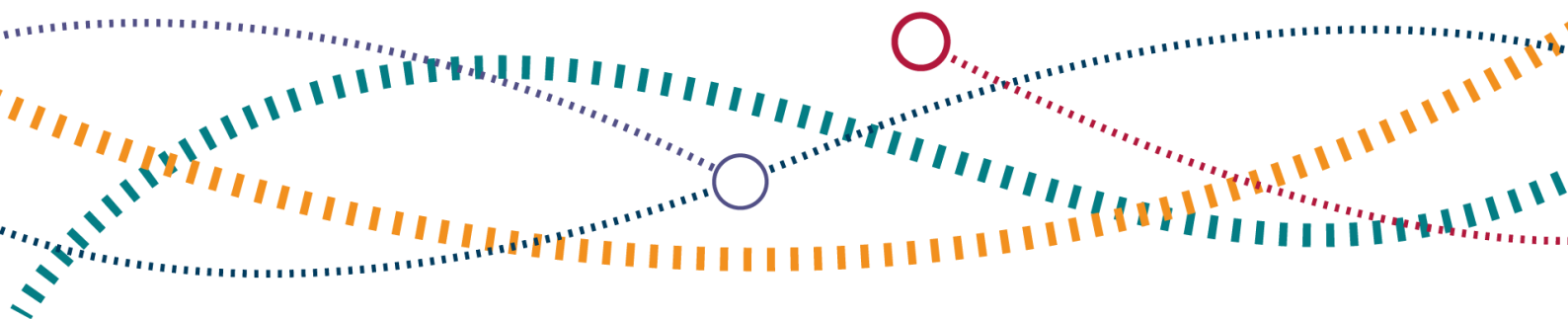# Monitoring Update Report

ORR Market Study into Automatic Ticket Gates and Ticket Vending Machines

02 December 2022

Contents

Market Study Update

Summary

This update follows up on our previous communications following our 2019 market study[1] into automatic ticket gates (**ATG**s) and ticket vending machines (**TVM**s). The Office of Rail and Road (**ORR**) has continued to work closely with industry and monitor progress against the recommendations we made in 2019. This report further delivers on our commitments to participate in an industry working group on ATGs, to consider the progress in developing a solution to improve access to the Transport for London (**TfL**) network and monitor the Rail Delivery Group (**RDG**)'s commitments on accreditation.[2]

From August 2022 to October 2022, we conducted several interviews with stakeholders to monitor progress against the recommendations made and assess the current health of the market. Following this further engagement with industry, we consider that progress has been made in generating and improving competition and innovation, although challenges remain, particularly in relation to access to TfL's network.

2019 Findings and Recommendations

1   As described in our 2019 market study, we found that competition for the supply of ATGs is weak. Market concentration is high in relation to both metro and mainline services. We found that the largest player, Cubic Transportation Systems Limited (**Cubic**), had an approximate share of 97% of all ATGs currently installed on Great Britain (**GB**) rail networks.

2   For TVMs, our analysis of the number of installed machines and the market shares of suppliers also pointed to a very concentrated market[3] although we did find moderate levels of competition with at least five suppliers having some presence in the market.

3   We set out three recommendations in our 2019 market study to tackle the market features highlighted above.

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[1] https://www.orr.gov.uk/monitoring-regulation/rail/competition/market-monitoring/market-study-supply-automatic-ticket-gates-and-ticket-vending-machines

[2] See Chapter 6, 2019 market study, https://www.orr.gov.uk/sites/default/files/om/market-study-into-the-supply-of-ticket-machines-and-ticket-gates-2019-final-report.pdf

[3] Approximate market shares for mainline TVMs alone are: 69% Scheidt & Bachmann, 15% Worldline, and 16% Parkeon.

These were in relation to:

(i) **Industry working group on ATGs.** We recommended that RDG facilitate an industry working group dedicated to considering issues regarding ATG procurement, interoperability and options for consolidating procurement.

