National Audit Office

REPORT

The Bank of England's Real-Time Gross Settlement system renewal programme

Bank of England

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Key facts

Around £790bn a day

average value of UK sterling transactions settled within the Real-Time Gross Settlement system (RTGS)

£431mn

total cost of RTGS renewal programme

9 years

time from announcement of intention to renew the system to launch of the new system

January 2016	announcement date of the Bank of England's (the Bank's) intention to modernise the RTGS
June 2023	implementation date of new payment messaging standard for CHAPS, the UK's high-value payment system, a major milestone for the renewal programme
28 April 2025	launch date of the new RTGS
5	number of priority areas for enhancement set out in the Bank's 2017 vision for the new RTGS, and where the Bank has delivered benefits with the new system. Priority areas were: resilience; wider access; interoperability; user functionality; and end-to-end risk management of CHAPS
4	number of replans required to renewal programme, in response to internal and external factors
20 years	period over which the Bank will recover renewal costs from system users, which include payment service providers, banks, building societies and other financial service providers

Summary

Introduction

1 The Bank of England (the Bank) operates the Real-Time Gross Settlement system (RTGS), which provides settlement services for sterling payments in the UK, worth around £790 billion a day. ‘Settlement’ is the stage of finalising payments by completing the transfer of funds between relevant parties. The RTGS therefore underpins the UK’s sterling payment systems, including CHAPS (the UK’s high-value payment system) and retail payment systems, such as Bacs.

2 The RTGS is vital in ensuring monetary and financial stability and government has designated it as critical national infrastructure (CNI). The system was introduced in 1996, and is used by banks, building societies, payment service providers (like Visa) and other types of financial providers (such as Wise) to settle payments.

3 In January 2016, the Bank set out its intention to modernise the RTGS. In 2017, it published *A blueprint for a new RTGS service for the United Kingdom* (the Blueprint), setting out its vision and five priorities for the new service: resilience; access; interoperability; user functionality; and strengthened end-to-end risk management of CHAPS.

4 In 2016, the Bank established the RTGS renewal programme (the programme), contracting with Accenture as its technical delivery partner in 2020. In April 2025, it successfully launched the new system.

5 The Bank recovers the operating cost of the RTGS from its users via a tariff of charges. From 2025, the Bank has increased the tariff to recover the costs of the programme over a 20-year period.

Scope of this report

6 This report examines whether the Bank managed the RTGS renewal programme effectively and efficiently to achieve a new system resilient to future developments and risks, and whether it has identified wider learning from the programme. This includes:

- whether the Bank developed a clear vision and strategy, with effective governance, accountability and decision-making arrangements, for the programme;
- whether its management of the programme was effective, efficient and sufficiently adaptable to change; and
- whether the Bank is applying learning from the programme to future development of the RTGS, as well as the Bank's wider digital transformation.

7 We did not undertake a detailed technical assessment of the new (or old) RTGS, although we did examine the programme's approach to gaining assurance over the technical design and implementation and, at a high-level, its approach to cyber security and resilience. We have not evaluated the role and ongoing operation of the RTGS and CHAPS, although the report includes relevant contextual information, and some recommendations are relevant to future business-as-usual operations.

Key findings

What the programme has achieved

8 The Bank achieved its important aim of implementing a new, modernised RTGS. On 28 April 2025, the Bank launched the new RTGS, which incorporated the main features set out in the Blueprint, with capacity for improved functionality in the future. A major step towards modernising the RTGS was the migration of CHAPS to a new messaging standard for payments (ISO 20022), which includes more structured and detailed data and can improve interactions with other financial systems. The Bank completed this migration in June 2023 (paragraphs 1.7 and 3.10).

9 The Bank's approach to renewal addressed many common problems that we have identified in public sector digital programmes. The Bank's implementation of the programme was careful and well managed, successfully addressing a high number of risks and uncertainties. Its approach demonstrated good practice alongside innovative elements. We describe these positive elements in detail throughout the summary and main report (paragraph 1.9 and Figure 4).

Preparations for delivery

10 **The Bank invested significant effort upfront to set out the key detailed requirements for the new system before moving to design and implementation, which avoided issues that we have seen cause problems in other public sector digital change projects.** During the planning phase, the Bank ran an extensive internal process drawing on payments, technical and procurement specialists to specify requirements for the new RTGS, having consulted widely with stakeholders to understand priorities. It engaged with other central banks and CNI projects, along with using independent assessments, to inform key decisions about its approach. These decisions included building rather than buying an RTGS, appointing an external delivery partner, and implementing a new technology approach (paragraphs 1.6 and 1.14 to 1.16, and Figure 4).

11 **The Bank used a 'competitive dialogue' procurement approach which allowed it to refine the system design, drawing on a wide range of technical expertise.** The Bank's approach overcame many common issues that we have found in government's working with technology suppliers. It refined designs with three suppliers prior to awarding the main contract. The procurement included an innovative 'competed design' element, in which bidders designed and built a simplified payment system, to test their technical approach and responsiveness to customer needs. The Bank told us it was able to apply lessons from the dialogue process to shape the final design. The Bank awarded the contract to Accenture to design and build the new core settlement engine (a central component which processes payments) and core ledger (the record of financial accounts) for the RTGS. The contract also covered Accenture overseeing the integration of all the multiple components of the system. The Bank paid £125,000 to each of the two unsuccessful bidders towards the costs of the 'competed design' exercise (paragraphs 1.17 to 1.20 and Figures 4 and 6).

