward to ensure overall delivery is not delayed.
- **The programme risks not having a clear scope or knowing how much work is still required.** The uncertainty around the negotiations for a new customs regime, combined with the programme management challenges already highlighted, mean that there is a risk that management does not have a clear view on the amount of work still required.
- **CDS may incur additional costs that are not covered in the programme's business case.** HMRC is seeking funding for the additional volumes it may need to handle through its separate Border System Programme. It plans to seek additional funding for requirements relating to the UK's exit from the EU as negotiations progress. The CDS business case does not include costs to upgrade the CHIEF system to develop contingency options.
- **The programme has been operating with significant gaps in staff resources.** At the end of March 2017, there were 67 vacancies in the programme with 9 required immediately to prevent an adverse impact on delivery of the programme. By 27 June 2017, the vacancies had reduced to 48 with 4 required immediately. These totals include some planned future resource requirements.

Part Three

The impact and management of risks

3.1 This part covers the potential implications of the identified programme risks and their potential impact. It also covers HM Revenue & Custom's (HMRC's) contingency plans and briefly considers wider border considerations that are outside the scope of the Customs Declaration Service (CDS) programme.

The potential impact of programme risks

3.2 HMRC is working to manage the risks and issues outlined in this report to deliver CDS by January 2019. As part of this, HMRC has adopted a programme management method for agile programmes, known as SAFe.[10] The method aims to help organisations implement large-scale, business-critical systems in the shortest possible time. HMRC is using this method along with other agile techniques, such as visual management, regular meetings and control rooms, to help manage programme risks. HMRC believes that this method, combined with the skills and capabilities of its staff, mean that programme risks and issues will be effectively managed. The Infrastructure and Projects Authority (IPA) also considers that HMRC could successfully implement CDS by January 2019 if it addresses the significant issues that currently exist.[11] Nevertheless, if the risks outlined in Part Two materialise without adequate contingency plans in place, there are four main implications for the customs process in the UK:

- **Revenue**. There is a risk to the accurate collection of revenue (excise, customs duty and VAT) currently worth £34 billion. The total revenue to be collected may change depending on the outcome of negotiations between the UK and the EU. For example, there could be changes to the tariffs and the range of goods that might attract customs duty.
- **Stakeholders**. There is a risk that traders and intermediaries are not adequately prepared with the processes or software to engage with the new system. This could affect the flow of trade and business confidence. Traders will risk fines and delays if they do not comply with new customs procedures.

10 Scaled Agile Framework.
11 The CDS programme was given an amber rating by the IPA in its project assessment review in November 2015.

- **Trade**. In 2015, nearly £700 billion of goods crossed the UK border and the continued smooth operation of these crossings is critical to the UK's economy and consumers, for example maintaining the trade flow of perishables such as food products. There is a risk of disruption to the flow of goods between the UK and Europe if a working system is not in place, or if it cannot handle the estimated increase in volumes, by the time the UK leaves the EU. This could also affect the government's plans to increase international trade.
- **Reputation**. There is a risk of reputational damage for the UK. There is also a risk that businesses and governments are less inclined to work collaboratively with the UK.

Contingency plans

3.3 If CDS is not ready by March 2019, HMRC is considering whether it can use the CHIEF (Customs Handling of Import and Export Freight) system to continue processing customs declarations. CHIEF is currently designed to handle a maximum annual volume of 100 million transactions. HMRC is considering options to increase the capacity of CHIEF to handle the 255 million transactions it estimates it could need to process in 2019-20. HMRC believes CHIEF could be upgraded to handle the additional volumes, but does not know whether it would be able to deliver all the necessary functionality in CHIEF.

3.4 If CDS is partly ready but not fully operational by March 2019, HMRC is considering using CHIEF and CDS together to process different types of declaration. In developing CDS, HMRC is prioritising the processing of declarations which are made once goods have crossed the UK border (supplementary declarations). If HMRC is able to deliver the necessary functionality in CHIEF, as a contingency option it plans to use CDS to process these less time-critical declarations and use CHIEF to process declarations which need to be processed before goods can cross the border (frontier declarations). Frontier declarations make up 20% of current customs declarations; the remaining 80% are supplementary declarations.

