National Audit Office

REPORT

A digital BBC

BBC

SESSION 2022-23
14 DECEMBER 2022
HC 958

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A digital BBC

BBC

Report by the Comptroller and Auditor General

Ordered by the House of Commons
to be printed on 12 December 2022

This report has been prepared under Section 6 of the National Audit Act 1983 for presentation to the House of Commons in accordance with Section 9 of the Act

Gareth Davies
Comptroller and Auditor General
National Audit Office

9 December 2022

HC 958 | £10.00

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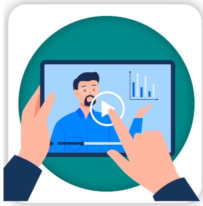
Key facts

552

the BBC aims for audiences to use its services for at least five hours a week, across at least five days, and on at least two platforms on both traditional broadcast and digital products

88%

the proportion of time that audiences currently spend engaging with the BBC through traditional television and radio broadcasting

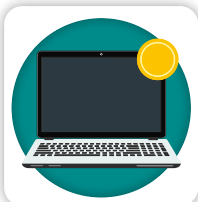


19.6mn

the average number of signed-in accounts using the BBC's digital services per week as of June 2022

£50 mn

planned additional investment each year in digital product development by 2025

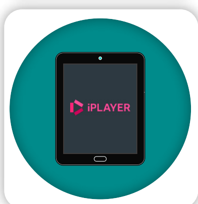


£98 mn

spent by the BBC on its digital product development in 2021-22, compared with £109 million in 2018-19 (in 2021-22 prices)

2.8%

the proportion of its revenue that the BBC estimates it spends on its product development compared with 8% to 11% of revenue spent by competitors



16%

the proportion of all BBC TV viewing that was watched on iPlayer in 2021-22 compared with 43% among 16- to 34-year-olds

Summary

1 The BBC is the main public service broadcaster in the UK. Its mission, public purposes, commitments and governance arrangements are set out in its Royal Charter. According to this, the BBC's mission is to inform, educate and entertain, and it provides a wide range of television, radio and digital services. Under its Charter, the BBC has five public purposes including providing impartial news and reflecting the UK, its culture and its values to the world. The BBC is independent of government but is sponsored by the Department for Digital, Culture, Media & Sport (DCMS), and regulated by Ofcom, the communications regulator. The BBC's Charter Agreement with DCMS provides further detail on many of the topics outlined in the Charter, including the BBC's funding and its regulatory duties. The BBC is primarily funded by the television licence fee, which gave it £3.8 billion of its £5.3 billion income in 2021-22.

2 Although 88% of the time audiences currently spend with the BBC is through traditional television and radio broadcasting, it has for a number of years sought to complement these with digital services. It launched its homepage in 1997, iPlayer in 2007, and now offers an array of apps and websites. The BBC now competes not only with television and radio broadcasters, but also with online providers, often based overseas and funded by private capital, including Netflix, Amazon Prime and Disney+, and audio services including Spotify.

3 The BBC sees its digital services as essential to its long-term future. In September 2020, the BBC's director general launched its *Value for All* strategy, a priority of which is extracting "more value from online". This means using technology and data to offer audiences a greater range of services through a portfolio of digital products including BBC News Online, Sport, iPlayer and Sounds. In October 2020, the BBC commenced a strategic technology review to determine its technology requirements for the following five years and beyond. Following this, in May 2022 it announced that it would be taking a new 'digital-first' approach. This will mean refocusing resources towards content that appeals to audiences who choose to view it both live online, and on any device at any time. In December 2022, the BBC's director general followed up on the May announcement by setting out its plans to move to an internet future with greater urgency. This will, according to the director general, require the BBC to transform faster to have a clear, market-leading role in the digital age.

Scope and purpose of this report

4 This study assesses whether the BBC has the capability to deliver value to its users from its strategic technology review. It examines whether the BBC strategy is evidence-based and supported by a practical, achievable delivery plan, and whether the BBC can demonstrate that it has sufficient and appropriate resources to deliver that plan. The report also examines the BBC's progress in implementing its digital plans to date and considers the challenges it faces. This report has the following three parts:

- Part One: the BBC's digital leadership and strategy.
- Part Two: the BBC's digital resources.
- Part Three: the BBC's progress and challenges in implementing its digital plans.

This report does not explore issues around content at great length. We have not audited the BBC's new digital-first strategy launched in May 2022 but have used it to provide context and explain its broad ambitions.

Key findings

The BBC's digital strategy and leadership

5 The BBC has clearly set out its vision for using digital technology and data to improve the services it offers. The BBC has set out how it plans to use technology and insights from data to improve access to its services and offer users a more personalised experience. The BBC considers itself to be a "valued daily habit" with audiences and set an additional goal for this, adding to its existing audience measures, in 2019. It now measures how many adults access its services at least five days a week, for at least five hours across the week, on at least two different modes of communication, such as radio, television or online. The BBC believes that its digital services will increasingly contribute towards this and has given preference to its 'priority services' (iPlayer, Sounds, News and Sport) (paragraphs 1.2 to 1.4, 3.8 and Figure 1).

6 The BBC has set out a plan for implementing its strategic technology review. One of the aims of the BBC's strategic technology review was for its technology teams to be able to deliver more effectively against goals set by its executive committee. The strategic technology review is entering the second year of implementation. The BBC's digital operations now have a new operating model, with its digital responsibilities split into three discrete functions:

- The technology group, responsible for the operation, security and innovation of the BBC's technology, through governing bodies such as the enterprise technology direction group and the technology investment committee.
- The product group, responsible for developing and delivering the BBC's audience-facing digital products, such as the News Online app, following a strategy set in partnership with the newly-established digital leadership group.
- Distribution and business development, responsible for managing the BBC's broadcast and online distribution and its relationships with distribution technology partners and suppliers.

This is the first time that the BBC has had a separate product group, which has been organised in line with industry standard practice. In his December 2022 statement, the BBC's director general set out the need for it to pursue further organisational change in pursuit of becoming a more digital organisation (paragraphs 1.5 to 1.8, 1.12 and Figure 2).

7 The BBC's digital leadership needs to evolve in line with its digital ambitions. Strong digital leadership is important to enable the BBC to make rapid progress in a challenging environment. In 2021, the BBC set up a new digital leadership group to help accelerate its digital growth. This group was established as a sub-group of the BBC's executive committee to ensure that digital was prioritised at the most senior levels of the BBC through regular reporting on the BBC's digital products and initiatives. The BBC is improving the information given to the executive committee on its digital activity and recognises that it needs to formalise digital governance further. We have, for example, only seen limited evidence that the BBC's executive committee is providing sufficient challenge to its digital leaders. In January 2022, following departures from the BBC board, the BBC recruited a new non-executive director with a background in technology to help, among other responsibilities, support and challenge its digital ambitions (paragraphs 1.9 to 1.13 and Figure 3).

8 **The BBC considers that having users sign into a BBC account is key to offering them a more personalised experience, and has made progress with this, but it does not yet have a plan for what personalisation will mean in practice.** Over the past nine years, the BBC has signalled that it sees personalisation as important to its future plans and key to this is sign-in, whereby users register for and use a BBC account to access digital services. In September 2021, it produced a sign-in strategy, with a target for 72% of digital product views to come from signed-in users by 2023. However, while the BBC has started to develop plans for how it could personalise some of its individual digital products and services, we have yet to see evidence that it has begun work on pulling together a comprehensive strategy for personalisation across the organisation (paragraphs 1.13 and 1.14).

9 **The BBC has not fully explored scenarios for any future shift to digital-only broadcasting.** The BBC is pursuing its digital ambitions while also maintaining its traditional broadcasting commitments, and uptake of digital services has been gradual to date. In 2021-22, for example, iPlayer accounted for 16% of all BBC TV viewing, whereas 73% of UK adults (in households with a TV) still watched BBC via traditional television broadcasting. At an operational level, the BBC has previously set out a commitment to stop broadcasting some channels and make them internet-only services, which it describes as making "difficult choices". In December 2022, the BBC's director general set out where the organisation should aim to be by the 2030s, and announced that the BBC would move to an internet future with greater urgency. The BBC recognises that it will need to work with government and other stakeholders to determine its future obligations and the extent of UK broadband coverage necessary to support its digital services and ensure nobody is left behind. The BBC has not yet fully examined the strategic scenarios for enabling this transition to digital-only (paragraphs 1.16 to 1.19 and Figure 5).

The BBC's digital resources

10 **The BBC's digital development funding is much smaller than many digital-only media organisations**. The BBC's overall spending on its digital product development has recently fallen, from £109 million in 2018-19 to £98 million in 2021-22 (in 2021-22 prices). The BBC is able to invest far less in its digital products than other media organisations, many of which are digital-only and are not constrained by the BBC's universal service commitments. In 2021, for example, Netflix spent £1.7 billion on technology and development. In consequence, the BBC has not been able to develop its product portfolio with the same pace and sophistication as that of rival media organisations. It has not, for example, been able to invest substantially in improving its audience metadata (data which provides information about other data, such as whether a sports programme is about football or cricket, which is useful for directing audiences to related content of potential interest to them) (paragraphs 1.18 and 2.2 to 2.5, and Figures 7 and 8).

11 **The BBC is finalising its investment plans for taking forward its strategic technology over the next five years.** In January 2021, the National Audit Office (NAO) recommended the BBC produce a long-term financial plan setting out funding for its new strategic priorities. In May 2022, the BBC announced a £500 million plan, in support of its 'digital-first' plans. Included in this was its expectation that by 2025 it will invest approximately £50 million extra annually in digital product development. The BBC has an internal plan in place to support this investment, but this currently lacks the detail necessary for taking it forward and it now needs to develop this. The BBC reports that this is being finalised as part of the budget process for its digital-first strategy (paragraphs 2.4, 2.6 and 2.7).

12 **The BBC has taken steps to drive greater value for money from its technology spending, but now requires a better picture of this.** To enable it to direct more resources towards audience-facing digital products the BBC has begun identifying where investment is likely to lead to greatest impact. The BBC's product group is developing a value-for-money measure for spending across all digital products, for example, but as of October 2022 had not completed this. Additionally, the BBC is required to maintain a broadcast presence for national resilience purposes and has put in place robust technology infrastructure arrangements for this. However, there is no evidence that these resilience arrangements have been regularly challenged to identify whether there is any scope to achieve savings (paragraphs 2.8 to 2.10).

13 **The BBC faces difficulties in recruiting and retaining specialist digital staff.** The BBC has successfully managed to retain and recruit highly skilled individuals in key digital positions. In common with many employers, however, it is experiencing technology staffing shortages and high turnover of staff. In its product group, the BBC had a 23% staff turnover rate as of June 2022. The high number of vacancies is slowing technical development. Owing to the number of vacancies in the search team, for example, the BBC has been unable to develop its search function further. This is in part due to the BBC's pay levels being lower than some other potential employers for technology professionals, although it does regularly review these pay levels, including through industry benchmarking (paragraph 2.11 and 2.12).

The BBC's progress and challenges in implementing its digital plans

14 **The BBC's digital products are performing well against better-funded media organisations.** The BBC sees itself as distinct in offering its users publicly funded, British content, but lacks the funds to offer the same amount of content as other media organisations, many of which are digital-only. Also, as we set out above, its more limited investment ability has restricted the technological sophistication of its products. The BBC has identified where it needs to make improvements, including in its search functions and content recommendations. Nevertheless, despite having less content and less sophisticated technology than other media organisations, the BBC's digital services are performing well. In 2021-22 most of the BBC's digital products achieved their targets. The BBC now plans for its digital services to be within at least the top three for market share in the UK in five years' time (paragraphs 3.4 to 3.7 and Figures 9 to 13).