12 **The programme's governance and accountability arrangements contained a mix of executive, business area and technical involvement, supporting effective and timely decision-making.** The Bank adapted the programme's governance as it progressed. It first established the RTGS Renewal Committee (RRC), to provide strategic oversight, later replacing it with the Renewal Executive Board (REB), which had executive decision-making authority. The REB provided overall approval for go-live decisions, using set readiness criteria. It delegated the final go-live decision to the programme's senior owner and technical director, so that decisions were made by those with detailed knowledge of the programme's readiness (paragraphs 1.21 to 1.23 and Figures 4 and 7).

Programme management and delivery

13 **The Bank managed a high level of complex and evolving risks and interdependencies throughout the programme, including replanning when necessary.** The Bank operated a 'three lines of defence' model to manage risk, comprising internal assurance provided by the programme, the Bank's wider risk directorate and internal audit, and complemented by external assurance. It undertook four major replans of the programme, using them to address issues and continue towards its main objectives, while ensuring scrutiny and approval for increased costs and timelines.

- The first replan (winter 2021-22) was the most significant one, resulting from the need to shift the technology platform from one being developed for the wider Bank to a programme-specific one. The Bank also addressed several other risks to delivery, with a full reset of the programme, change in governance, and removal of a set of future enhancements from the scope.
- The second replan (winter 2022-23) was caused by an external 'shock' outside the control of the Bank. The European Central Bank (ECB) moved its migration date for the new messaging standard close to the Bank's date, creating too high a level of change for users to manage safely.
- The third and fourth replans (spring and autumn 2024) were related to technical issues with different components in the system, which required more time to test and resolve.
- The cumulative impact of the replans on the timeline was to delay the launch of the new system by around 18 months. This is at the lower end of the range of delays (between one and eight years) that we have observed in our work on government digital change programmes (paragraphs 2.2 to 2.6 and Figures 4 and 8).

14 **The estimated overall cost of the programme is £431 million, 15% more than originally planned.** In the programme's 2020 final business case, the approved budget was £375 million, of which 11% was contingency for identified risks, lower than the industry standard for similar projects. In our view, the Bank could have considered retaining a cost range at this stage or estimating a higher contingency to factor in 'unknown' risks, to better reflect the level of uncertainty. Around £23 million of the increase was caused by an external 'shock' manifesting (the change in the ECB migration programme date), which the business case made clear was not covered by the approved budget. Budget increases reflected the four replans, with the programme operating within approved costs between replans. In our view, the increase in cost was reasonable given the size and complexity of the programme, and the number of uncertainties and risks that the Bank had to manage (paragraph 2.7).

15 **The Bank actively managed significant resourcing risks throughout the programme.** The programme used a planned mix of Bank and external staff, reflecting the need to make use of internal RTGS payments and technical specialists, as well as external expertise. At its peak in 2022 and 2023, over 450 staff (headcount) worked on the programme. To secure the resources it needed, the programme operated its own staffing function, which worked with the wider Bank. The Bank recognised the potential for the programme to impact on other areas of its work, and we heard that at times this had happened. To manage staffing within the Bank's wider project portfolio, the programme regularly reviewed dependencies and engaged with other projects and programmes (paragraphs 2.10 to 2.12 and Figure 10).

16 **The programme fostered a transparent culture, with strong leadership and collaborative working between business and technical areas.** The Bank told us that building the right culture was an important enabler for delivery. Our interviews with programme staff highlighted strong positive business leadership, and individuals taking ownership and accountability for the programme. We also saw evidence of actions to encourage an open culture and foster collaborative working between payments and technology staff. For example, the programme had various channels for staff to raise concerns (paragraphs 2.13 and 2.16).

17 **The Bank established a successful and collaborative partnering arrangement with its technical delivery partner, Accenture.** The Bank's approach to its partnership model with Accenture addressed common problems we have identified in working with commercial partners. For example, the Bank actively sought to establish a collaborative working relationship, including allowing Accenture to attend senior governance meetings. The procurement process enabled the Bank to sign a largely fixed-price contract with Accenture. This allowed it to avoid unplanned cost increases, although there were a high number of contract changes (47). The Bank established a structured process to manage, negotiate and approve these changes (paragraphs 1.9 and 2.17 to 2.22, and Figure 4).

18 **The Bank implemented a new technology structure for the RTGS, supported by assurance and testing processes.** The previous RTGS used mainframe technology that depended on specialist hardware and scarce skills, making it difficult to adapt the system. The Bank believes it is one of the first central banks to build its RTGS using a more flexible and modern 'cloud-native' technology: the system is internally hosted but makes use of cloud-based technologies. Introducing the new technology structure increased the risk to delivery, which the Bank mitigated through, for example, a programme of internal and external assurance and testing, and planning delivery as a series of stages, each capable of operation in its own right (paragraphs 1.7, 1.14 and 2.23 to 2.25).

