

## Written evidence submitted by Icomera Ltd (RRB0003)

### Summary

1. Icomera is the market leader for digital connectivity on trains in Great Britain
2. Digital connectivity is vital to the growth of passenger rail patronage
3. Rail reform has not taken proper account of digital connectivity while the UK Government's cost-cutting approach has damaged market confidence
4. There is no reason to believe that Network Rail Infrastructure Limited as the designated Integrated Rail Body will be the champion for innovative, market-led digital connectivity
5. Digital connectivity today provides far more than passenger Wi-Fi, supporting a wide range of customer services as well as fleet and infrastructure monitoring
6. The draft Bill does not create a genuinely arm's-length guiding mind for Great Britain's railways as it contains largely unspecified levers for interference by the Government and the role of the Office of Rail and Road should be greater
7. The £381 million estimated cost of rail reform would pay almost twice over for train connectivity at speeds common in homes or offices, producing substantial economic benefits
8. The Integrated Rail Body's duty to report on promotion of the private sector should be expanded beyond train operations to embrace digital technology
9. Promised safeguards on the confidentiality of commercially sensitive industry data should be on the face of the Bill
10. The reform process should give as much attention to fostering a spirit of shared human endeavour and cooperation as it does in the minute detail of supplier contracts or legislation

## Introducing Icomera

Icomera AB was founded in Sweden in 1999 to bring the digital technology revolution to public transport. Since our first UK deployment with GNER in 2004, we have become the Great Britain (GB) market leader, acquiring in 2019 Derby-based engineering consultancy DG8 to strengthen our capabilities and, in 2020, London-based GoMedia, the world leader in public transport infotainment.

With our technology deployed on over 16,000 rail vehicles across the UK and employing more than 120 people in four British offices, Icomera is now part of Equans which was purchased by Bouygues in 2022, making our company the key transport technology provider within the largest overseas-based UK employer.

GB Train Operating Companies (TOCs) – whether run on behalf of the UK Department for Transport (DfT), the Scottish and Welsh Governments or independently - have understood the role of connected services in growing customer numbers and revenue. We are keen to see the innovative approach of the TOCs continued under whatever new GB rail structure the current or next UK Government adopts. This is because our original objective of simply providing Wi-Fi to passengers has expanded into utilising that digital connectivity to deliver a wide range of customer-focused, operational and security services vital to a modern commercial railway.

Icomera's patented SureWAN technology allows trains to connect intelligently to multiple cellular and other communications networks (e.g. satellite) simultaneously, aggregating all available capacity to deliver the fastest, most reliable connection possible to a moving vehicle. This brings benefits not only to passengers and TOCs but to the cellular mobile companies who thus avoid huge surges of demand on a particular mast as a train approaches, giving them more capacity. SureWAN is able to make seamless use of any existing or future radio technologies, including 5G, LTE, LTE-A, trackside and even satellite networks.

Icomera Wi-Fi serves over 1.4 million passengers daily worldwide, turning travel into productive time for business, commuting and leisure passengers. Despite the legacy of the Covid-19 pandemic, on-train passenger Wi-Fi user sessions are at 123% of January 2019 levels worldwide. In GB, 20%-30% of all

passengers currently use the onboard Wi-Fi service but in other European countries - where the trackside mobile connectivity delivers more consistent 4G/5G coverage and performance - usage increases to 40%-50%.

Also, more broadly, we believe that mobile digital technology and services have a crucial role to play in encouraging modal shift and increasing the attractiveness of rail – thereby contributing to promoting environmental sustainability. It is Icomera's view that policy development work supporting infrastructure investment strategies for a future intelligent transport system must ensure equality of consideration for digital infrastructure alongside track, buildings, power supplies, signalling and other equipment.

Moreover, the provision of free, high capacity Wi-Fi on public transport is consistent with the objective of creating digital inclusivity for all in society, especially for citizens who might otherwise be excluded due to the costs and other restrictions on conventional mobile contracts. Our technology enables the breaking down of barriers to opportunity for those wishing to access employment, to travel for work or leisure by sustainable means and to contribute to inclusive economic growth.

### **UK Government Policy and Previous Consultations**

Unfortunately, the past ten months has probably been the period of greatest anxiety for our business and our sub-sector of the rail industry in the twenty years since our technology began to be deployed in GB. The review of passenger train Wi-Fi provision in the DfT-controlled franchises - first exposed in the media last May - has cast a shadow over the investment decision-making processes of these customers, creating uncertainty for future employment in this technological supply chain where we are developing world-beating solutions with potential for export from the UK.

This specific and unwelcome DfT intervention compounded the six years of drift in rail policy begun by the instigation of the Williams Review by the then Secretary of State for Transport in 2018. Like many other rail businesses and associations, Icomera has invested considerable management time and expertise in responding to the consultation exercises undertaken by public agencies during the preparation of the White Paper and subsequently, yet the output from these has so far proved to be of no tangible benefit either to our company, our customers or the end users who purchase tickets to travel by

train. No better highlighting of this wasted effort has been expressed than the report of the National Audit Office published on 8 March 2024<sup>1</sup>.