15 **The BBC has not always been able to capitalise on technological innovation.** BBC iPlayer launched in 2007, the same year that Netflix launched its own, more limited, streaming service. The BBC did not, however, capitalise on the advantage it had at this point: for example, iPlayer use for 16- to 34-year-olds is now at around 25%. Although younger audiences also choose to access the BBC through traditional broadcast services, and 81% of this age group on average per week used the BBC's services in 2021-22, its iPlayer use in this age group is well behind Netflix's at 55%. Ofcom requires the BBC to assess the impact that any changes in its offering of content have on fair and effective competition. The BBC regards the relatively slow growth of its iPlayer audiences as partly attributable to the time that was necessary in 2019 to make this assessment when it was seeking to offer access to content on iPlayer for longer. It took more than a year to gain Ofcom's sign-off and for the BBC to increase the period for which programmes are available on iPlayer from 30 days to 12 months. The BBC's lack of pace has also been driven by it historically investing less on technological innovation than it regards as necessary (paragraphs 3.2 and 3.3).

16 **The BBC needs to continue attracting audiences in an increasingly fast-paced and dynamic global media environment.** With its new digital-first vision, the BBC has set out its aspiration of being distinctive by building a digital public service media organisation of scale. The BBC sees this as essential to its global role and has a target of reaching 500 million people weekly across the world by 2022. It is nearing this target and reached 492 million people each week globally in 2021-22. However, it operates in a highly challenging environment in which new technology emerges swiftly. A continuous challenge for the BBC's iPlayer developers is keeping up with new devices from which iPlayer can be launched. The BBC estimates that iPlayer was available on more than 20,000 types of devices in 2021-22, up from more than 15,000 in 2018-19. Similarly, new competitors can also emerge rapidly. Disney+ was launched in the UK in 2020 and is already used by 23% of 16- to 34-year-olds, whereas iPlayer is used by 25% of this age group (paragraphs 1.2, 3.14 and 3.15, 3.17 and Figures 14 and 15).

17 **The BBC's increased use of personal data exposes it to potential reputational risks.** To build a more personalised experience for its users, the BBC will need to increase its use of their personal data. The BBC plans to use these data to support commissioning decisions and to make tailored content recommendations, and needs to meet best practice and transparency in data-handling. There is potential for reputational damage if the BBC does not meet best practice in acquiring, storing and securing personal data, and being transparent about its use. In 2019, a BBC-commissioned report found it was only in the early stages of maturity in compliance with data protection legislation in its use of audience data. The BBC has improved its approach to users' data and data protection, including appointing a data protection officer and creating a central Data Protection Office team in 2019. However, in reviewing BBC planning documents on using customer data we found no references to its approach to the management and mitigation of reputational and other potential risks that could arise as it increases its use of such data (paragraphs 3.11 to 3.13).

Conclusion on value for money

18 Overall, the BBC's key digital products, and most notably iPlayer, have to date performed well. These levels of performance are impressive given available funding is considerably lower than other media organisations with which it competes for audiences, many of which are digital-only. The BBC now aims for its products to be within at least the top three in their fields within the UK and has signalled its intention to move to an internet future with greater urgency. To maintain its successes to date, and to achieve its targets for market share, the BBC will now need to fully develop its digital-first plans and realistically consider whether it has the resources it needs for this next challenge.

19 In planning for this next challenge, the BBC already has some solid foundations to build on. It has set out a clear vision for how it intends to use digital technology to improve the services it offers to its users. It has also, through its strategic technology review, established an operating model that includes a product group that is organised in line with industry best practice. Nevertheless, there are areas which the BBC must address if it is to keep up in a dynamic global media market. In particular, its digital leadership structures need to evolve. This should in turn help bring greater pace to tackling challenges such as the development of a personalisation strategy, including managing potential data risks.

20 The BBC should:

- **develop its leadership structures to ensure effective senior challenge of its digital projects.** The BBC's governance structures will need to evolve to ensure there is sufficient challenge to the corporation in terms of digital costs and opportunities and on the longer-term implications of decision-making. The BBC should regularly undertake a skills-based assessment of whether it has the right digital expertise in place at a senior level;

- **building on its December 2022 announcement, plan scenarios for how it could move between broadcast and internet services in the future.** The BBC should identify, working with relevant stakeholders, including those at risk of being left behind, scenarios for its proposed role of digital-only linear channels in the future. This should include how it may need to divest itself of more traditional broadcast technologies, setting out a trajectory for how it may need to move increasingly to internet services;

- **set out how it plans to develop its personalisation strategy, including managing potential data risks.** As it moves towards greater use of personal data and sign-in, the BBC now needs to fully develop a comprehensive personalisation strategy. This should include how it will manage potential compliance risks around the capture, storage and use of personal data, as well as how it will maintain transparency around this with its users; and

- **improve the detail that supports its digital-first investment plans.** The BBC should finalise work to underpin its May 2022 digital-first strategy. This should include developing a realistic, more detailed digital investment plan. In the light of its 2022 licence fee settlement, this needs to set out how savings will be achieved, whether further borrowing is required, and whether planned investment is sufficient to meet the estimated costs of its digital ambitions. The plan also needs to take into account forecasts of inflation, particularly where these are specific to the industry.

Part One

The BBC's digital leadership and strategy

1.1 This part of the report sets out the BBC's digital strategy, focusing on its 2020 strategic technology review.

The BBC's overall digital vision

1.2 In September 2020, the BBC's director general set out its *Value for All* strategy. A priority of this strategy is extracting "more value from online". This will require the BBC using data and technology to offer its audiences improved services such as search and recommendations through BBC Online and a range of apps. The BBC aspires to be a global digital public service media organisation of scale, and in May 2022 it announced its plans to become a 'digital-first' organisation. To deliver this, the BBC intends to reallocate money towards content that is appealing to audiences who choose to view it both live online, and on any device at any time. In January 2022, the BBC estimated that the licence fee settlement it reached with government that year would mean that its income would be £285 million lower each year by 2027. Funding for its digital plans will therefore partly need to come from efficiency savings. In December 2022, describing the BBC's vision for where it should aim to be by the 2030s, its director general set out the intention to move with great urgency to being an internet-only organisation.

1.3 The BBC considers itself to be "a valued daily habit" with its audiences. It defines this habit as adults using its services for at least five hours a week, across at least five days, and on at least two platforms such as traditional broadcast and digital products. It developed and introduced this metric in 2019, as an additional goal to its existing audience measures. In 2019-20, 54% of all adults using the BBC met this target as well as 29% of 16- to 34-year-olds. The equivalent figures for 2021-22 were 52% of all adults and 31% of 16- to 34-year-olds. The BBC believes that its digital services will increasingly contribute towards maintaining this goal.

1.4 The BBC has prioritised the funding of four of its digital products: iPlayer, Sounds and its News and Sport apps (**Figure 1**).[1] The BBC defines these as 'priority services', which it expects to be significant contributors to the value it aims to provide provide to its audiences by directing people to its content. Of these, the BBC regards iPlayer as its top priority. The BBC now plans to prioritise release of its content on iPlayer over broadcast scheduling, and also plans to triple investment into iPlayer product development by 2025. Additionally, the BBC has developed its homepage as what it terms a 'digital gateway', which is an existing service that can direct people to other sites. It also uses other avenues, which the BBC terms 'funnels'. This includes broadcast channels and social media, to help audiences discover what they are likely to regard as more valuable content.

The strategic technology review

1.5 Following its decision to prioritise funding for these key digital activities, the BBC undertook a strategic technology review (STR), starting in October 2020. This had the purpose of determining its resourcing and operating model technology needs for the five years after 2020 and beyond. The STR was also designed to set out how the BBC's technology, products and governance model would support the delivery of its *Value for All* strategy. The STR made three sets of recommendations, focused on:

- future skills mix;
- a proposed technology operating model; and
- efficiency savings.

1.6 The STR was implemented from early in 2021. Having set out the skills and operating model it considered necessary, the BBC recruited for a range of positions, including new chief technology and chief product officers. The STR also contained a plan for reprioritisation of the BBC's digital resources and led to the BBC putting in place new team structures in an effort to reduce duplication.

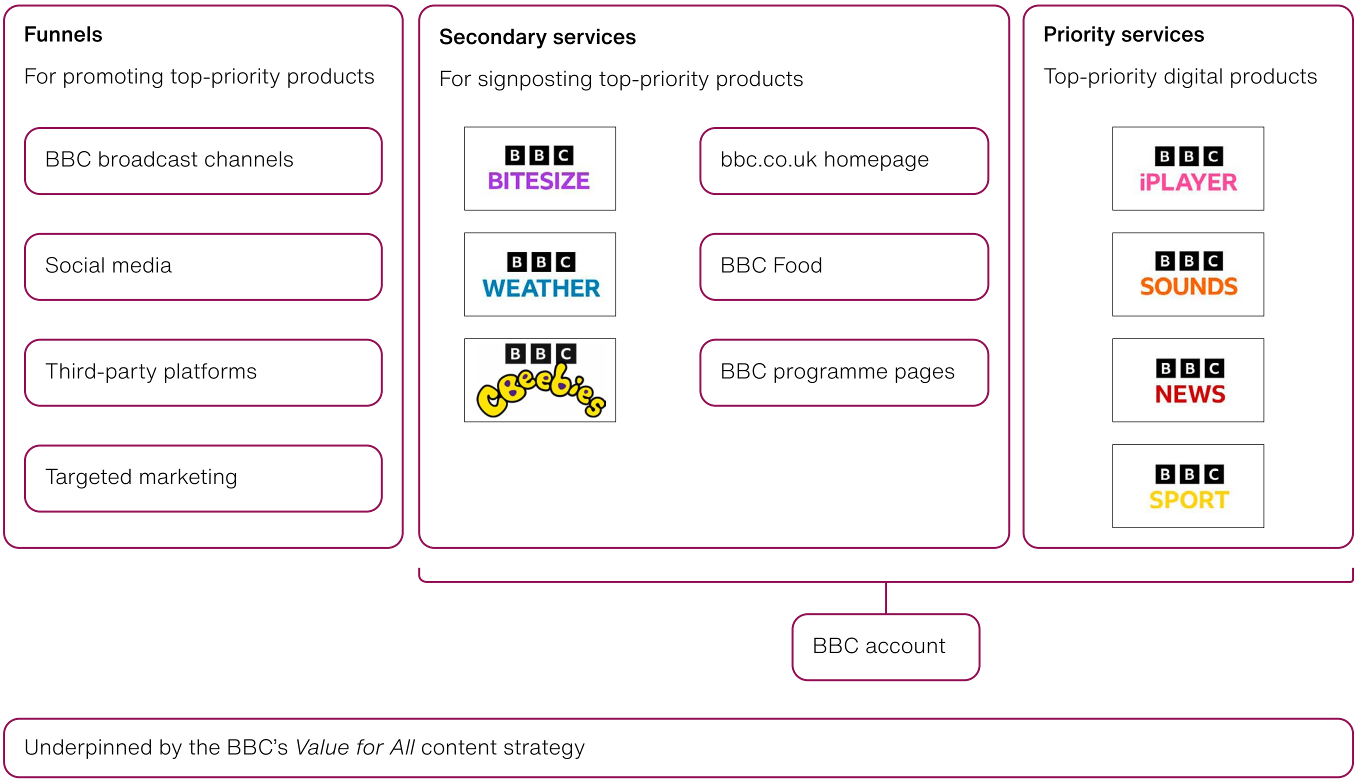
1.7 The BBC established a digital leadership group (DLG) early in 2021. This leadership group has the remit of being closely linked into senior management structures in order to encourage growth in the BBC's digital services. Also, as part of the STR, the BBC aims to make £11 million of savings from the reorganised operating model by 2023-24.

1 BBC iPlayer is a digital service through which audiences can watch all of the BBC's TV channels online, live and on-demand. It also includes shows from the BBC archives and online exclusives. Similarly, Sounds is the online home of BBC Radio used for live radio streams, on-demand programmes, podcasts, audiobooks and music mixes. The News and Sport apps and website offer live and on-demand BBC news and sports content to audiences. These are all available on a computer and handheld devices using the app or directly on their respective websites.