19 **Stakeholders we spoke to were largely positive about how the programme had engaged with industry, although there were more mixed views on the costs of renewal.** The Bank used a range of approaches to update and consult the financial sector about the programme. It also engaged with RTGS users to prepare them for the programme's major milestones, through user testing, dress rehearsals and monitoring industry readiness. Overall, stakeholders were positive about the programme's approach to engagement, describing it as open, collaborative and responsive. Stakeholders highlighted some areas for improvement, for example that the Bank should have provided earlier notifications about timeline changes and the impact on users. While some stakeholders told us that they were informed about the new costs and accepted the need to pay more for an improved system, others expressed concerns, for example, about the overall level of costs (paragraphs 1.11 to 1.12 and 2.26 to 2.29).

Future lessons, risks and developments

20 **The Bank operates and maintains the new RTGS, which involves a much more dynamic process of change.** In contrast to periodic upgrades for the old RTGS three or four times a year, the new RTGS can be upgraded more frequently. The Bank introduced a new operating model, incorporating an increase in resourcing, a more structured change management process, and capacity for continuous improvement. In our interviews, some stakeholders had concerns about managing this higher volume of anticipated change, and the cost and resource implications. While the new system has completed initial routine and upgrade activities without problems, the risks of significant issues cannot be completely eliminated. The Bank has put processes in place to manage technology obsolescence within the RTGS. However, some non-critical RTGS services depend on its wider IT systems, which have some long-standing obsolescence issues (paragraphs 3.2 and 3.4 to 3.8).

21 **There are new opportunities to enhance the system, although the Bank must resolve outstanding challenges before it can implement some improvements it has identified as important.**

- The Bank published a Future Roadmap in 2023, which identified three priority areas for future enhancements. The Bank is progressing plans to implement extended operating hours. It is also taking steps to test synchronisation (a functionality which allows the movement of funds in the RTGS to be coordinated with the exchange of assets in other systems). A third area is resilient channels, which includes enabling the RTGS to use alternative messaging networks, reducing dependency on the current single provider, Swift. The Bank's initial technical approach to set up an alternative network is no longer feasible, and it is considering alternative approaches.

- To widen access to the RTGS, the Bank has incorporated new technical features in the system alongside other changes, for example policies to establish new types of account. It told us it will be better able to judge the impact of measures to reduce the time taken and costs new users incur to join the system from the second half of 2026. Stakeholders we spoke to raised concerns that there are still potential barriers and disincentives, with some noting the importance of providing an additional network to Swift to support the system's resilience.
- Many of the stakeholders we talked to identified digital currencies as a key development affecting payments. We heard concerns that the Bank must ensure that the RTGS infrastructure is aligned with future policies around digital currencies and trends in their usage. The Bank's position is that the new RTGS can deal with different scenarios for digital currency settlement, although government and the Bank are unlikely to resolve key policy questions until at least 2026 (paragraphs 3.10 to 3.13).

22 The Bank has identified lessons from the renewal programme that it could apply to its wider management of transformation projects. Programme staff have shared lessons and provided support to other Bank projects. Although the programme was unique in terms of size and technical complexity, the Bank could apply elements to other transformation projects to support its ambitions to modernise its ways of working and operations. Lessons include the adaptation of governance and accountability arrangements, culture, and the role of digital specialists in decision-making (paragraphs 3.14 to 3.15).

Conclusion

23 The RTGS is part of CNI, providing a vital foundation to the UK's payment system and contributing to the resilience and stability of the UK economy. The Bank placed a high priority on the RTGS renewal programme combined with a low tolerance for failure, investing up-front effort in careful planning, design and procurement of the system. The Bank successfully launched the new RTGS in April 2025, at a cost of £431 million. Throughout delivery, the Bank managed a high level of risks and interdependencies, including replanning where necessary. The programme demonstrates good practice and innovation, which could be instructive for other digital projects as well as for the Bank's wider project management.

24 The new system secures the benefits anticipated for its launch and moves to a new technology better able to support future innovation. The Bank is progressing some improvements in the next two to three years and is considering priorities over the longer term. The way the Bank managed the RTGS renewal programme demonstrates value for money. The Bank's focus now must be on maintaining and enhancing the system to maximise benefits going forward.

Recommendations

25 To help maximise the benefits from its management of the renewal programme and implementation of the new RTGS, the Bank should:

a identify mechanisms for applying lessons from the programme to its other digital and business transformation projects to secure change, for example updating internal guidance or review processes;

b set out clear plans for ensuring the right investment and resourcing at the right time to keep the system up to date (including for wider Bank services that the RTGS relies on);

c as it manages a more dynamic process of RTGS change, ensure it understands the impact of higher levels of change on all RTGS users, to minimise this where possible; and

d assess and, where possible, evaluate the effectiveness of potential interventions in widening access and reducing barriers to entry to the RTGS, including the introduction of alternative access routes to Swift, to ensure it puts the optimum mix in place.