Specifically, Icomera engaged not just with the UK Government's Williams Review (and welcomed its *Rail in the future transport system* evidence paper) but also with the Great British Railways Transition Team (GBRTT) Call for Evidence for the Whole Industry Strategic Plan (WISP) and the DfT consultation on legislation to implement rail transformation.

In the last of these exercises, Icomera identified ten areas of interest or concern:

1. Anxiety about increasing complexity rather than promised simplification;
2. Absence of the promised cultural change;
3. Uncertainty over whom Icomera and similar suppliers will contract with;
4. Erosion of ORR (Office of Rail & Road) autonomy;
5. Erosion of consumer protection;
6. Unclear roles for Devolved Administrations and city regions;
7. Confusion on data sharing;
8. Vagueness on innovation and the role of innovators;
9. Lack of focus on people and digital skills; and
10. Difficulty of business planning.

Our company asked for clarity from the UK Government on eight specific points:

1. Where responsibility for Wi-Fi and other frontline connected services will ultimately be located, i.e. within the new GBR organisation or the inherited Network Rail structures;

2. Whether the Government will ensure that appointments leading on connectivity will be made swiftly to populate the rail industry organisation chart, along with a commensurate programme of cultural change to promote engagement with and opportunities for innovators in the diverse supply chain;
3. What obligations the Secretary of State will place on GBR via its integrated rail body licence or through Directions and Guidance to ensure that a strategy for innovation including in Wi-Fi and other connected services is developed and implemented rapidly, and what role the ORR will have in ensuring compliance;
4. How the continuing independence of the ORR and bodies representing consumers and people with disabilities will be safeguarded;
5. How the Devolved Administrations in Scotland and Wales and Sub-National Transport Bodies and local government in England will be encouraged to work with GBR in devising and implementing multi-modal Wi-Fi and connected systems strategies;
6. How the generalised pledge of open data for the rail industry will be calibrated to reflect the value delivered by the gatherers and managers of data whilst ensuring customer confidentiality and that competitors to rail are not unfairly empowered;
7. What approaches will be employed to take the managers and frontline workers of the rail industry willingly and enthusiastically on the innovation journey; and
8. Modification to the Impact Assessments better to reflect the effects on the Wi-Fi and connectivity supply chain of the legislation and the Rail Transformation Programme.

We carefully examined the DfT's response to this consultation published on 20 February 2024 but could find little evidence that our views had been taken into account.

Icomera, therefore, welcomes this yet further opportunity provided by the Committee to make the case for our vision of a connected GB rail system and trusts that the exercise will prove to be less futile than our previous efforts.

## **The Committee's Call for Evidence Questions**

### **Section 1: The Integrated Rail Body**

***If enacted, would the draft Bill provide the necessary legislative foundations for an integrated rail body with franchising powers (Great British Railways), as envisioned in the Plan for Rail?***

Based upon our experience of the GB passenger rail market, Icomera questions the principle of whether it is desirable for franchising powers to be transferred to Network Rail Infrastructure Limited (NRIL) as the integrated rail body (IRB) as envisaged in Clause 2 of the draft Bill and the accompanying explanatory notes.

Our experience is that innovation in connectivity for trains is much stronger within commercially-driven TOCs – whether in the private or public sectors - than in GB's monopoly supplier of fixed railway infrastructure, NRIL. The rollout of Wi-Fi on the GB rail network was and continues to be essentially a TOC initiative, originally taken forward by the most innovative and their private sector owning groups in collaboration with Icomera and other suppliers.

This is not to say that partnership with capable and enterprising public bodies is unimportant. A significant proportion of rail operations is now under the control of the DfT's state-owned Operator of Last Resort (OLR), the Scottish Government or the Welsh Government. Even those nominally in private hands are largely fulfilling DfT specifications under National Rail Contracts (NRCs).

The sector needs imaginative public sector partners who will ensure that the innovations Icomera and other companies generate do not become trapped in the technology sidings. Such partners must address the absence of any industry mechanism to take the successful ideas to scale and product adoption. The UK's overseas rail competitors have addressed this problem, most notably Deutsche Bahn (DB) and Trenitalia, which may be seen as the market leaders.

Our difficulty with Clause 2 of the draft Bill reflects that the UK Government's rail reform agenda as embodied in 2021's Plan for Rail envisaged the establishment of Great British Railways (GBR) as a new organisation and placed great emphasis on creating a fresh and dynamic culture within it. However,

the present draft Bill envisages the state-owned NRIL being designated and licenced as the IRB and merely being renamed GBR, with train operations made subservient to it by means of Passenger Service Contracts (PSCs).