Figure 1

The BBC's digital portfolio including its priority and secondary services as well as its funnels

The BBC uses a variety of digital and non-digital methods to signpost audiences to its top-priority digital products to increase their usage



Notes

1 These are a selection of the BBC's digital products with a mix of mandatory and voluntary sign-in options via a BBC account.

2 The BBC's 'priority services' are those which it expects to be significant contributors to the value it provides to its audiences by directing people to its content. Secondary services refer to existing services that either meet a specific utility need, such as Weather, or meet the need of a specific life stage, for example, Bitesize.

Source: National Audit Office analysis of BBC documents

1.8 The new operating model split the responsibilities of the previous design and engineering division into three discrete functions, reporting to the group chief operating officer (**Figure 2**). The three functions are:

- the technology group, responsible for BBC technology operations and security, with governing bodies such as the enterprise technology direction group and the technology investment committee;
- the product group, responsible for developing and delivering the BBC's audience-facing digital products, such as news apps, in line with a strategy set in partnership with the newly established digital leadership group; and
- distribution and business development, responsible for managing the BBC's broadcast and online distribution as well as its relationships with distribution technology partners and suppliers.

This is the first time that the BBC has had a separate product group, which has been organised in line with industry standard practice. The BBC sees the product group as key to ensuring that resources are directed into the technology most likely to improve its users' experience. In December 2022, the director general of the BBC indicated that to help it become a more digital organisation, further change would be required, including the introduction of new operating models.

The BBC's digital leadership

1.9 Strong leadership and governance are key to the effective management of digital programmes. Our good practice guide for implementing digital change has found that when large business change programmes run into difficulty this is often at least partly attributable to lack of capability at the senior level.[2]

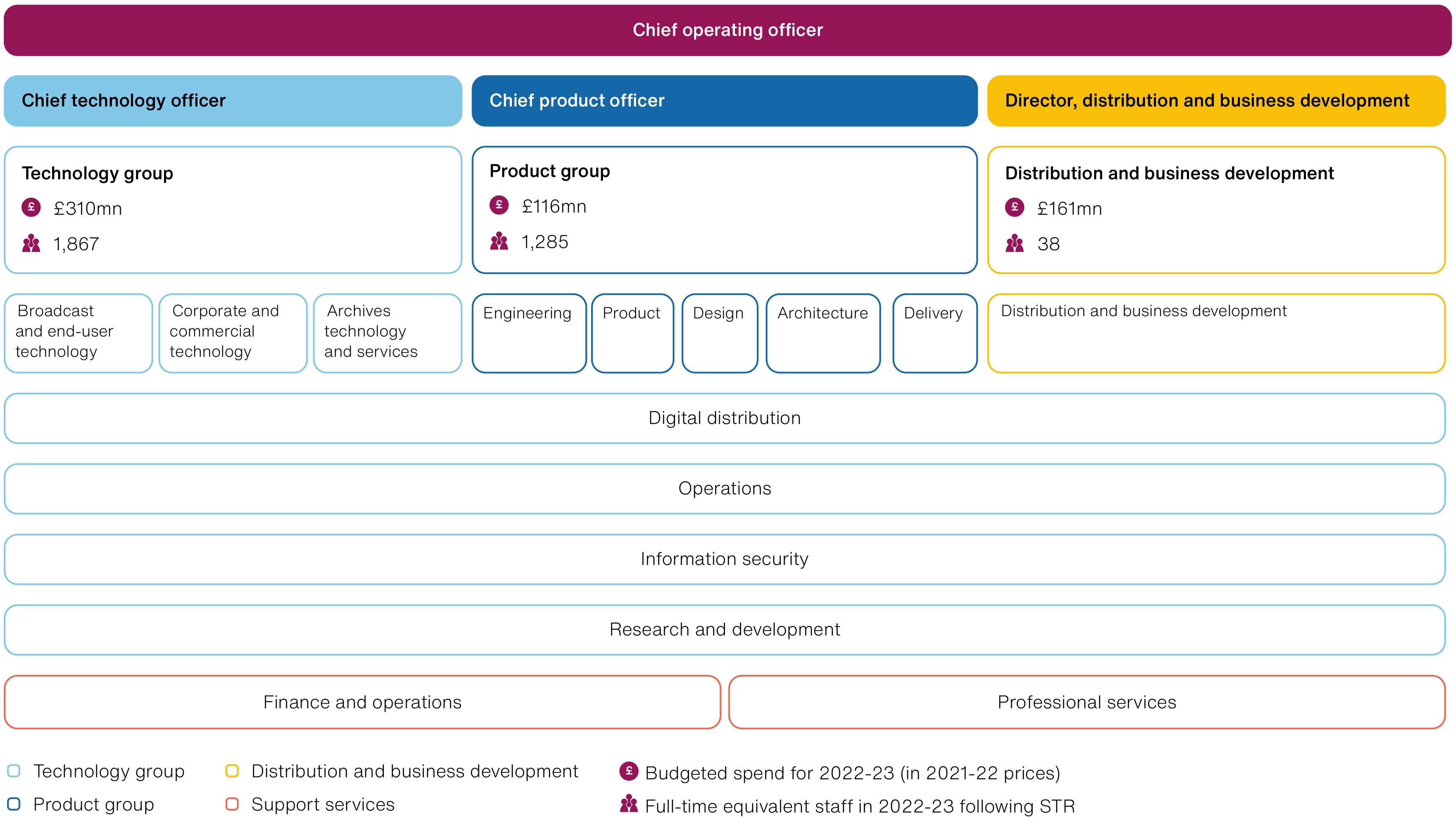
1.10 A key outcome of the STR was the establishment of the BBC's DLG in 2021. This group is responsible for overseeing the BBC's response to the digital challenges it faces (**Figure 3** on page 18). The purposes of this group include: enabling and accelerating the BBC's digital growth; improving focus, transparency, decision-making and digital resource allocation; and ensuring that digital is a priority for the BBC's executive committee. The DLG is designed to bring together both product experts and digital service leads in a single forum. DLG sits alongside a range of other committees and groups that provide input into its digital governance processes (Figure 3).

2 Comptroller and Auditor General, *The challenges in implementing digital change*, Session 2021-22, HC 575, National Audit Office, July 2021.

Figure 2

The new operating model for the former design and engineering division starting in 2021 following the BBC's strategic technology review (STR)

The BBC restructured its former design and engineering division into three discrete groups, introducing a new product group with a chief product officer. All three groups report directly to the chief operating officer



Note

1 Values are for Budget 2022-23 and are in 2021-22 prices using the latest GDP deflator as at September 2022.

Source: National Audit Office analysis of BBC financial and staffing data

Figure 3
The BBC's technical and digital governance as of November 2022

The BBC oversees the delivery of its digital ambitions through a mix of its board, committees, and specialist groups with varying responsibilities

BBC Board	• Responsible for ensuring the BBC delivers its mission and public purposes. • Sets strategic direction, creative remit and budget. • Has a non-executive director with a background in technology to help, among other responsibilities, support and challenge its digital ambition.
Executive Committee	• Responsible for delivering the BBC's services in accordance with the strategy agreed by the board, and for all aspects of operational management. • Responsible for review, challenge and decision-making. • Proposes annual budget to the Board for approval, including consideration of the trade-offs between broadcast and online, and where future technology funding should be spent. • Receives monthly dashboard reports including product dashboard and digital scorecard. • Receives monthly reports from the Operations Committee on key technology and cyber risks, as well as other operational issues.
Operations Committee	• Established as a decision-making and oversight sub-committee with delegated authority to provide assurance on delivery and implementation of the BBC's key strategic and operational priorities. • Reviews and assures reports on key operational risks and projects for the BBC, including technology projects, cyber-security and data protection. • The forum within the BBC where issues such as technology standards, accessibility, security and resilience are discussed. • Includes the chief product officer and chief technology officer as part of its core membership.
Digital Leadership Group	• Set up as a sub-group of the executive committee. • Enables and accelerates the BBC's digital growth; improving focus, transparency, decision-making, and digital resource allocation. • Ensures that digital is a priority at the heart of the BBC's executive committee through regular engagement such as undertaking deep-dives into digital products and supporting services as well as half-yearly perfomance reviews. • Brings together both product experts and digital service leads in a single forum. • Makes some decisions on prioritisation of spending and where to invest resources as part of executive committee-governed budget and half-yearly performance review processes. • Works on cross-BBC digital plans. Looks at features, options, and consistency across products and platforms.
Enterprise Technology Direction Group	• Focuses on prioritising technology portfolio investment. • Ensures alignment with strategic priorities and digital transformation strategy. • Provides transparency on transformation projects across the organisation. • Carries out some decisions if within its delegated authority and budgets.
Technology Investment Committee	• Approval of all technology investment of £500K+ including technology elements within BBC business cases or standalone technology investments irrespective of funding source, to ensure alignment with the technology strategy and ensure overall value for money for the BBC.

Note
1 The operations committee and digital leadership group work in parallel.

Source: National Audit Office analysis of BBC documents

1.11 The BBC acknowledges that its digital governance arrangements are not yet fully developed and will need to evolve in line with its digital ambitions. According to its initial draft terms of reference, the DLG is required to provide the BBC's executive committee with detailed reports on its digital products and other initiatives each month, to enable their effective scrutiny, as well as half-yearly performance reviews. The BBC's executive committee undertakes these half-yearly performance reviews. It also provides quarterly performance reports to the board. However, evidence we have seen of interactions between DLG and the executive committee suggests that these interactions have taken place on a more ad hoc basis than originally planned. The BBC recognises that it needs to formalise its digital governance: we have, for example, only seen limited evidence that the BBC's executive committee is providing sufficient challenge to its digital leaders. Additionally, the BBC is seeking to improve the intelligence that the executive committee uses to oversee the development of digital products. To achieve this, it has recently developed a monthly dashboard of its digital products which goes to the executive committee, in addition to the monthly digital scorecard.

1.12 The BBC has recognised that there is a risk that separation of the technology and product groups may lead to differing approaches to strategy and could create duplication, overlap and inefficiency. However, the BBC also considers that it has been working to mitigate this risk by ensuring close working and communication between the two groups as well as establishing clear boundaries and expectations of where functions sit. Beyond the DLG, the degree of challenge that the BBC's board and executive committee apply to the development of its digital products is also unclear. Based on the potential risks we set out in Part Three of this report, these should include the impact of technology or digital decisions on accessibility, and the reputational or technical risks of acquiring and holding users' personal data. It is unclear whether the board currently fully discusses and concludes on such digital-related issues. To strengthen its oversight capability in both digital and other areas, and following departures from the board, in January 2022 the BBC added a non-executive director to its board with experience of leading digital organisations. The BBC's executive committee needs to continue to strengthen its digital expertise.

Personalisation of services

1.13 To enable its digital services to become a valued daily habit, the BBC states that it has a strategic focus on personalisation across the organisation. However, its overall personalisation strategy is still evolving, as it has been for several years. In November 2020, an internal BBC report highlighted that over the past nine years, it had made repeated announcements about what personalisation means for the BBC. It had, for example, stated that personalised recommendations for iPlayer and homepage were in development. However, it had not supported these statements with coordinated action. The review also found that, although some progress on personalisation had been made, more could have been done to drive rigour and pace of progress. While the BBC has made progress in personalisation for individual products, and account holders can select whether to have a personalised experience or not within their BBC account settings, it has not yet developed a full strategy for this. The BBC was due to start developing its personalisation strategy in July 2021, following completion of work on its sign-in strategy, but by November 2022 we had yet to see evidence that the BBC has started this work.