Wider considerations outside the programme

3.5 A number of important wider considerations fall outside the scope of the CDS programme. We note these considerations below for completeness, but we have not considered them as part of this review.

3.6 The CDS programme does not cover all of the border systems that HMRC believes it will need to change to support the UK's exit from the European Union (EU). Changes needed to other systems fall within the scope of HMRC's Border Systems Programme. HMRC operates 57 systems to support the UK border, and assessed that 26 of those systems need to be amended in some way to accommodate the UK leaving the EU.[12]

12 Set out in the business case for HMRC's Border Systems Programme dated March 2017.

3.7 HMRC currently estimates that customs declarations could increase by about 200 million to a total of 255 million. However, HMRC considers that its customs resources or the checks carried out by Border Force would not automatically have to increase by a similar proportion, as the UK is able to vary its requirements based on its assessment of risk. HMRC aims to deal with as much of its customs control as it can through electronic checking and checks behind the border. The following considerations are outside the scope of the CDS programme:

- **Customs checks**. The CDS programme supports HMRC and Border Force customs checks but decisions on the level of checks, and any associated increases in resources, are outside the programme.
- **Other Border Force work**. Border Force carries out enforcement work on behalf of HMRC but also has other priorities, for example immigration checks.
- **Other border goods checks**. Other departments and agencies are responsible for other checks, for example for food safety, plant health and military goods.
- **Border infrastructure**. For example, at the Port of Dover and other border crossings which currently deal largely with intra-EU trade.

3.8 Customs authorities in the UK and the EU currently rely on a high level of cooperation to ensure the smooth operation of customs processes and trade. Changes to these processes in the UK, which would also potentially require changes by EU trade partners, are also outside the scope of the CDS programme.