NRIL has resisted for years proper engagement with the supply chain for Wi-Fi and other connected systems even though these have been embraced by the TOCs. Instead, NRIL has expended significant effort and money on several failed attempts to devise and implement its own centralised strategy whilst generally preferring to work with giant telecommunications corporations rather than nimble small and medium sized providers such as Icomera.

Basing GBR in a new office in Derby following the competition between potential host cities and towns is unlikely to do very much to change NRIL's 'not invented here' culture if decisions are to be taken by the same people with an embedded outlook. This persistence of the old culture was reflected in the fact that digital technology was not specifically mentioned in 2021's WISP Call for Evidence issued by the GBRTT, ignoring its vital role in meeting the strategic objectives identified in that very document and the White Paper's aspiration for a customer-centred railway. The GBRTT is, of course, already a subsidiary business of NRIL. The legislative consultation undertaken by the DfT in 2022 was similarly vague.

In the White Paper and at a vast range of official and unofficial events since its publication, warm words have been expressed around the need for innovation in rail in order to modernise and meet customer expectations. Icomera and others in the sector feel that we are way ahead of the GB rail industry's strategic thinking in these areas, yet we still have no clear idea of how we will be expected and allowed to engage with GBR. Nearly three years after publication of the White Paper and the establishment of the GBRTT, it is still not clear who owns the industry's digital and other technical innovation strategies. Icomera even offered to second personnel to GBRTT but received no response.

Innovation by its very definition has to be an agile process with the space and patience allowed in which failure can happen and be learned from. TOCs have generally understood this principle over the past twenty years but we are not convinced it is recognised by the DfT, NRIL or the GBRTT. The mindset seems to be one where development of an all-encompassing strategy comes first but this means that the slowly emerging framework can often be overtaken by the sheer speed of technological progress. We have even encountered difficulty in

securing the space and time for evaluation of new ideas when we are competing at facilities such as test tracks with more traditional rolling stock and infrastructure testing.

The UK Government's First-of-a-Kind funding and similar initiatives have been welcome attempts to change this culture but there needs to be a clearer pipeline towards rapid, at-scale deployment of successful products once they have achieved proof of concept. Without this comfort, the supply chain can find itself writing-off the investment and the innovation it led to.

The indifference of NRIL and the GBRTT to the importance of market-led connectivity comes as a particular disappointment given that the Williams Review's *Rail in the future transport system* evidence paper in 2019 identified a number of passenger expectations, including:

1. There is an emerging expectation of seamless integration across transport modes;
2. With the proliferation of personal connected devices, people expect to be 'always connected';
3. Increasing expectations of immediate and personalised services;
4. Expectation to be better informed;
5. Expectation of mobile/remote working as organisations move towards flexible working practices;
6. The social expectations of younger people in particular identified – expect to access services independent of location and expect to be able to make efficient use of travel time.



It is interesting to reflect on the prescience of these findings as the railways continue to recover ridership and revenue following the impact on both of the work-from-home instructions during the Covid-19 pandemic and their residual effect on lifestyles. People are travelling more flexibly, leading to flatter peaks, different train formations and greater price sensitivity in ticket purchasing. Such changes are already having short- and long-term impacts on service provision but also on the way in which digital technology is used as an integral part of train management and planning.

Changing expectations mean that rail needs to be attracting 'Generation Z' – the digital natives born into a connected world between 1995 and the mid-2010s - who are universally focused on the future. Generation Z should be natural customers for the railways as they are acutely aware of issues around the climate emergency and reducing their own impact on the environment.

Yet, Generation Z are also the most discerning group of consumers ever, brought up in a world of increasingly near-instant delivery of their requirements and with very high expectations of quality. Rail will have to meet these expectations consistently to attract and retain their patronage. The prevalence of permanent digital connectivity and information access off-train is what drives, and will continue to power, their expectation of the same standard on-train.

However, it is also essential that questions of connectivity are not wholly directed towards the needs of younger rail users. Increasingly, all travellers are digital travellers and, in particular, those using the train either for business or leisure may well have been drawn away from the car or the aircraft by the connectivity offered onboard. Innovation is, therefore, more than a 'nice to have' but is absolutely essential to the continued relevance of the GB passenger railway and we do not trust NRIL in its new GBR guise as the custodian of this mission.

Wireless connectivity on trains already does much more than deliver Wi-Fi to customers via their own personal devices. It is also providing the same enhanced on-train information to customers via screens and so helps those customers without their own smart devices – a group that will always continue to exist. We call this 'omnichannel passenger information'.

In the future, information will need to be shared cross-modally to enable door-to-door personal journeys. In the context of a climate emergency and a crisis

of poor air quality in many of our cities, Icomera believes that such information should be shamelessly modally biased through Mobility as a Service (MAAS) and other applications so as to encourage the use of active and sustainable travel modes.

In this context, delighting the customer with the quality, reliability and affordability of mass transit offerings will become even more important as the connected traveller will be able instantly to share their displeasure over substandard services via social media. Modal bias for environmental reasons must not lead to consumers feeling they are being directed towards inferior or old-fashioned products.