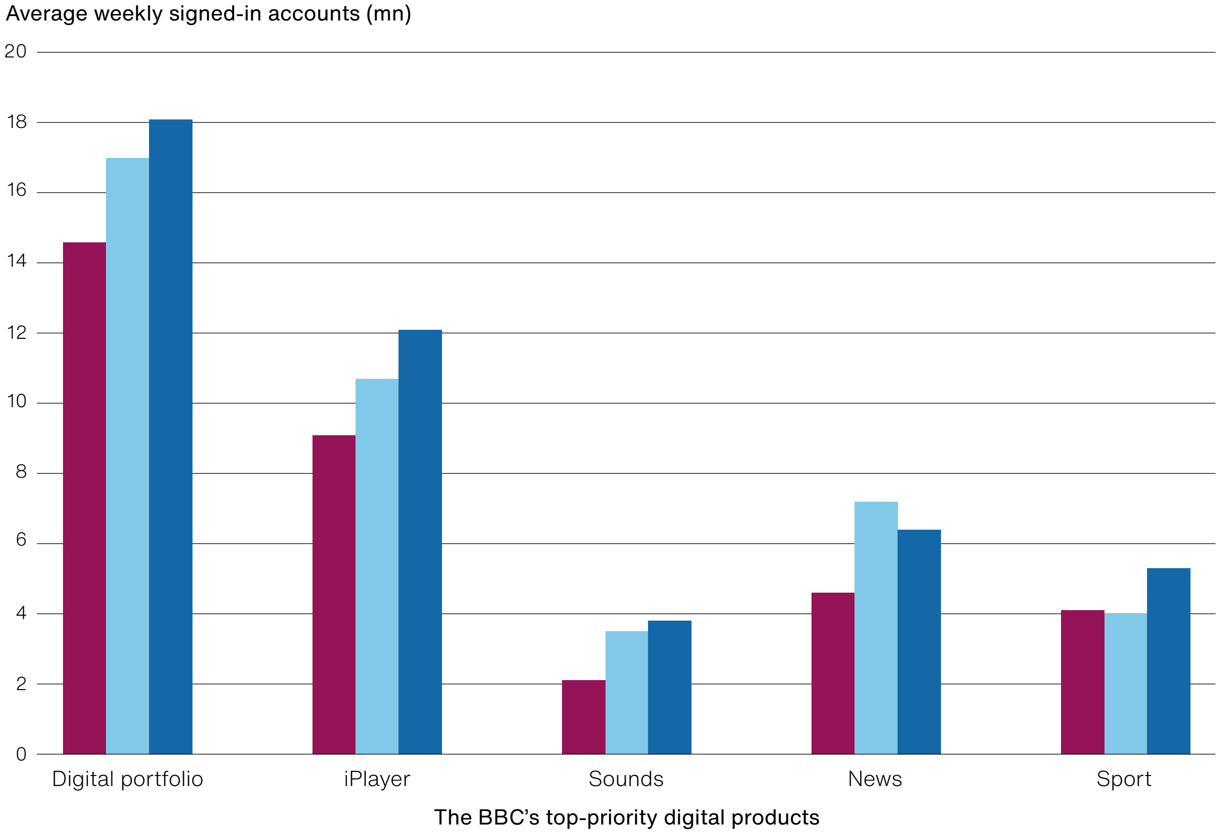
1.14 The BBC regards sign-in, whereby users register for and use a BBC account to access digital services, as key to providing its users with a more personalised experience. Through sign-in, the BBC can collect personal information about its users to understand their preferences. When used alongside recommendation algorithms, this should provide a user experience tailored to their individual preferences. The BBC does not believe that it is possible to compete digitally without knowing users' viewing habits. In September 2021, it produced a sign-in strategy, with a target for 72% of digital product views to come from signed-in users by 2023. It also has an overall goal of having 20.2 million weekly average signed-in users by 2022, growing to 23.5 million users by 2023. BBC Online's signed-in accounts increased from 14.6 million on average per week in 2019-20 to 18.1 million in 2021-22 (**Figure 4**). This has continued to grow and reached 19.6 million signed-in accounts in June 2022. The BBC has achieved this through a mix of mandatory sign-in for the iPlayer and Sounds apps and voluntary sign-in to services including its weather and homepage websites.

1.15 The BBC's digital vision fits with other strategies it has in place. For example, with its *Across the UK* strategy, the BBC is seeking to move significant investment as well as its people, power and decision-making away from London to the UK's nations and regions. In line with this, the BBC also intends to establish digital and technology hubs in different regions across the United Kingdom. Similarly, the BBC's environmental sustainability strategy means that it is working closely with the broadcasting industry to understand and reduce carbon emissions created from streaming digital media content. This alignment reflects the BBC's view that digital technology is central to its future activity.

Figure 4

Average weekly signed-in accounts (million) for BBC services, 2019-20 to 2021-22

Overall, the number of BBC signed-in accounts steadily increased across its digital portfolio between 2019-20 and 2021-22. However, Sport Online signed-in accounts fell slightly between 2019-20 and 2020-21 and News Online signed-in accounts also fell between 2020-21 and 2021-22



	Digital portfolio	iPlayer	Sounds	News	Sport
2019-20	14.6	9.1	2.1	4.6	4.1
2020-21	17.0	10.7	3.5	7.2	4.0
2021-22	18.1	12.1	3.8	6.4	5.3

Notes

1 The BBC contends that the COVID-19 pandemic made 2020-21 an exceptional year for News Online, so it is unsurprising that account sign-ins fell the following year.

2 A limited amount of live sport was shown towards the end of 2020-21 due to the pandemic.

Source: National Audit Office analysis of BBC Online performance data

Moving between broadcast and digital technology

1.16 The BBC needs to balance its greater emphasis on digital and on-demand viewing with the fact that most of its audiences still access it through traditional broadcasting. As of September 2022, 88% of the time that BBC audiences spent with its services was through traditional television and radio broadcasting. Digital viewing is increasing, as is demonstrated by usage of BBC iPlayer, which accounted for 16% of all BBC TV viewing in 2021-22, up from 13% in 2020-21. This is highest among 16- to 34-year-olds, for whom 43% of BBC TV viewed in 2021-22 was through iPlayer. There has also been a gradual decline in the average weekly amount of time that a person spends watching broadcast television, through traditional broadcasting methods at a set time (**Figure 5**). However, in 2021-22, 73% of UK adults (in households with a TV) still watched BBC TV on average per week, down from 76% in 2020-21. The highest proportions of people watching linear broadcast television are those aged 55 and over (91% in 2021-22) and adults who are disabled (81% in 2021-22).[3] In consequence, as the BBC invests in digital products, to serve all its audiences it still needs to maintain its traditional broadcasting presence.

1.17 The BBC must also balance its move to a greater digital presence with maintaining its critical national infrastructure responsibilities. Under obligations set out in the BBC's governing documents, such as its framework agreement with government and its Royal Charter, the BBC is required to take all reasonable steps to minimise the risk of disruption to the broadcast and distribution of BBC radio and television services. This requires the BBC to maintain a traditional broadcasting network because of the greater resilience it provides over digital and the universal coverage it enables.

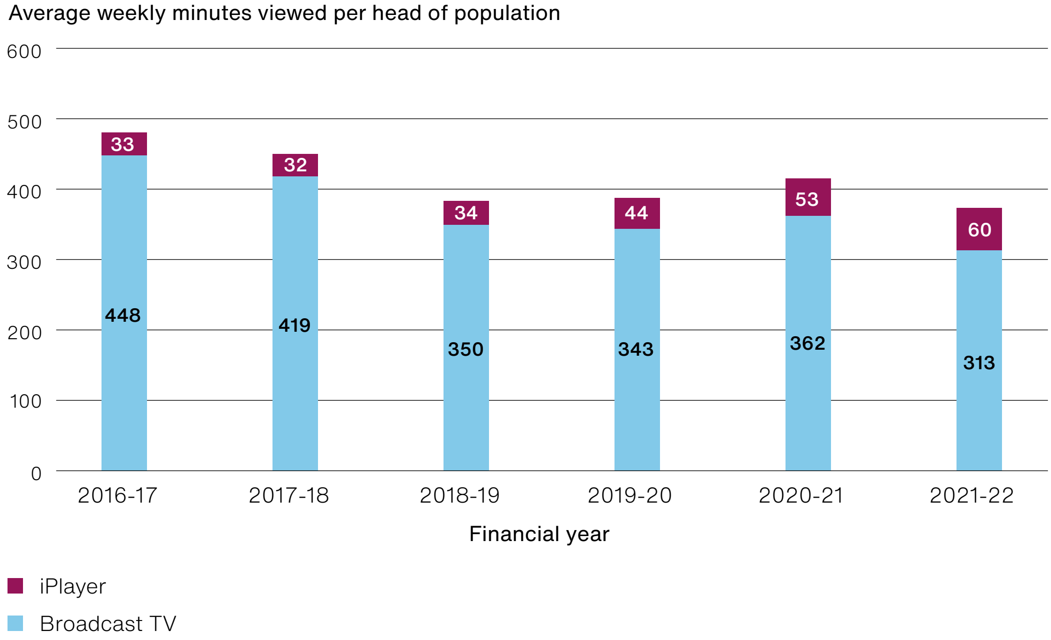
1.18 The BBC acknowledges that investing more in online services will require it to make tough choices about how to balance this with traditional broadcasting. It currently uses the same production infrastructure to distribute content for both its broadcast television and digital online channels (**Figure 6** on page 24). This means that in practice there may not be straightforward savings to be found from simply closing linear broadcasting channels. Additionally, the challenges that the BBC faces in taking such decisions with its audiences was highlighted by the example of BBC Three. In 2016, the BBC made the decision to take BBC Three off air as a traditional linear broadcast channel and make it internet-only. Six years later this decision was reversed on the grounds that BBC Three's move online reduced the BBC's impact with younger audiences – particularly those who still watched broadcast TV and were lighter users of on-demand services. The BBC recognises that it needs to learn the lessons arising from this decision to apply to any it makes in future. As part of its digital-first plans, it has set out its longer-term expectation that it will be able to share content more between its different services. The BBC has also set out plans to stop broadcasting smaller services such as BBC Four, CBBC and Radio 4 Extra, and move these entirely online before the end of its current Charter agreement in 2027.

3 This includes some programmes being watched on iPlayer on smart televisions. The figures for this cannot be isolated because of data limitations.

Figure 5

Average weekly minutes of BBC TV and iPlayer viewed per head of population between 2016-17 and 2021-22

Linear broadcast viewing has been declining while iPlayer viewing has been increasing. However, iPlayer is still a small fraction of overall viewing and has not yet compensated for the decline in overall TV viewing



Note

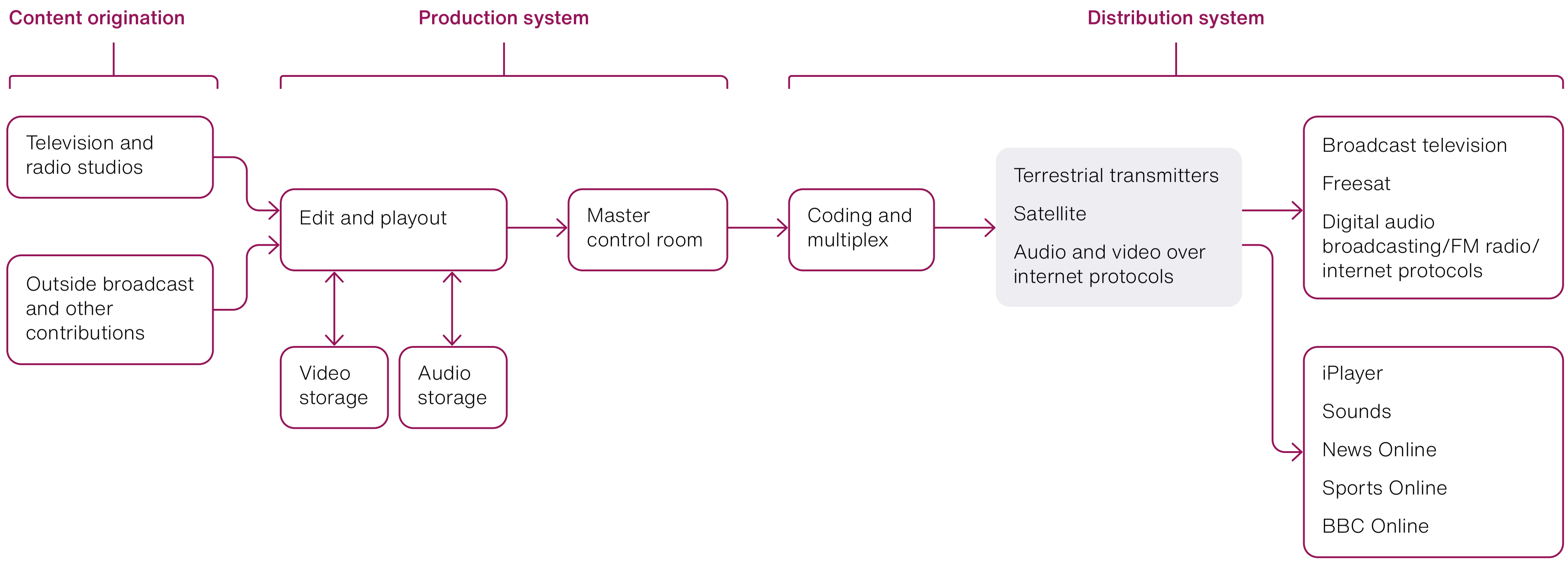
1 Linear broadcast viewing is where audiences consume content through traditional broadcasting methods, at a set time.