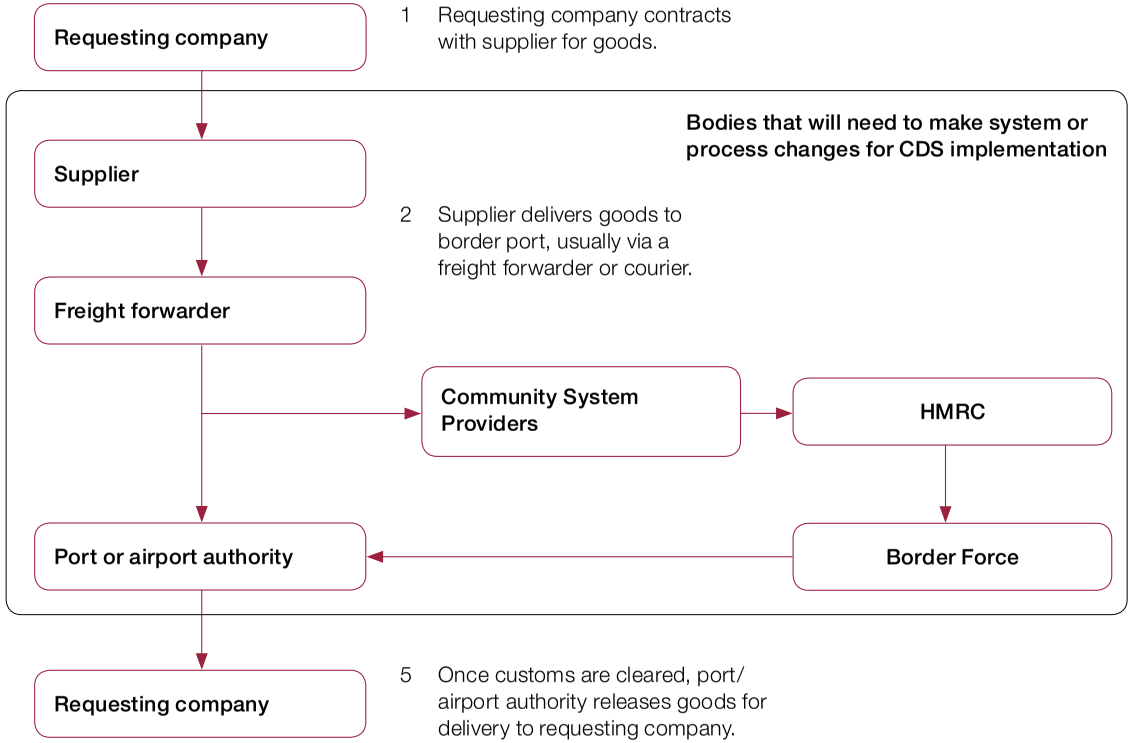
Appendix One

Simplified customs process flows for international trade

1 See **Figure 8** overleaf.

Figure 8
Import and export process flows (simplified)

A wide range of stakeholders are involved in the flow of goods through customs



Notes

1 Community System Providers (CSPs) are independent trade systems that directly serve hundreds of carriers, transit sheds and freight forwarders. They record and track the movement of goods within ports and airports and interface directly with HMRC's CHIEF (Customs Handling of Import and Export Freight) system. There are five main CSP operators in the UK.

2 Freight forwarders are people or companies that organise shipments of goods from producers and manufacturers to end users.

3 Customs agents offer a range of services to importers, exporters and carriers of goods, including customs clearance. HMRC estimates that there are approximately 2,000 customs agents operating in the UK.

4 A small number of software providers supply systems that interact with CSPs and HMRC. For example, the Association of Freight Software Suppliers (AFSS) lists 29 members representing "many of the leading suppliers of software to the freight and transportation industry".

Source: National Audit Office

Appendix Two

Our audit approach and evidence base

Scope

1 This report looks at HM Revenue & Customs' (HMRC's) development of the new Customs Declaration Service (CDS). It sets out details of the current customs process in the UK, the programme put in place by HMRC to implement the new system and our assessment of some of the risks, issues and implications that HMRC will need to manage to successfully deliver the programme by January 2019. We have not evaluated the overall value for money of the CDS programme.

2 This report does not consider the changes which might be needed to wider customs processes, including infrastructure and resources, or changes that other government departments and agencies might need to make, as a result of the UK's decision to leave the European Union.

Methods

3 We reached our findings following a short review of the CDS programme in March and April 2017. In examining the programme, we drew on a range of evidence sources. We interviewed:

- the programme team in HMRC responsible for delivering CDS, including the senior responsible owner, programme director and programme management team, to understand the current status of the programme, governance arrangements and their assessments of the risks;
- key individuals in HMRC's customs directorate who will be responsible for the CDS system, to better understand the wider environment in which the implementation is taking place;
- senior individuals in HMRC's digital and technology directorate, to understand more about the technical delivery and system architecture;
- other members of the CDS programme board, including trade representatives and Border Force, to understand wider views on the programme;

- representatives from IBM and European Dynamics, suppliers of the new declaration management service and tariff system, to understand the technical systems in more detail; and
- operational teams currently involved in processing customs declarations in both HMRC and Border Force, to understand the potential impact of implementing CDS and their involvement to date with the new system.

4 We reviewed a range of documents and other types of evidence to further establish our evidence base, including:

- programme documentation, including business case documents, HMRC's Constraints, Risk, Assumptions, Issues, Dependencies and Decisions (CRAIDD) register, timeline and milestone charts, and contingency plans, to understand the nature of the programme and how it is being managed;
- technical papers, including strategic design documents and architecture plans, to understand the proposed design of the CDS system;
- evidence from other reviews of the programme, to understand the risks raised and recommendations made, including reviews by the Infrastructure and Projects Authority (IPA) and the Major Projects Review Group (MPRG);
- HMRC's contracts with the major customs and tariff software suppliers; and
- other publicly available information to familiarise ourselves with HMRC's plans and the wider customs process.

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