Urbanisation and the attractions of living in cities – which are likely to be attractive to Generation Z - should make absolute sense for mass transit. Yet the evidence of ridership patterns in cities such as London well served by efficient public transport suggests that private hire supported by ride hailing apps was the mode of travel seeing the fastest growth before the Covid-19 pandemic.

The reasons for this are simple. It is door to door convenience supported by the perceived speed of journey and the competitive prices offered. For some users there may also be a consideration of personal security which is perceived as greater in a private hire vehicle than in the more open environment of a train, tram or bus – especially at night.

From the UK Government's perspective, future rail operators – whether in the private or public sectors - may be encouraged to expand their reach by offering end to end journeys by means of ownership of, or partnership with, 'last mile' operations. This would be a way of enhancing the value of rail businesses and preventing the reverse process whereby ride-hailing app providers seek to offer the core rail journey as part of their product.

Many early railway companies aspired to own the end-to-end journey – both for passengers and small freight items. History could come full circle as the smart use of space – especially off-peak – could enable the return of parcels traffic with secure despatch and collection at stations.

***Will the integrated rail body (IRB), as proposed in the draft Bill, achieve the Government's aim of a 'guiding mind', providing: (i) better accountability, (ii)***

*more reliable services, (iii) greater efficiency, and (iv) coordinated growth, across both passenger and freight sectors?*

**(i) Better accountability**

From the perspective of Icomera, NRIL should not be designated and licenced as the IRB as envisaged in Clause 1 of the draft Rail Reform Bill due to its consistent failures in the rollout of enhanced digital connectivity for passenger or operational use as described above.

Furthermore, in the recent past, too many opportunities have been missed to make provision for telecommunications equipment (e.g. to enable mobile coverage in tunnels) within new rail infrastructure projects. HS1 was a notable example of such failure but the trend continues across the GB rail network.

Trying to deploy such equipment retrospectively is extremely challenging due to time, cost, planning constraints and operational impact. Consideration of future digital infrastructure should be included from the design stage on such projects. Digital mobile infrastructure at the trackside, in stations and at rail depots must be given equal weighting in the design phase to physical environment aspects. We remain to be convinced that an IRB based upon an unreformed NRIL will be able to address these issues.

Icomera would like to see the DfT require NRIL and the wider rail industry to learn how to collaborate with mobile broadband sector strategies to ensure joined up outcomes that maximise benefits for all stakeholders and customers rather than diverting huge amounts of effort and resources into reforming governance and management structures.

**(ii) More reliable services**

Train fleets can be regarded as moving infrastructure given that they are integral to the rail service and fixed structures serve no purpose without them. Nevertheless, the expertise in procuring new fleets does not reside within NRIL but with TOCs and Rolling Stock Leasing Companies (ROSCOs). Trains need to be designed and built ensuring that digital connectivity provision accommodates future data traffic demands. For example, multi-Gbps bandwidth and multi-TB onboard server capacity.

The objective of meeting ever expanding customers' needs and expectations has always been central to Icomera's approach to developing and delivering rich mobile digital communication systems and services via the TOCs. Initially, this was focused primarily on simply providing Wi-Fi to passengers but has become just as much about utilising that connectivity to deliver customer-focused services, including:

- Live information about the journey and onward connections;
- Pre-boarding messaging on where and when to board;
- Personal digital assistance for sight and hearing-impaired travellers;
- Live passenger feedback, enabling operations centres to monitor and respond to passengers' concerns and opinions;
- News, advice and alerts, reminders and information about passengers' destinations;
- Monitoring passenger occupancy levels in real time – helping passengers to maintain social distancing (when needed) and avoid overcrowding; and
- Security - by connecting on-train CCTV to the secure onboard network, it is possible to manage and monitor images in real time and respond to emerging situations. Further to this, by applying machine learning these same cameras could be used for automatic passenger counting and weapon detection.

Further, although interest in these applications was slower to develop, our services are now also increasingly about utilising digital communication technologies to improve the efficient management of trains, on-board services and stations, benefiting both passengers and TOCs and helping to meet the railways' financial sustainability objectives by increasing the efficiency of operations, asset management and capital investment.

Services of this kind include:

- Train systems monitoring and collection of operational data;

- Monitoring lineside infrastructure for incident prevention and maintenance management;
- Monitoring track and trackside landscape and vegetation for emerging risks;
- The capture and utilisation of passenger metrics, providing real-time information regarding the numbers on any given service, and mapping passenger flows - over time, this information can be aggregated and utilised by operators to optimise timetables and fleet allocations;
- Live connectivity with front line staff and between staff and passengers;
- Helping to manage station flow and minimising dwell time; and
- Accelerated incident recovery through real-time data sharing between operators, Network Rail and the British Transport Police.

This progress simply would not have occurred if we had waited for NRIL to develop one of its many abortive connectivity strategies, which is why this organisation cannot be relied upon to take over the leading role of the TOCs in this field.