Source: National Audit Office analysis of BBC TV viewing data

1.19 In December 2022, the director general of the BBC, in setting out a vision for where it should aim to be by the 2030s, stated that the BBC would be active in future in planning for the switching off of traditional broadcasting. The BBC has, however, to date only conducted limited work planning out scenarios in which it could potentially move away from traditional broadcasting at a more wholesale, strategic level. Nor has it set out those older services which it will protect, or the wider implications of removing certain broadcast channels for access by disabled audiences and other groups at risk of being digitally excluded.

Figure 6
Overview of the BBC production and distribution system

The BBC uses the same production systems to provide content for its traditional broadcast distribution as well as its digital online channels



Source: National Audit Office analysis of BBC documents and site visits

Part Two

The BBC's digital resources

2.1 This part of the report examines the BBC's resourcing of its digital strategy.

Funding its digital strategy

2.2 The BBC is primarily funded by the licence fee, from which it received £3.8 billion of its £5.3 billion income in 2021-22. Following its January 2022 licence fee settlement with government, the BBC estimated in January 2022 that it will have a funding gap of £285 million a year by 2027-28, and that it needs to deliver £500 million of annual savings and reinvestment to achieve its digital-first ambitions. This funding gap was calculated on the basis of the licence fee being held flat in 2022-23 and 2023-24 with no links to inflation, followed by four years linked to inflation.

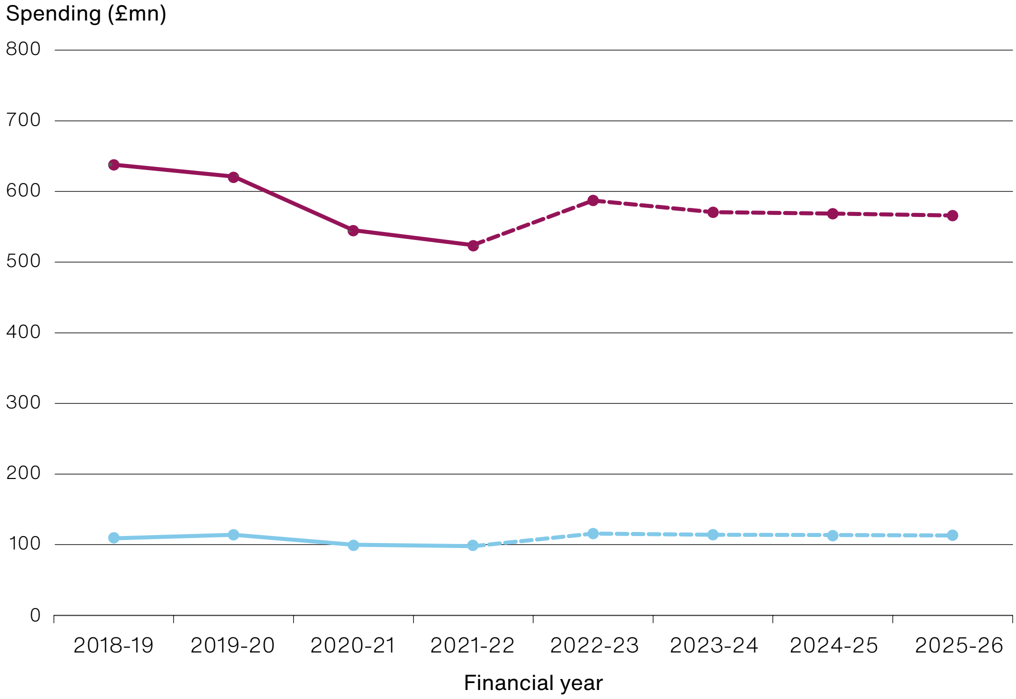
2.3 The BBC's spending on its technology, products and distribution covering broadcast and digital has been steadily declining, falling from £638 million in 2018-19 to £524 million in 2021-22, an 8% decrease (in 2021-22 prices) (**Figure 7** overleaf). This is despite the entertainment and technology industries being characterised by high levels of inflation. Following the strategic technology review (STR), the BBC plans to increase its overall budgeted spending for 2022-23 to £587 million (in 2021-22 prices).

2.4 The BBC's spending on its product development has also declined, from £109 million in 2018-19 to £98 million in 2021-22 (in 2021-22 prices). However, due to the renewed focus on the growth of its digital products, the BBC has budgeted £116 million to spend within its product group in 2022-23 (in 2021-22 prices). This includes an extra £10 million announced as part of its digital-first plans through to 2025. After this, the BBC expects to invest up to an additional £50 million a year into transforming its use of data, personalisation and user experience.

Figure 7

The BBC's spending on technology, products and distribution, 2018-19 to 2025-26 (2021-22 prices)

Total spending for technology, product and distribution has declined since 2018-19 whereas product group spend has been fairly consistent



	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
Actual technology, products and distribution (£mn)	638	621	545	524				
Forecast technology, products and distribution (£mn)					587	571	569	566
Actual product group (£mn)	109	114	100	98				
Forecast product group (£mn)					116	114	114	113

Note

1 Values are in 2021-22 prices using the latest GDP deflator as at September 2022.

Source: National Audit Office analysis of BBC financial data

2.5 The BBC's spending on digital product development is far lower than many other media organisations, many of which are digital-only (**Figure 8** overleaf). Direct spending comparisons are problematic given varying levels of transparency in the global media industry. Additionally, the BBC considers that it does not compete directly with privately funded global media firms, as these are based on different funding models, and the BBC has a range of universal service obligations that other media firms do not. The BBC also provides a range of services that its digital-only competitors do not, such as local radio and educational programming. Nevertheless, the BBC is seeking to attract the same audiences as other media providers and has significantly lower funding for developing its digital products. The BBC estimates that its technology product development spending is equivalent to 2.8% of its revenue, whereas its competitors typically spend around 8%–11%. As a result, unlike its rivals, the BBC has not been able to invest substantially in improvements in audience metadata (data which provides information about other data, such as whether a sports programme is about football or cricket, which is useful for directing audiences to related content of potential interest to them), for example.

2.6 In May 2022, the BBC announced a £500 million investment plan, in support of its digital-first ambitions. The BBC plans for this to come from £200 million a year in spending reductions as well as £300 million a year from redistributing money within the organisation and increased commercial income. The BBC also anticipates supporting content investment by drawing upon increased third-party funding.

2.7 In January 2021, we recommended that the BBC should produce a long-term financial plan setting out how it would fund its new strategic priorities.[4] The BBC has subsequently developed a high-level internal plan supporting its investment plan announced in May 2022. However, this currently lacks sufficient detail around various points necessary for its implementation. These include: how new savings will be achieved and the potential implications of not making savings targets; whether additional borrowing is required; and whether additional investment will be sufficient for the BBC to fulfil its digital ambitions. The BBC reports that this is being finalised as part of the budget process for its digital-first strategy. In June 2022, Ofcom, the BBC's regulator, stated that it expects greater transparency from the BBC as it implements its digital-first plans. This should include details of how it will implement its plans, measure success and report on their effectiveness.[5]

4 Comptroller and Auditor General, *The BBC's strategic financial management,* Session 2019–2021, HC 1128, National Audit Office, January 2021.
5 Ofcom, *Consultation: Modernising the BBC's Operating Licence,* June 2022, paragraph 3.11.

Figure 8

BBC's product group spending compared with competitors, 2018-19 to 2021-22 (2021-22 prices)

The BBC's product group spending is lower than that of some of the global brands with which it competes for audiences

Brands	2018-19	2019-20	2020-21	2021-22
	(£mn)	(£mn)	(£mn)	(£mn)
BBC	109	114	100	98
Netflix	1,039	1,271	1,393	1,700
Spotify	477	558	743	766
New York Times	72	87	99	119

Notes

1 Figures for Netflix, Spotify and *New York Times* have been taken from publicly available annual report and accounts.

2 Exchange rates have been used from HM Revenue & Customs' website for the date of the year end for each company.

3 Values are in 2021-22 prices using the latest GDP deflator as at September 2022.

4 The figures comprise varying elements but are the most relevant and widely used for high-level comparison of spending. BBC and *New York Times*' values are for product development, Netflix's is for technology and development and Spotify's is for research and development.

Source: National Audit Office analysis of BBC spending data and annual report and accounts for Spotify, Netflix and *New York Times*

Steps to improve value for money

2.8 The BBC has historically sought to deliver value for money from its technology spending. It has, for example, developed its own content delivery network (CDN) to deliver digital media directly to users alongside the use of commercial CDNs. A CDN is a set of geographically distributed servers that store content locally to improve performance and availability, so users do not have to wait as long for it to load. Its development led to a reduction in costs and improved performance for the BBC's digital services, and a reduction in its dependence upon third-party CDNs.

2.9 The BBC is taking other steps to improve the value for money of its technology spending:

- Through its reorganised operating model, the BBC has identified that it will make annual savings of £11 million by 2023-24.
- The BBC has begun using a systematic framework for prioritising investment so it can direct more of its resources towards its audience-facing technology, in line with industry best practice.
- The product group is developing a measure for value for money across the digital portfolio. However, as of October 2022, it lacked a full picture of the value for money of its product investments.

2.10 As we set out in Part One, the BBC performs a key role in the UK's critical national infrastructure, defined by its key governing documents. The BBC takes a comprehensive and robust approach to its technical resilience and sets itself availability targets for its services. For its traditional broadcast technology, the BBC has an availability target of 99.995% across all its channels, and exceeded this target in 2021-22. It is clear the BBC has taken value for money into consideration in individual procurement decisions related to the maintenance of its critical national infrastructure. However, it was not apparent to us that it regularly evaluates its overall resilience arrangements to establish where it can make further efficiencies.

Recruiting and retaining staff

2.11 Although the BBC has managed to successfully recruit and retain a number of highly skilled individuals to lead its digital teams, overall it has a shortage of specialist digital staff. In common with other organisations, the BBC is experiencing technology staffing shortages and high turnover of staff. This is partly due to the BBC's pay levels being lower than some other potential employers for technology professionals. This is despite the BBC keeping its pay ranges under regular review, including by benchmarking these against wider industry pay levels. In its product group, for example, the BBC had 23% staff turnover as of June 2022. The BBC attributes its underspend in 2021-22 partly to difficulties in recruiting staff. This high number of vacancies is slowing technical development. The number of vacancies in the search team, for example, means the BBC has been unable to develop its search function further.

2.12 Trade unions such as the Broadcasting, Entertainment, Communications and Theatre Union (BECTU) and the National Union of Journalists (NUJ) informed us that the BBC's staff are generally supportive of its digital vision but are wary of the constant reorganisation, with associated uncertainties and job insecurity. The BBC regards culture and staff engagement as essential to the success of its vision. Specifically, the product group is trialling a regular survey to help it understand how staff members feel about their work and it also wants to improve career pathways within the BBC so staff can progress their careers without leaving.