(ii) **Improved access to the TfL network.** We recommended that TfL, industry and alternative ATG suppliers (such as those currently active in other countries) work together to develop both short term and longer-term solutions to provide 'interoperable' access to TfL systems for third parties, in order for alternative gate suppliers to be able to supply a product that is capable of reading and accepting TfL products. This could increase the pool of suppliers bidding for TfL's future revenue collection contracts.

(iii) **RDG accreditation.** RDG provided a series of commitments to significantly improve and simplify its procedures for accrediting new and innovative retail products (including TVMs). We recommended that RDG continues to deliver its commitments and to report to ORR under the commitments as well as its impact on the market.

2021 Update Report

4   In our 2021 update report[4], we highlighted the opportunity presented by TfL's upcoming procurement process for its new revenue collection contract and the opportunity to promote open interfaces as part of this process.

5   We reinvigorated the industry working group to discuss opportunities and progress to break down barriers to competition and promote strategic thinking in this area.

6   We followed up with RDG on its outstanding pledges relating to accreditation. RDG confirmed it had closed a number of outstanding items to streamline the accreditation process and reduce the barrier to entry that accreditation previously presented.

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[4] https://www.orr.gov.uk/sites/default/files/2021-10/market-study-into-the-supply-of-ticket-machines-and-ticket-gates-october-2021-update.pdf

Implementation

Industry working group on ATGs

7   The industry working group was established in 2019 for a period of two years, with senior level representation from key stakeholders.

8   This year we have engaged with relevant stakeholders to discuss the outstanding market barriers and challenges in relation to ATGs. Conversations with stakeholders highlighted the continuing challenges in ensuring interoperability with the TfL network for ATG technology sourced from other suppliers. We are of the view that continued engagement between industry stakeholders is important in addressing what appear to be persistent competition challenges. We recommend the industry to continue the work of the ATG working group in order to provide clarity to the supply chain, and incentivise new suppliers to develop innovative products to enter the market.

Improved access to the TfL network

Overview of the TfL network

9   TfL is a significant player in the ATG and TVM markets, given the scale of its demand for revenue collection services, and Cubic is by far the largest supplier in this market. Cubic provides all of the ATGs currently installed on the TfL network.[5]

10   Cubic currently holds TfL's revenue collection contract, provides a wide range of services to TfL, such as maintenance and availability of ticketing and fare collection equipment, stand-alone validators, ticket machines, retail devices and the operation of back-office systems.

11   The previous large procurement exercise was in 2015 and was awarded to Cubic for a value of £660m and a seven-year period, which was subsequently extended by three years in 2017, with a further one year extension in 2022. The next procurement exercise was launched on 14 November 2022, and known as Project Proteus (see paragraphs 18 to 22 below). It is, with possible extensions, worth up to the value of £1.5 billion and for a duration of up to 12 years.

12   TfL is also working with Cubic to expand contactless payments outside London. The Department for Transport (**DfT**) appointed TfL to upgrade 233 stations outside London to have Pay-As-You-Go ticketing. TfL is subcontracting the provision of in-

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[5] See paragraph 1 above. See also, 2019 market study, paragraph 2.21

station validation equipment, which is the technology and equipment installed in station for fare validation, to Cubic. Under current arrangements, TfL's system is highly integrated. As such we understand that its front office (the customer facing equipment, such as gates, validators and ticket machines) and its back office (the systems involved in processing of Oyster, contactless payment etc) cannot be separated easily.

13   There is currently very limited competition on the TfL network for ATGs and TVMs. We are concerned that barriers to competition remain and our recommendations made in our 2019 market study do not appear to have been entirely addressed.

14   During our conversations with industry, stakeholders explained that:

(a)   The lack of current available interfaces within the TfL network, for third party gate suppliers to connect to the TfL network, remains a significant barrier to entry, making it more difficult for train operating companies (**TOC**s) which operate to, or within, the London fare zone to procure ticket gates from alternative suppliers. A number of stakeholders argued that ticket holders' inability to use barcodes within the TfL network remains a key barrier to entry for ATG manufacturers. ATG and TVM suppliers are currently obliged to provide dual-solutions to work with TfL and other operators.