### **(iii) Greater efficiency**

Many digital train operation and customer service applications depend on efficient data relay and management which requires secure and dependable mobile connectivity. Digital technology enables a two-way conversation between passengers and operators while the journey is in progress and enables capture of in-journey feedback from customers while on board. This becomes a regular touchpoint that generates invaluable data for understanding the evolving landscape of passenger routines, sentiment, needs and expectations.

It is the central theme of this evidence paper from Icomera that TOCs rather than a new GBR organisation based upon NRIL are best placed to take forward initiatives in this field. We are able to illustrate the point with regard to the Committee's question on greater efficiency with the West Midlands Metro trial of Icomera technology described below.

Live trials have been conducted by Icomera subsidiary GoMedia Services Ltd, alongside Wordnerds and West Midlands 5G - funded by West Midlands Combined Authority and the UK Government's Department for Digital, Culture, Media and Sport. By combining GoMedia's contextual passenger feedback technology with Wordnerds' AI-led sentiment analysis tools, a new onboard and cloud-based solution gave West Midlands Metro unprecedented access to measurable and actionable live passenger feedback.

The speed at which the data is processed is dramatically increased when using the 5G network. It also allows for the use of different types of passenger-generated data. For example, passengers connected to Icomera's centralised onboard connectivity network can send videos and images of any issues to the operator using the onboard Wi-Fi without incurring any data costs themselves. Some 91% of test responses that should have triggered an alert were correctly identified by the Wordnerds platform, whilst the average time between response submission and alert receipt was two minutes<sup>2</sup>.

#### **(iv) Coordinated growth**

Our work with the Northern Trains TOC to create its Intelligent Train Fleet shows what is possible in growing ridership and the wider economy through connected systems.

We have successfully collaborated to integrate systems driving customer satisfaction (Wi-Fi and information) with those which support operational efficiency (driver advice, automatic passenger counting, remote system and condition monitoring and energy metering) along with security measures (digital video surveillance and cyber security).

Beyond these immediate objectives, we consider that mobile digital technology and services also help play a part in contributing to economic growth by helping improve work efficiencies.

A 2018 OFCOM report indicated that 32% of passengers use Wi-Fi connectivity in a work capacity<sup>3</sup>. With many employers seeking the return of their staff to workplaces in the wake of the work-from-home regime during the pandemic, provision of robust Wi-Fi connectivity comparable to that available on domestic routers for the commute has become much more important.

***Would the provisions of the draft Bill establish an IRB with the independence and accountability to achieve its aims? If not, what amendments would be needed?***

The draft Rail Reform Bill and the supporting documents from the DfT purport to be establishing a new, arm's length and independent guiding mind for Great Britain's Railways as envisaged in 2021's Williams-Shapps Plan for Rail. In practice, implementation of the draft Bill's provisions would see the existing and unreformed NRIL taking day-to-day control over the railways, expanding from being a monopoly supplier of infrastructure access and associated services to the TOCs into their master for all practical purposes.

As if this in itself is not a reform of dubious merit for rail users, stakeholder and suppliers, the Bill then creates in Clauses 1 (4D) and 16 poorly defined yet extensive powers for the Secretary of State to continue interfering in the management of the railways through licencing powers, Directions & Guidance and statutory instruments.

The 2005 Railways Act already provides a framework for the management and operation of Great Britain's railways which ushered in a period of unprecedented ridership and revenue growth along with extensive innovation in customer service such as Wi-Fi provision and the introduction of many new train fleets. The 2005 Act was only called into question by the exceptional circumstances of the 2018 timetabling crisis from which, in our opinion, lessons should have been learned, procedures modified and collaborative cultures engendered rather than this event being used as an excuse for wholesale and expensive reorganisation.

The 2005 legislation provides the Secretary of State for Transport with powers appropriate to the degree of public financing going into Great Britain's railways as they continue to recover from the impact of the Covid-19 pandemic and consequential longer term changes to patterns of customer usage. Through the role of the DfT's franchising organisation, the state is able to select private sector operators (or public sector via the OLR) according to policy and financial expectations of the time while being fully accountable to Parliament for these decisions. Network Rail's job is to provide ever-improving engineering excellence and safe infrastructure of high quality, being regulated as a monopoly supplier of these services by the Office of Rail and Road (ORR).

We fail to see the justification for the upheaval proposed in the draft Rail Reform Bill and the associated costs. This reform process – already nearly three years old – is expected to take up to seven years fully to be implemented and to take from taxpayers an eye-watering £381 million in transitional costs. There is an unquantified cost to the industry from the distraction and disruption resulting from the reform programme.