Part Three

The BBC's progress and challenges in implementing its digital plans

3.1 This part of the report sets out the BBC's progress in developing its digital services, with a particular focus on its four main digital, audience-facing products: News Online, iPlayer, Sounds and Sport Online, underpinned by the BBC's homepage (**Figure 9** on pages 31 and 32). It also sets out the challenges the BBC faces in doing so.

Development of the BBC's digital products

3.2 Although the BBC has at times been at the front of the field with its technological innovation, it has not always been able to capitalise on this. This is demonstrated by the example of iPlayer. The BBC's iPlayer service launched in 2007, when Netflix also launched its own limited streaming service but was still mostly distributing films by post. Although younger audiences also choose to access the BBC through traditional broadcast services, and 81% of this age group on average per week used the BBC's services in 2021-22, iPlayer use is now at around 25% of 16- to 34-year-olds, whereas Netflix is used by 55% of younger audiences. Ofcom requires the BBC to assess the impact that any changes in its offering of content have on fair and effective competition. The BBC regards the relatively slow growth of its iPlayer audiences as partly attributable to the time that was necessary to do this when it was seeking to offer access to content on iPlayer for longer. It took more than a year to gain Ofcom's sign-off in 2019 so that the BBC could increase the period for which programmes are available on iPlayer from 30 days to 12 months. This was central to the BBC's ambition to move iPlayer from a catch-up service to a content finding service. Similarly, in 2009 the Competition Commission prevented the BBC, in partnership with ITV and Channel 4, from launching a joint video on demand service – Project Kangaroo. This was on the grounds that the service would threaten competition in a developing market.

Figure 9

Audience targets and performance for the BBC's main digital products, 2021-22

The BBC met most of the targets that it set itself for 2021-22 except for average weekly number of under under-35-year-old account holders using BBC Sounds

	When launched	What it is	Key comparable providers	Audience targets (2021-22 unless otherwise stated)	Performance compared against audience targets (2021-22 unless otherwise stated)
bbc.co.uk homepage	1997	Designed to allow users to navigate to content across BBC digital portfolio. Carries headline news of the day.	Wide range of news and entertainment providers, both domestically and internationally.	No target for use of homepage.	The BBC does not publish statistics on use of its homepage.
BBC NEWS	1997	Carries BBC journalism to audiences through websites, smartphone apps, voice devices and other digital channels. Mostly delivered as text, but increasingly carries live feeds, videos, interactive elements and other digital formats.	Wide range of news websites and other publications domestically and internationally, including ITV News, *The Times*, *Guardian* and *New York Times*.	30%+ of UK adults use BBC News Online on average each week. 30%+ of 16- to 34-year-olds use BBC News Online on average each week.	34% 33%
BBC iPLAYER	2007	Video on-demand service offering BBC programmes online, in the UK, for a set amount of time after they have been broadcast. Also provides access to some programmes in BBC archive and some live events.	Other video on-demand services including Netflix, Disney+ and Amazon Prime.	12 million to 12.5 million UK accounts are signed into, on average, each week. 3.5 million to 4.0 million UK under-35-year-olds' accounts are signed into, on average, each week. In 2020-21, 31 million to 33 million hours per week (2021-22: no equivalent target) are played, on average, through iPlayer. 1 hour of time is spent per head per week on iPlayer in 2021-22.	12.1 million 3.8 million 2020-21: 39.7 million hours (2021-22: 44.5 million hours) 1 hour

Figure 9 *continued*

Audience targets and performance for the BBC's main digital products, 2021-22

	When launched	What it is	Key comparable providers	Audience targets (2021-22 unless otherwise stated)	Performance compared against audience targets (2021-22 unless otherwise stated)
BBC SOUNDS	2018	Online audio service designed to enable audiences to listen to BBC radio stations, programmes, podcasts and music online through a website and an app.	Audio on-demand providers include Spotify, Amazon Music, Apple Music, Audible and iTunes.	3.8 million to 4.1 million account holders use BBC Sounds, on average, each week.	3.8 million
				0.6 million under-35-year-old account holders use BBC Sounds, on average, each week.	0.57 million
BBC SPORT	2020	Provides wide range of sports-related journalism. Content is mostly text articles, live feeds, videos, sports data and interactive elements. Serves audiences through websites, smartphone apps, voice devices and other digital channels.	Wide range of providers including Sky Sports Online, The Athletic app and BT Sport Online.	BBC does not publish a target for BBC Sport Online's performance.	BBC does not publish statistics on use of BBC Sport Online, but its market research shows that 66% of users of dedicated online sport sites use BBC Sport Online.
				13% of people aged 16-34 use BBC Sport Online on average each week, internal target set by the BBC for 2021-22.	15%

Source: National Audit Office analysis of BBC Annual Report 2021-22, BBC Annual plans for 2020-21 and 2021-22 and internal BBC market research documents

3.3 The BBC's comparatively slow pace in technological development is also partly attributable to the amount of money it invests in innovation. In 2018, a BBC internal review concluded that it was middling or underperforming on all measures of radical technological innovation. The reviewers benchmarked the BBC's innovation budget and found that it spent too little on ideas that could transform products and services for audiences. In 2016-17, £4.5 million (3%) of its innovation budget was given to this type of innovation. The BBC's benchmarking suggested that £20 million (10%) of total innovation spending would be more reasonable.

Performance of the BBC's digital products

3.4 As set out in Part Two, the BBC does not regard itself as in competition with privately funded media organisations. It considers itself distinct in offering publicly funded, British content. Their different financial positions mean that different providers can offer vastly unequal amounts of content: Spotify, for example, provided users access to more than 82 million tracks, including more than 3.6 million podcast titles in 2021, whereas BBC Sounds has an archive of 80,000 hours of audio material.

3.5 Other media organisations are also able to offer subscribers access to more sophisticated technology than the BBC. The BBC's online products are not as advanced as its competitors (**Figures 10, 11 and 12** on pages 34, 35 and 36) except for Sport Online (**Figure 13** on page 37). In 2021, the BBC's own market research compared product features and audience satisfaction and found its product experiences are significantly behind the market. According to this research, both iPlayer and Sounds were less easy to use than comparable products. The usefulness rating of iPlayer was behind both Netflix and Disney+, and that of Sounds was behind Spotify and Apple Music. The iPlayer recommendation function was not rated as highly as subscription video on-demand services. In May 2022, the BBC's audience research found that News Online and Sport Online were easier to use than rival services.

3.6 Despite these challenges, however, listeners and viewers frequently use both BBC and other providers' services, and in 2021-22 most of the BBC's digital products achieved the BBC's targets for them (Figure 9). Notably, iPlayer usage far exceeds the BBC's target: the average weekly hours played through iPlayer was 39.7 million in 2020-21, against a target of 31 million to 33 million hours.

3.7 Beyond the annual targets set out above, the BBC has an overarching target for its digital services to be within at least the top three for UK market share in five years' time. It is aiming to maintain News Online and Sport Online as number one and to move Sounds from third into the top two. It is also aiming for the iPlayer to be in the top three video streaming services in the UK, doubling signed-in, weekly users in 2021-22 to 24 million in 2025-26.

Figure 10

BBC iPlayer user experience in comparison with a selection of other video on-demand services, September 2022

iPlayer lags behind Netflix in user experience but leads other broadcasters

	iPlayer	Netflix	All 4	ITV Hub	Disney+
	Availability of features and functionality				
Live channels	✔	✗	✔	✔	✗
Cross-device account interoperability	✔	✔	✔	✔	✔
Most popular/trending section	✔	✔	✔	✔	✔
Ability to make your own watchlist	✔	✔	✔	✔	✔
Personalised reminders for new episodes	✔	✔	✗	✗	✗
Download option	✔	✔	✔	✗[1]	✔
Viewing history/management	✔	✔	✔	✗	✗
Skip intro/recap button	✔	✔	✗	✔	✔
Thumbs-up/thumbs-down thumbnail	✗	✔	✗	✗	✗
Auto-play previews	✗	✔	✗	✗	✗
Shuffle	✗	✔[2]	✗	✗	✗
Co-watching	✗	✗	✗	✗	✔
	Ratings of features and functionality				
Recommendations	◑	●	◑	◑	◕
Metadata	◑	●	◑	◑	◕
Picture quality	◕	●	◔	◔	●
Sound quality	◕	●	◑	◑	●
Subtitling	◕	●	●	◕	●
Guide to symbols	● Market-leading	◕ Good	◑ Adequate	◔ Inadequate	○ Poor

Notes

1 Available with a Hub+ subscription.

2 Currently only on TV apps.

3 These brands have differing services but are the most relevant and widely used for high-level comparison of services.

4 The user interface and experience comparison tables consist of feature checklists and Enders' Analysis's subjective assessments of functionality represented by Harvey Ball symbols. These assessments were made with reference to the market leader in the sector, Netflix.

Source: Research commissioned by the National Audit Office from Enders' Analysis

Figure 11

BBC News Online user experience compared with a selection of other online news services, September 2022

The BBC News Online user experience is comparable to other journalism services

	BBC News Online	*The Times*	Sky News	*Guardian*	*Financial Times*	Mail Online	*New York Times*
				Availability of features and functionality			
Free to access	✔	✗	✔	✔	✗	✔	✗
Podcasts	✗	✗	✔	✔	✔	✗	✔
Requires login	✔	✔	✗	✗	✔	✗	✔
User submissions	✗	✗	✔	✗	✗	✗	✗
				Ratings of features and functionality			
Accessibility features	◕	◔	◔	◔	◕	◕	◔
Notification customisation	◑	◔	○	◕	◔	◑	●
Personalisation	◑	◔	○	◕	◑	○	◕
User-interface customisation	◑	○	○	◕	◑	◑	◔
History	○	◔	○	●	◑	◔	◔
Offline experience	◑	◕	○	◑[1]	◕	◑	◑
Guide to symbols	● Market-leading	◕ Good	◑ Adequate	◔ Inadequate	○ Poor		

Notes

1 Offline reading requires a premium subscription.

2 These brands have differing services but are the most relevant and widely used for high-level comparison of service.

3 The user interface and experience comparison tables consist of feature checklists and Enders' Analysis's subjective assessments of functionality represented by Harvey Ball symbols. These assessments were made with reference to the market leader in the sector, *the New York Times*.

Source: Research commissioned by the National Audit Office from Enders' Analysis

Figure 12

BBC Sounds user experience compared with a selection of other audio on-demand services, September 2022

Sounds offers many facilities to users, but Spotify leads the field

	BBC Sounds	Global	Bauer	Radioplayer	TuneIn	Spotify	Amazon Music	Apple Music
	Availability of features and functionality							
Live channels and catch-up	✔	✔	✔	✔	✔	✗	✗	✔
Additional stations	✔	✗	✔	✗	✔	✗	✗	✗
Music mixes/live playlists	✔	✔	✔	✗	✔	✔	✔	✔
Podcasts	✔	✔	✔	✗	✔	✔	✔	✗[1]
Audiobooks	✔	✗	✗	✗	✗	✔	✗[1]	✗[1]
User playlists	✗	✗	✗	✗	✗	✔	✔	✔
Premium – no ads	✗	✗	✔[2]	✗	✔	✔[3]	✔	✔
Skip live tracks	✗	✔	✔[4]	✗	✗	✗	✗	✗
Cross-platform listening	✔	✗	✗	✗	✔	✔	✔	✗
Favourites/subscribe	✔	✔	✔	✔	✔	✔	✔	✔
Own listen list/library	✔	✗	✔	✗	✗	✔	✔	✔
Requires log in	✔	✔	✔	✗	✗	✔	✔	✔
Download option	✔	✔	✔	✗	✗	✔	✔	✔
Video content	✗	✔	✗	✗	✗	✔	✔	✔
	Ratings of features and functionality							
Personalisation	◔	◕	◔	◔	◔	●	●	●
Recommendations	◑	◑	◔	○	◑	●	◕	◕
Usability	◕	◕	◑	◑	◑	●	◕	●

Guide to symbols

●	◕	◑	◔	○
Market-leading	Good	Adequate	Inadequate	Poor

Notes

1 Available from the provider's other apps and services.

2 Bauer users pay £3.99 per month for a premium/no adverts subscription.

3 Spotify carries advertising on podcasts even with a premium subscription.

4 Bauer users can only skip live tracks if they have premium subscription.

5 Global Player is a service (online and app) that allows listeners to access all Global Media Entertainment's radio brands such as LBC, Capital FM and Heart FM.