(b)   Certain stakeholders also argued that Cubic's presence was preventing entry into the TfL network. Cubic, as incumbent, has decades of expertise and knowledge of the TfL network. Many operators, like TfL, choose the incumbent because bidders need to demonstrate relevant similar experience, which can be challenging or impossible for a new supplier.

(c)   A stakeholder further explained that the TfL network, unlike other metro systems, does not work with common standards for its ticketing technology. As the firm which developed Oyster card technologies, Cubic developed a set of bespoke standards which remain in place today. This stakeholder also explained that many metro systems share the relevant standards with suppliers willing to enter the network. Entering to supply the TfL network would mean working with Cubic standards, as opposed to common standards.

15   In relation to the lack of current available interfaces within the TfL network, TfL explained to us that TfL followed-through on the ORR's previous recommendation and offered to make its reader available to be interfaced to third-party ticket gate suppliers. A supplier briefing event was held and TfL remains open to support suppliers who show an interest in operating in this space.

TfL's efforts to open its network with open interfaces

16   Our 2021 update report highlighted that there remained significant potential for TfL to cooperate with the wider industry to stimulate greater competition in the market for ATGs. We identified TfL's upcoming procurement process as a significant opportunity to address the interoperability challenges.

17   Since then, we note that TfL has acknowledged and sought to address some of our concerns through a series of initiatives:

(a)   TfL has been acquiring intellectual property rights from Cubic to ease a potential transition to a new supplier. This strengthens TfL's licence to use IP rights, TfL had already made substantial changes to the IP framework and acquired the right to access the IP at any time[6]

(b)   TfL has worked with Cubic to develop a new reader, with open interfaces, in seeking to address our market study recommendations. However, we understand this initiative, which seeks to promote competition, was directly awarded to Cubic, whose existing technologies have previously precluded integration with other suppliers' ticket gates. Nonetheless, we understand that TfL's recent work should make it easier to interface with alternative ticket barrier products in future.

(c)   TfL has appointed independent consultants to provide external validation on its procurement approach.

(d)   TfL has engaged proactively with the industry, especially in relation to its upcoming procurement exercise (Project Proteus) to improve access to information for bidders and encourage as many bidders as possible to participate.

Project Proteus

18   Having extended the current revenue collection contract twice, TfL now aims to award a new contract in August 2024 to a single supplier, with services transitioning through a series of phases (following a period of mobilisation and transition planning) to enable full service delivery in August 2026.[7]

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[6] Update Report 2019, Annex B – Slides from TfL workshop, p16 'Ownership of intellectual property by TfL to ensure easier access and comprehension of the system – and to ensure TfL's future options remained open and unrestricted'

[7] TfL Revenue Collection Services - Project Proteus 24412 - Call for CompetitionTfL Revenue Collection Services - Project Proteus 24412 - Call for Competition - Find a Tender (find-tender.service.gov.uk)

19   We understand that TfL launched a procurement exercise in November 2022 for the provision of revenue collection services. The estimated value for the proposed initial term of seven years, based on nominal prices baselined at 2022 pricing, is £800M up to an estimated value of £1.5bn, if extended to the maximum term of 12 years.[8] The scope of Project Proteus includes the provision, operation and maintenance of the entire TfL revenue collection system, including front office (hardware, physical equipment such as gates), middle office (systems that manage risk and calculate the fares to be charged) and back office (the systems involved in processing of Oyster, contactless payment etc), and the maintenance of installed equipment.

20   The scale and duration of the TfL contract potentially presents a material opportunity to inject new competition into the ATG market. Whilst TfL is seeking to run an open competition for the contract, the contract is for all services. Our view is that unbundling the contract would create scope for more than one supplier to TfL during the contract period. Whilst we recognise that this would introduce some complexities (such as supplier integration), the advantage of such an approach would be to create more of a foothold for competitors to grow in rivalry to Cubic – noting that it is the sole supplier to TfL today and has a 97% share of the wider GB market. For example, we are of the view that it would be possible for alternative ATG hardware to be integrated into the TfL network as it is in other metro systems (see section below). Other forms of unbundling could also be envisaged.

21   TfL is working to create a competitive bidding process – which we fully support – but our view is that Cubic's incumbency advantage (as noted from our stakeholder interviews) could continue to make entry by alternative suppliers more challenging.