Indeed, we would refer the Committee to the report in the Sunday Times by Nicholas Hellen published on 28 January 2024<sup>4</sup> quoting Icomera's estimate that securing Wi-Fi connectivity on GB trains comparable to current home or office speeds could be achieved for an investment of £200 million, in other words just over half of the budget for rail reform which has so far produced no tangible output whatsoever. This theme was expanded upon by Daniel Susskind in the New Statesman on 6 March 2024 where it was estimated that the economic benefit to the UK of "fixing" train Wi-Fi could be £9.9 billion<sup>5</sup>.

***Are the arrangements set out for the granting and amendment of the IRB's licence and the inclusion of specific conditions within that licence appropriate?***

Schedule 1, Paragraph 3(2) makes the Secretary of State the licencing authority for the IRB in addition to granting the wide range of powers set out elsewhere in the draft Rail Reform Bill. We suggest that greater transparency and diversity of control would be achieved if this power resided with the ORR.

In relation to Icomera's specific areas of interest in the GB rail industry, we seek this greater transparency to increase the visibility for suppliers, operators and end users of DfT decisions driven by short-term budgetary considerations such as the unannounced review of passenger Wi-Fi provision launched during the spring of 2023. An unduly cosy relationship between the DfT and the IRB (henceforth in control of the TOCs via PSCs) would not serve the public interest.

***What will be the effect of the requirement on the IRB to prepare an annual report setting out what it has done to increase private sector involvement in the running of railway services?***

The requirement in Clause 1 (4C) for the IRB to report annually on what it has done to "increase the involvement of businesses in the private sector in the provision of railway services" is too narrowly drawn and seems to be



motivated solely by the recent enthusiasm of current UK Transport Ministers for open access TOCs.

The open access TOCs on GB railways have proved to be some of the most innovative in the industry, especially where Wi-Fi and other connected systems are concerned. However, they are far from the full community of private sector rail businesses which includes a vast range of companies in the supply chain as well as technological innovators and professional services providers.

Icomera believes that the Clause should be amended to reflect the need for the IRB to report on its engagement with and support for this community so as to assist in preventing it becoming an overweening and excessively dominant force in the rail sector.

***What arrangements should be put in place for scrutiny of the IRB's business plan?***

Icomera recommends scrutiny of the draft plan by an annual joint inquiry by the House of Commons Transport and Public Accounts Committees with comparable sessions at Holyrood and Senedd Cymru.

***Are there further elements of the Government's aims for the IRB that should be given a statutory footing?***

We ask the Committee to consider recommending that the provisions of rail reform relating to open data are written onto the face of the draft Rail Reform Bill so that these may be subjected to proper parliamentary scrutiny and provide a sound legal basis for management of the issues in the future.

In its 2022 consultation on rail reform legislation, the DfT restated the principle from the 2021 White Paper that rail industry data should be open by default, asking respondents whether any issues needed to be addressed.

Icomera expressed concerns around this development as a rail industry supplier whose very existence is predicated on data.

In section 4 of the Williams Review's *Rail in the future transport system* evidence paper, five issues were identified as areas and opportunities which could be embraced to equip the rail sector to ensure it is able to respond to the needs of tomorrow's customers. These included:

- how to improve services for passengers, in an age where technology has increased expectations of communications and customer service;
- the need to align incentives between different stakeholders, to support change;
- the importance of innovation, and how to encourage more of this across the sector;
- the way in which digital connectivity along railway routes could enhance train operations; and
- the role of data, what is collected and how, and the way in which it is shared.

Mobile digital connectivity in rail is evolving to be just as focused on operational efficiency as it is on meeting customer expectations and needs. Existing and emerging systems can be utilised to create a step-change in safety, efficiency, asset stewardship and infrastructure management leading to improvements in operational efficiency as well as savings in time and cost.

Train systems monitoring and collection of operational data is already bringing benefits in the efficient management of fleets and assisting depot staff with maintenance tasks, enabling predictive interventions to be made to anticipate technical failures. Icomera's current initiatives include working with the Northern TOC where our technology underpins the deployment of the first fully digital trains in the UK, with all systems onboard being able to transmit operational data in real-time.

Similarly, on-board monitoring can be combined with other technologies and centralised connectivity platforms to enable a more efficient maintenance strategy in relation to railway infrastructure. The ability accurately to determine the location of issues along the track using passenger rolling stock helps ensure a resilient and reliable 'Predict and Prevent' maintenance strategy, whilst better maintenance reduces the time needed to detect and resolve an issue, delivering improved performance at lower cost and offering end users a more reliable service.

In a recent UK trial, NRIL has worked with Icomera to produce an example of how a centralised connectivity platform can be leveraged by infrastructure owners and operators to support solutions which improve operational efficiency. The trialled 'RailLoc' system on the Class 153 Visual Inspection Units can be used for condition monitoring through a geo-location platform for railway infrastructure owners and for train operators who need access to a highly accurate record of train movements and precise track centreline maps.

A further area of operation where technology has the potential to generate efficiencies is the capture and utilisation of passenger metrics, providing real-time information regarding the number of passengers on any given service and mapping passenger flows. Over time, this information can be aggregated and utilised by operators to optimise timetables and fleet allocations.