6 TuneIn is an audio streaming service delivering live news, radio, sports, music and podcasts from 120,000 streaming radio stations worldwide.

7 Radioplayer is a non-profit partnership between the BBC and commercial radio.

8 These brands have differing services but are the most relevant and widely used for high-level comparison of services.

9 The user interface and experience comparison tables consist of feature checklists and Enders' Analysis's subjective assessments of functionality represented by Harvey Ball symbols. These assessments were made with reference to the market leader in the sector, Spotify.

Source: Research commissioned by the National Audit Office from Enders' Analysis

Figure 13
BBC Sport Online user experience compared with a selection of other sports news services, September 2022

The BBC Sport Online user experience is market-leading

	BBC Sport Online	Sky Sports Online	talkSPORT	MailOnline Sport	*Guardian* Sport	The Athletic	ESPNcricinfo	Premier League App
Main sports covered	23	15	1	1	13	10	1	1
Minor sports covered	30	17	9	7	9	0	0	0
Pre-match information	✔	✔	✗	✗	✗	✔	✗	✔
Live match feeds	✔	✔	✔	✔	✔	✔	✔	✔
Post-match reports	✔	✔	✔	✔	✔	✔	✔	✔
Fixture calendar	✔	✔	✔	✔	✔	✔	✔	✔
League tables	✔	✔	✔	✔	✔	✔	✔	✔
Video features	✔	✔	✔	✗	✔	✔	✔	✔
Video highlights	✔	✔	✗	✗	✗	✗	✗	✗
Statistics	✔	✔	✗	✗	✗	✔	✔	✔
Log in necessary	✗[1]	✗	✗[1]	✗	✗	✔	✗	✔

Notes

1 Log in is necessary for the app.

2 These brands have differing services but are the most relevant and widely used for high-level comparison of services.

3 The user interface and experience comparison tables consist of feature checklists.

4 The differentiation made between a 'main' sport and a 'minor' sport was made based on the main sports having: dedicated and designed home page on the website; extra features such as fixture calendars, league tables and statistics; and more content and a more regular content schedule than minor sports. Minor sports in contrast just have: a feed with all the articles written about the subject; no extra features; more clicks to navigate to minor sports. Major news stories from sports not included in either the main or minor sports list sometimes feature on these websites, but sports without a centralised feed on the website were not included.

Source: Research commissioned by the National Audit Office from Enders' Analysis

Developing the BBC's technology and data to support its personalisation strategy

3.8 The BBC considers itself to be a "valued daily habit" with its audiences and that making its digital products more personalised will enable it to maintain this. As part of its approach the BBC has set out that it needs to make progress with underpinning technology and data in areas including its search function, data on content, and content recommendations:

- Search: The BBC sees an effective search function as fundamental to directing audiences between its different digital products. It is aware, however, that its search function is not currently performing at the level expected for a large media organisation. The BBC's digital services each use different search technology. The BBC's search function performs well if the user can enter the exact title for a programme but is less effective where there is ambiguity in the search query. This means that the search function misses a significant amount of BBC Online content. Following the strategic technology review, the BBC aims to move its search function from separate technologies to one platform that can be used effectively across all digital services. However, it will need to do this in parallel with its search development team conducting maintenance work that limits its capacity.
- Data about content: In November 2020, the BBC identified that its ability to make effective recommendations to users required it to make improvements including in the availability of content metadata (data about programmes and articles in the BBC's library). It noted that making these improvements would require both investment and changes to the BBC's ways of working. In July 2022, the BBC also noted that metadata was still managed very differently across different parts of the organisation.
- Recommendations: Other digital media services use algorithms to adapt the entire product experience based on information including user history, visitor frequency, or external trends. In 2020, the BBC noted that its ability to offer relevant content to its users varied between its digital services and was behind that of its rivals.

3.9 The BBC is increasing the content it makes available online. In April 2022 the BBC had 14,491 hours of video content available online, just behind All 4 at 14,515 hours. In contrast, Netflix made 40,646 hours of material available, Amazon Prime Video had 26,536 hours and NOW 20,600 hours.

3.10 The BBC is also seeking to ensure that people accessing its content through non-BBC services such as Facebook or YouTube realise that what they are viewing is from the BBC. For example, people who pick up a BBC news story on a social media site often do not realise the content originates from the BBC. Social media plays an important role in bringing younger audiences, who are less likely to watch traditional broadcasting, to News Online.

The BBC's digital services and data protection

3.11 There is potential for reputational damage if the BBC does not meet best practice in acquiring, storing and securing personal data, and being transparent about its use. As the BBC increases the use of mandatory sign-in for users of its digital products, the amount of personal data it holds will increase. The BBC already shares some users' personal information with TV Licensing, who are a third party. This is for purposes including keeping their licensing database accurate and up to date. It is also planning to use data about users to support its strategic decisions about what programmes to commission, how to improve recommendations and how to allocate funding to divisions. Despite this, in our review of two key papers relating to the BBC's use of audience data and household-related data, there was a notable absence of references to its approach to the management and mitigation of reputational and other potential risks that could arise as it increases its use of such data.

3.12 In 2019, the BBC commissioned external consultants to assess its compliance with data protection legislation in its use of audience data. It found that, although the BBC had taken initial steps to reach compliance, it was still in the early stages of maturity when compared with the progress made by similar organisations. The report pointed out a number of risks in the BBC's management of audience data. These included: personal data being kept for longer than was necessary; the risk of an inadvertent breach of personal data; and systems giving access to personal data to people who did not need it. In its 2021-22 annual report, the BBC listed several areas of potential risk related to personal data it had identified that it needed to consider and/or address. These include ensuring consistency in the application of data protection compliance across the organisation and the data protection impact from using new technologies and products.

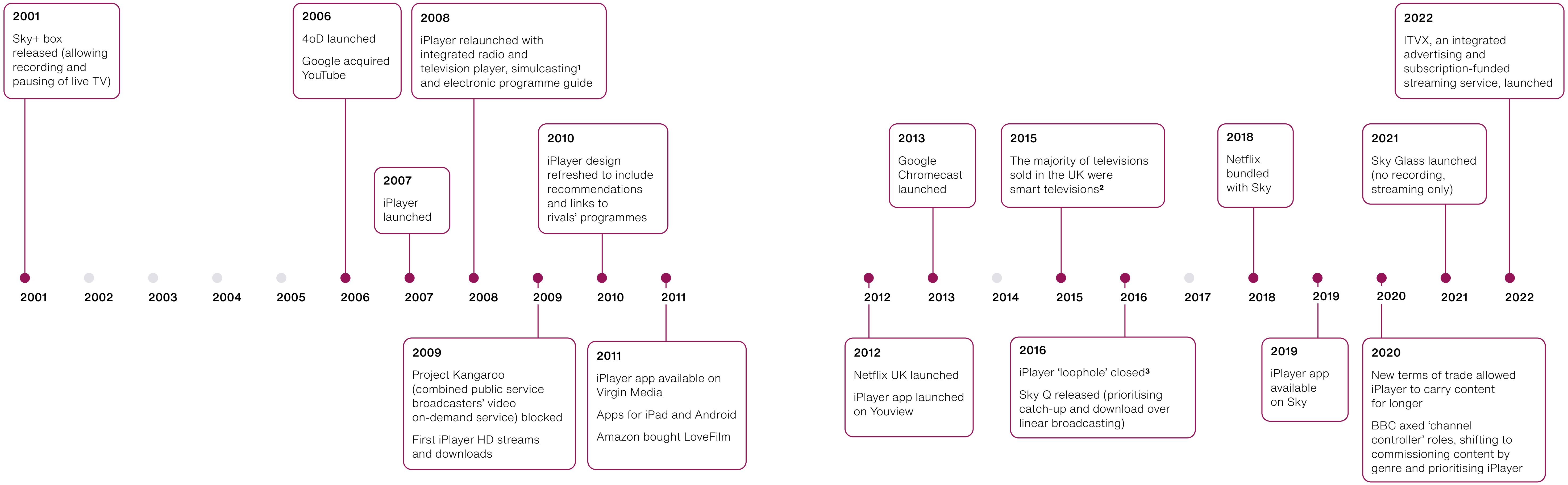
3.13 The BBC appointed a data protection officer (DPO) in October 2019 and also established a central Data Protection Office team in 2019. As a result, the BBC has developed a programme of data protection compliance including activities designed to improve maturity.

Uncertainty in the media and broadcasting environment

3.14 The global media environment is one in which other media providers emerge rapidly and can quickly threaten the BBC for audience share. For instance, in terms of content, Netflix has seven times more titles than iPlayer does, excluding news and regional content. There have been rapid developments in both video on-demand and audio on-demand markets (**Figures 14 and 15** on pages 40 to 41, and 42). For example, Disney+ was launched in the UK in 2020 and is already used by 23% of 16- to 34-year-olds. By contrast, BBC iPlayer is used by 25% of this age group.

Figure 14
Video streaming market developments, 2001 to 2022

The video streaming market has developed quickly since the early 2000s and continues to advance rapidly



Notes

1 Simulcasting is the broadcasting of a programme from two or more locations or on two or more distribution channels.

2 A smart television is an internet-enabled television set that includes free and paid streaming apps such as YouTube and Netflix. A smart television eliminates the need for a separate set-top box.

3 Until 1 September 2016, people who watched BBC programmes only on iPlayer were not required to buy a television licence.

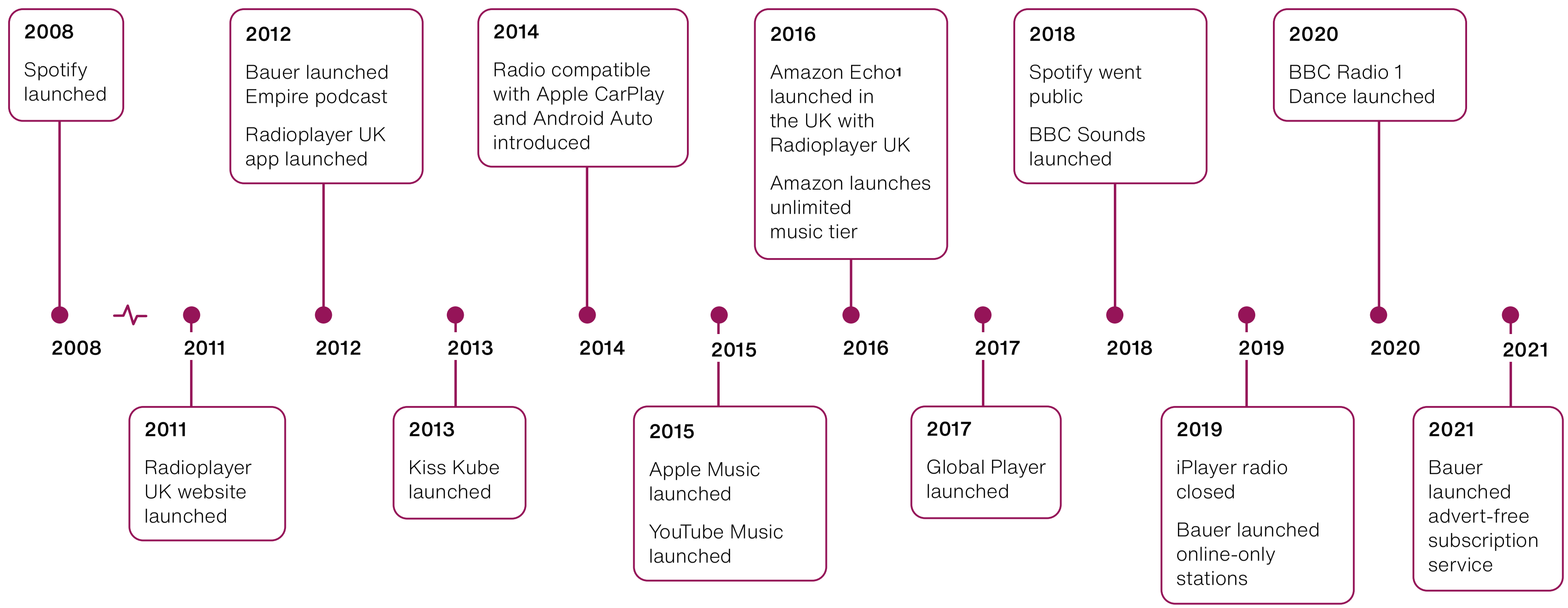
4 The timeline is not to scale.