22   We will continue to closely follow the outcome of this and any other major procurement exercise in the market.

Mainline GB Network

23   Despite the challenges which remain in London and the South East (see paragraphs 13 to 14 and paragraphs 20 to 21 above), we received encouraging feedback from industry showing early signs that competition and innovation were growing, including a serious level of engagement from operators, which seems to indicate that TOCs are willing to replace installed equipment. A few recent examples include:

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[8] TfL Revenue Collection Services - Project Proteus 24412 - Call for CompetitionTfL Revenue Collection Services - Project Proteus 24412 - Call for Competition - Find a Tender (find-tender.service.gov.uk)

(a) An equipment manufacturer explained that it is developing new TVMs as well as new ATGs for the UK market, with an expected launch next year and TOCs have been showing an interest.

(b) A stakeholder told us it has been rolling out paper barcode tickets at Gatwick and it is trialling with Trans Pennine Express.

(c) A gate manufacturer and an automatic fare collection system company partnered to supply gates to Transport for Wales, to work alongside Cubic gates, owing to challenges with integrating their new proposed system with the existing Cubic gates. A trial is planned to start in 2023.

Interfaces in international metro systems

24 As part of our review, we engaged with international counterparts and overseas transport organisations. Our engagement provided an opportunity to understand different metro systems and their relationship with interoperability and ATG suppliers.

25 We considered the case of Singapore where the public authority has successfully employed a multi-supplier approach. Each of the major projects are subject to open tender. There are currently four different ATG hardware suppliers installed in the Singapore metro system. The Land Transport Authority plays the role of integrator as it has developed the back-end systems. Every supplier works with a common interface standard which facilitates more significant competitive tension.

26 In Paris, there is a multi-supplier approach. The metro system works with a common standard, named Calypso. Calypso is an open, secure ticketing standard that promotes innovation and is used in more than 25 countries and over 170 cities globally. For new projects, there is a combination of contract extensions and tenders, but we understand that major projects are subject to open tender. There are currently two different ATG hardware suppliers in the network and a third one about to enter. These suppliers all work with the same Calypso specifications.

27 Adopting common standards facilitates a multi-supplier approach, and leads to more effective competition.

RDG Accreditation

28 In line with our 2021 update report, we consider that useful progress has been made to reduce the accreditation barriers for the creation of new rail retail products.

29 Nevertheless, we received two challenges related to RDG accreditations :

(a)   A stakeholder, along with its partner, developed a new retail channel enabling people to buy rail tickets in local shops. It explained to us that this retail channel is not recognised by RDG and therefore does not attract any commission. It further explained that if it couldn't attract commission, it would exit the market.

(b)   Another stakeholder shared with us that the accreditation review process for software development for ATGs or TVMs was a lengthy process.

30   We engaged with RDG on the above issues and according to RDG:

(a)   On the new retail channel, RDG provided some information as well as an update on its efforts to support the creation of new rail channels with stakeholders such as this one. RDG explained that a solution would not be simple or quick but it is engaging with DfT to find a solution.

(b)   On the accreditation review process, we understand that RDG's review process can be long but is explained by RDG's cautionary approach.

31   We consider that useful progress has been made to reduce the barriers to entry which accreditation previously presented. We invite RDG to continue its work so that accreditation does not limit competition and innovation. Despite RDG's efforts, we are concerned that a new retail channel cannot be accredited in a timely manner and risks losing market participants. We see real benefits in making rail tickets available through less traditional sales channels, such as local shops.

32   We will continue to engage market participants and with RDG on its accreditation process as part of our ongoing monitoring activity.

Next Steps

33   As noted above, we will continue to engage closely with industry and government stakeholders and to monitor progress towards the delivery of our recommendations and, more widely, developments in competition in these markets.

34   We expect to see continued progress in the development of open interfaces with the purpose of securing long-term competitive outcomes in this area.

35   We will continue to take any concerns about poor competitive market outcomes seriously and act in accordance with our powers. We plan to publish a further update to our monitoring activity in 2024.