Data is now growing exponentially on Britain's railways in a way that could never have been imagined when the restrictive 1993 Railways Act was being drafted. For the value of this data to be realised, there will need to be willingness to unlock cross-modal data sharing within a standardised, templated legal framework that accepts the obligations of the EU General Data Protection Regulation and successor UK legislation whilst recognising the costs incurred by those organisations which collect, manage and share the information.

When responding to the DfT legislative consultation in 2022, we stated that Icomera had not yet seen any evidence that GBRTT includes personnel who have the qualifications and remit to create such a framework.

The data challenge exists across most industries whilst concern about how their data is managed is a source of wide concern to the public. We believe it is essential that the legislation for GB rail reform draws upon best practice from across society and treats data as an incredibly important resource for a successful future. Simply adopting an open data policy without understanding the value and power of this information will hand it over to Silicon Valley companies able to harvest it for the creation of the next disruptive technology.

We have seen before how disruptive transport technologies are able to access the open source resources of their predecessors. Railways did this to canals and then had it done to them by road haulage and motor buses, with a more recent example being ride-sharing apps competing with traditional taxis and private hire. We should not want to make it any easier than it already is for a

disruptive technology to undermine our public transport providers when the latter's role is so important to our economy, social inclusion and well-being and meeting the Net Zero target.

The DfT's response to the legislative consultation published at the same time as the draft Rail Reform Bill appears generally to be disparaging about those respondents who expressed reservations about the open data principle but, nevertheless, commits to "introduce appropriate safeguards and protections for information confidentiality such as through legislation, contracts, the licence, or guidance to ensure that commercial sensitivity is properly considered before data is shared or published". It is not obvious to us where these powers have been placed in the draft Bill, hence our request to the Committee that they be included.

## **Section 2: Other provisions**

### ***Are the interests of passengers and freight users sufficiently promoted by the provisions of the draft Bill?***

The draft Bill appears to make adequate consumer protection provisions as they are based on those currently in existence, although we will read with interest the submissions to the Committee from the relevant organisations.

Elsewhere in this submission, we have highlighted the importance of reliable connectivity via train W-Fi to enable TOCs and their customers to be in near-instantaneous communication in order to provide feedback and information.

### ***Does the draft Bill make effective provision for the role of the Office of Rail and Road?***

Since its establishment under the 1993 Railways Act, the Office of the Rail Regulator – now the Office of Rail and Road (ORR) – has existed to provide an independent regulatory and competition regime for the rail industry. The ORR's powers extend beyond fair access to track capacity for passenger and freight operators into many much wider aspects of rail industry activity.

The ORR has been subject to a gradual erosion of its authority and independence from the highpoint of the original 1993 Railways Act and this process seems to be continuing in the present UK Government's proposals for rail reform. Yet, for the private sector and the supply chain, the existence of

an independent regulator has provided some comfort of a degree of protection from an overbearing NRIL or DfT and has allowed additional train service innovation through the open access regime (the very successful Lumo service between Edinburgh and London being the latest example).

Constraints on the powers of the ORR being introduced in parallel with a centralisation of industry purchasing power and leadership in a single body – GBR - must bring with it concerns that third party suppliers of a whole range of goods and services will enjoy less certainty over the degree to which a level playing field is being retained.

In our response to the DfT's legislative consultation in 2022, we argued that this risk could be mitigated by the IRB licence issued to GBR by the Secretary of State for Transport laying specific obligations regarding Wi-Fi and other connected services, giving the ORR an important role in their enforcement. We continue to hold this view.

***What assessment should be made of the draft Bill's provision that the Scottish and Welsh governments may arrange for the IRB to exercise their devolved franchising powers?***

Clause 3 of the draft Rail Reform Bill provides a little clarity to what has hitherto been a high degree of opacity around the Government's rail reform process insofar as the powers of the Devolved Administrations in Scotland and Wales and local bodies in England with direct duties such as Transport for London and Liverpool City Region Combined Authority are concerned.

The main purpose, however, seems to be to give Scottish and Welsh Ministers to option of handing back to GBR to exercise on their behalf the franchising powers devolved to them by the UK Government and Parliament. We are at a loss to understand why a Devolved Administration might be expected to deny itself the freedoms previously granted and exercised.

The draft Bill fails to set out any vision for the role of the Devolved Administrations, the Greater London Authority, English Mayoral Combined Authorities or local government in GB rail and remains very weak on the role of England's other Sub-National Transport Bodies. These are the organisations best able to drive cross-modal coordination of public transport which is vital to switching travel away from cars and which Icomera is increasingly supporting

with technology linking users seamlessly as they move between train, metro, bus and tram.