Source: Research commissioned by the National Audit Office from Enders' Analysis

Figure 15

Radio and audio market developments, 2006 to 2021

The radio and audio streaming market is developing rapidly



Notes

1 Amazon Echo is a smart speaker developed by Amazon and is connected to Alexa, Amazon's voice-controlled intelligent personal assistant service.

2 The timeline is not to scale.

Source: Research commissioned by the National Audit Office from Enders' Analysis

3.15 The global media environment is also one in which new technology emerges swiftly. The BBC estimates that the number of technological platforms on which it is possible to watch iPlayer increased from more than 15,000 in 2018-19 to more than 20,000 in 2021-22. The BBC faces the challenge of needing to continually keep abreast of such developments, as well as frequent updates of operating systems, and the emergence of new browsers. The emergence of new technology also heightens the competitive challenge the BBC faces, as other providers often rapidly seek to offer their content across multiple different formats.

3.16 As discussed in Part One the BBC will need to take decisions about how it will move between broadcast and digital technologies in the future. However, making these decisions is not straightforward as the precise nature of the BBC's future broadcasting obligations will be determined by government through future Charter reviews. Additionally, to move to significantly greater use of digital broadcasting, the BBC would be reliant on sufficient, high-speed broadband roll-out across the UK. Gigabit-capable broadband is now available to more than 70% of the UK. Through its Project Gigabit, the government is targeting 85% coverage by 2025 and then as close to nationwide coverage as soon as possible after that. In December 2022, the director general of the BBC set out the intention to move towards internet-only broadcasting with greater urgency. The BBC recognises it will need to work with government and other stakeholders to ensure the extent of UK broadband coverage necessary to support a transition to digital-only services.

3.17 The BBC will also need to balance its digital domestic goals with its more international ambitions. The BBC is looking to strengthen its brand globally and position itself as a global media company. Key to this will be digital products including BBC Podcasts Premium in the United States, and BritBox International, the global British streaming service owned by BBC Studios in partnership with ITV. In 2021-22, BritBox had 2.4 million subscribers in four countries. Additionally, the BBC has a target of a weekly audience of 500 million viewers globally by 2022. In 2021-22 it reported that it reached 492 million people.

Appendix One

Our audit approach

Our evidence base

1 Our independent conclusions on whether the BBC is on track to deliver value to its users from its strategic technology review (STR), its progress in implementing its digital plans to date and its readiness for future challenges were reached following our analysis of evidence collected primarily between April 2022 and September 2022.

2 At the start of the study, we decided our evaluative criteria and used these to shape our collection and analyses of evidence. The high-level evaluative criteria were the following:

- Is there a digital technology strategy that is evidence-based and supported by a practical delivery plan?
- Can the BBC demonstrate that there will be sufficient and appropriate resources to deliver its STR?
- Are there appropriate governance structures in place to deliver the STR?

Qualitative analysis

Interviews and meetings with the BBC and third parties

3 We held seven interviews with key senior management staff from the BBC, who were selected based on their responsibilities for digital technology, as outlined in their job descriptions. We also interviewed a non-executive director, the BBC board expert on digital technology. The BBC gave us two briefing sessions. Topics covered in these meetings included:

- deciding on the BBC's digital transformation strategy, its aims and objectives, and the BBC's target operating model;
- the technological aspects of its digital strategy:
  - About the STR and the technical architecture including legacy systems.
  - Implications of the STR for product development.
  - Personalisation, including how users are responding to it in related areas such as accessibility, machine learning and metadata;

- the impact of the STR on meeting customers' needs, including new and existing audiences;
- governance arrangements and how they work in practice;
- monitoring progress and realising the benefits of the STR;
- the skills and capabilities the BBC has and needs for its STR plans;
- reflections on common issues in relevant internal audit reports, and internal audit perspectives on challenges and learning lessons;
- resilience and contingency planning; and
- technological and business challenges ahead.

4 We also interviewed officials from third parties to broaden our understanding of the digital media industry and the BBC's place in it, and to develop our questions for BBC executives. These included:

- the BBC sponsorship team at the Department for Digital, Culture, Media & Sport (DCMS), about DCMS's role and engagement with the BBC;
- trade unions and associations, specifically the National Union of Journalists (NUJ) and the Broadcasting, Entertainment, Communications and Theatre Union (BECTU), about the impact of the STR and the BBC's digital strategy on staff;
- the Producers Alliance for Cinema and Television (PACT), about the impact of the STR and the BBC's digital strategy on suppliers; and
- audience representatives – the Voice of the Listener and the Viewer and Digital Poverty Alliance – about the impact of the STR and the BBC's digital strategy on audiences and different parts of the audience, particularly less advantaged groups in society.

We also discussed our study with Ofcom at our regular liaison meetings and collected information about Ofcom's regulation of the BBC and its research on the media market.

5 Interviews took place between May and July 2022 and were carried out online. They typically lasted one hour. The data from the interviews were analysed thematically, against the evaluative criteria for the study that we had set out at the start. These data were used in the report as either factual statements or to inform our audit opinions.

6 We drew out the main findings and commonalities from our interviews. This was used to inform further lines of enquiry that we followed up with the BBC and to explore some of the most common themes in our report.

Document review

7 We reviewed internal BBC documents and external stakeholder documents to assist with:

- defining the scope of the audit and deepening our understanding;
- informing further discussion and follow-up with the BBC; and
- informing our findings and triangulating findings from other sources including interviews and data analyses.

8 The documents we reviewed included: meeting minutes and/or papers for the BBC board, executive committee, digital leadership group and audit and risk committee, and internal audit reports. We reviewed papers from other groups such as the BBC's product and technology groups as well as BBC-commissioned reviews, market research and lessons learned reports. We made use of the data published in the BBC's annual reports and annual plans. We also reviewed papers and reports from external stakeholders, academics and commentators.

9 Our review was carried out between March and September 2022. We reviewed each document thematically, in line with our evaluative criteria.

Quantitative analysis

10 We analysed data from various sources, relating to the outcome of the BBC's digital transformation work. The key data sources were as follows:

- Audience performance data from the BBC's market research covering the past four years to provide a sufficient time series, and to track progress from 2018, when a BBC internal review concluded that it was middling or underperforming on all measures of radical technological innovation.
- Financial data from the BBC's annual report and accounts and internal documents covering the financial years 2018-19 to 2021-22 and forecast spending through to 2025-26, along with the most recent annual accounts of other online media organisations (specifically Netflix, Spotify and the *New York Times*) from publicly available annual report and accounts. Where financial data have been converted into 2021-22 prices, we use the GDP deflator series published by HM Treasury in September 2022.
- Technical data from the BBC on trends in digital product availability, apps ratings, iPlayer and Sounds deployment frequency, covering 2020 and 2021.
- Data from the BBC about staffing levels across the groups before and after the STR.

Technical and strategic review

11 In addition to making extensive use of our in-house digital expertise, we engaged a consultant, Dr Jerry Fishenden, to advise us on the technical aspects of the programme. Dr Fishenden was appointed based on his significant experience of the technical and digital industry, as well as central government IT projects, and his involvement and experience in providing impartial expert advice to previous National Audit Office (NAO) studies. We carried out an assessment of the BBC's digital and technological standards and processes against industry standards as part of the evaluation of the value for money of the BBC's digital implementation relative to its strategic plans.

12 Our technical and strategic review provided more detailed assurance around the governance, direction, capabilities, roles and resourcing, accessibility, security, resilience planning, delivery and performance of the BBC's digital initiatives.

13 The review comprised:

- attendance at and analysis of findings from interviews with key BBC staff including the BBC's chief product officer and chief technology officer, the chief operating officer, director of internal audit and assurance, BBC Group director of strategy and performance, and a non-executive director with a background in technology;
- analysis and review of key technical data and documents requested from the BBC;
- analysis and review of public domain BBC technical information contained on BBC websites, including blog posts; and
- BBC site visits and related technical discussions with key officers including the director, technology operations and director, digital distribution.

14 The review took place between May and September 2022, and was carried out face-to-face, on-site and online.

15 Our analysis of the technical and strategic review was used to:

- inform further lines of enquiry that were followed up with the BBC;
- triangulate findings from interviews with BBC staff and key third parties; and
- report on the implementation of the STR.

16 All work carried out by Dr Fishenden was reviewed and quality-assured by our in-house digital experts.

Case studies

17 We carried out five case studies of key BBC platforms/services: iPlayer, Sounds, News Online, Sport Online and the BBC's homepage. These five areas were chosen as all but the homepage are the BBC's priorities for funding as they are seen as 'priority services', expected to be significant contributors to the value it aims to provide to audiences. We also included the BBC homepage as it is the gateway to these four destination sites.

18 The aim of the case studies was to understand the BBC's main digital products in more detail. In particular for each service we sought to understand: the BBC's vision; strategy for achieving its aims; performance; governance; and challenges. We prepared a standard set of questions about these areas and asked the BBC to answer in writing and to provide additional documents to support its answers. Our questions were prompted by our evaluative criteria and the NAO's *Framework for the Analysis of Change and Transformation*.

19 Case study fieldwork took place between May and September 2022.

20 The methods used to complete the case studies included thematic analysis and further document review. We explored some of the BBC's answers through further correspondence, and requests for documentation.

21 Our analysis of the case study data was used to:

- inform further lines of enquiry to follow up with the BBC;
- triangulate findings from interviews with BBC staff and third parties; and
- report on progress with the implementation of the STR.

Wider market intelligence

22 We completed a review of wider market intelligence with the aim of assessing how sensible the BBC's plans appear for the STR.

23 The methods used to complete this review included commissioning a review of the BBC's market position for digital news, sport and entertainment services from Enders' Analysis, a subscription research service. According to Enders' Analysis, a variety of organisations hold Enders' Analysis subscriptions including the Department for Digital, Culture, Media & Sport (DCMS), Ofcom, ITV, Sky, Netflix and the BBC. The NAO has an ongoing relationship with Enders' Analysis, including holding a subscription with them that gives us ongoing access to their research and publications. They also provide us with a bespoke seminar twice a year where they share with us findings from their research on a variety of areas of interest.

24 We asked Enders' Analysis for its analysis of trends in different digital media services, to assess each of the four main BBC online services against the nearest matched organisations with which the BBC competes (both commercial and public service) and likely challenges facing the BBC and other digital media organisations. Enders' Analysis undertook this using a variety of methods including comparison of features and subjective assessments of functionality represented by Harvey Ball symbols.

25 We also used Ofcom and the BBC's market research along with the report of the House of Commons' Digital, Culture, Media and Sport Committee on the future of public service broadcasting.[6]

26 Our analysis from the wider market was used to:

- inform further lines of enquiry that we followed up with the BBC;
- triangulate findings from interviews with BBC staff and third parties; and
- report on the implementation of the STR.

6 House of Commons Digital, Culture, Media and Sport Committee, *The future of public service broadcasting*, Sixth Report of Session 2019–2021, HC 156, March 2021.

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National Audit Office

£10.00

ISBN 978-1-78604-463-1

9 781786 044631

Design and Production by NAO Communications Team
DP Ref: 010835-001