Fast and reliable digital connectivity has already become a passenger expectation for business, work and education purposes and will continue to be a vital element in the choice to use public transport. Digital connectivity and real-time information flow provides the opportunity for rail to become the backbone of a joined-up mobility experience facilitating door-to-door personal journeys managed via smart mobile devices. This will provide the passenger with a seamless guide through their journey, with accurate information on routes, services and prices. It will also enable safe and efficient modal transfer and empower the customer to respond rapidly and intuitively to changing events and possible disruptions.

Information provided can highlight the 'active' mode (walking and cycling) routes as well as 'sustainable' mode options such as metro, bus or tram. Additionally, rail operators may be encouraged to expand their reach by offering end to end journeys by means of ownership of, or partnership with, 'last mile' operations facilitated by wireless connectivity.

In this regard, Icomera is the world leader in the provision of such modal interconnectivity – for example in providing a single Wi-Fi sign-on between train and station in partnership with Chiltern Railways - but a key enabler for the future will be the presence of an energetic, committed and well-resourced local public transport authority. An illustration is our collaboration with RET in Rotterdam, Netherlands where the seamless transition covers trams, buses, ferries and stations.

***What will be the effect of the implementation in UK law of the Luxembourg Rail Protocol? Is the range of powers granted to the Secretary of State in clause 15 necessary to achieve the aims of the Protocol?***

Clause 15 of the draft Rail Reform Bill dealing with the Luxembourg Protocol appears to represent the UK Government using a convenient piece of legislation with which to enact unfinished business actually completely unrelated to its domestic change programme.

Icomera hopes the Committee will utilise consideration of Clause 15 to facilitate discussion of the issues facing the rolling stock market in Great Britain and to highlight the need for a secure pipeline of new build and refurbishment

orders to meet both the expanding demand from customers and the need to sustain the UK's train builders with their associated supply chains, including companies such as Icomera with our role in providing connected train technologies.

### **Section 3: General**

***Are the delegated powers envisaged by the draft Bill necessary and sufficient to meet its aims?***

Please see our response above regarding our concerns on the degree of unsupervised power granted to the Secretary of State under the provisions of the draft Rail Reform Bill and our suggestions for how this could be moderated.

***What lessons should be learned from previous legislative changes to the institutional architecture of the rail sector?***

Please see our response above on the merits of the 2005 Railways Act which we would prefer to remain the overarching legislative framework for the GB rail industry.

***Are there further provisions within the draft Bill that the Committee should focus its scrutiny on?***

Too little is said in consultative exercises about the role of human beings in running the railways and in the supply chain. Not only do we need to create a generation of railway managers whose minds are open to the possibilities of innovation – some of it coming from other sectors – but we need to instil a culture whereby frontline employees enjoy sufficient job security not to cause them to see every new idea as a threat to their employment.

Icomera has worked hard to tackle the latter challenge. We presented to the executive committee of the train drivers' trades union soon after beginning operations in the UK so as to remove any concerns that connectivity was about spying on railway staff. Later, we offered to train operators the facility to teach their front-line employees how to operate onboard Wi-Fi and other connected systems whilst also equipping them to be able to offer informed advice to passengers.

Since the publication by the present UK Government in 2021 of the Williams-Shapps Plan for Rail White Paper, there has been much talk of cultural change in the railways and, in parallel, suggestions that advantageous technological changes are being blocked by a resistant workforce and their trades unions. Over their 200-year history, railways in the UK have undergone several massive technological revolutions with most of these having been accomplished by agreement and relatively peaceful transition. Any future reform process should give as much attention to fostering a spirit of shared endeavour and cooperation as it does in the minute detail of supplier contracts or legislation.

An aspect of human involvement in the evolution of Britain's railways is that key suppliers such as Icomera need to be able to attract data scientists and other qualified personnel in a highly competitive labour market. One important factor for us in being able to do this will be the ability to demonstrate that GB rail is a market for our products and their skills which has the leadership – from Ministers down – the vision, the strategy and the supporting decision-making infrastructure to offer a secure future for these personnel. With that kind of capability, we will also be able to develop overseas markets for products and services developed in the UK.

## **Conclusion**

Icomera is at the service of the Committee in providing further information or in offering a witness for the oral evidence sessions forming part of pre-legislative scrutiny.

March 2024

## **Endnotes**

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<sup>1</sup> <https://www.nao.org.uk/press-releases/rail-reform-the-rail-transformation-programme/>

<sup>2</sup> <https://blog.wordnerds.ai/customer-experience-revolutionwith-west-midlands-5g>

<sup>3</sup> [https://www.ofcom.org.uk/\\_\\_data/assets/pdf\\_file/0022/117256/CMR-2018-narrative-report.pdf](https://www.ofcom.org.uk/__data/assets/pdf_file/0022/117256/CMR-2018-narrative-report.pdf) (p8)

<sup>4</sup> <https://www.thetimes.co.uk/article/the-real-reason-your-train-wi-fi-is-painfully-slow-kntg36hjj>

<sup>5</sup> <https://www.newstatesman.com/comment/2024/03/hurry-up-and-fix-the-wi-fi>