

## **GTR Essays Series on the Digital Railway launched - *From the Industrial Revolution to the Digital Revolution***

- Range of contributors from across industry, including the Department for Transport, Network Rail, Siemens, the Digital Catapult and Transport Focus
- Focusing on how Thameslink trains will use new technology and digital signaling to improve speed, punctuality and reliability of services
- Essay Series looks beyond the railway to include diverse perspectives from London First, the aerospace industry, advanced manufacturing and fin-tech

**TUESDAY 8<sup>TH</sup> MAY 2018:** Govia Thameslink Railway has today published a thought-provoking and inspiring Essay Series looking at Digital Railway, titled *From the Industrial Revolution to the Digital Revolution*.

In the spirit of collaboration that has been fundamental to the delivery of the Thameslink Programme, these Essays have been produced in partnership with the wide range of organisations, businesses and passenger groups that work together on a daily basis to maintain, enhance and improve the UK's railways. The Essay Series also looks beyond the railways and draw from a range of perspectives from across different industries and sectors - including advanced manufacturing, aerospace and fin tech.

GTR is releasing this Essay Series as the Thameslink Programme begins running the UK's first, self-drive mainline trains between London St Pancras and London Blackfriars. Using technology provided by Siemens and operating on Network Rail's new digital signaling system, these trains will run between London St Pancras and London Blackfriars at a rate of every 2-3 minutes – a frequency never before reached on Britain's railways.

GTR is spearheading the digital transformation of the rail industry and automation will make this 'core' north-south connection across the capital the new heart of the region's railway network. It will serve 80 more stations than today on 12 separate routes, helping create capacity for up to 60,000 more people in each peak and speeding journeys for hundreds of thousands of passengers.

Delivered by the Government-sponsored £7bn Thameslink Programme, which also includes Britain's biggest new train fleet and the £1bn upgrade of London Bridge station, it is a key element in GTR's RailPlan20/20 modernisation plans.

GTR CEO Charles Horton said: *"As the title of this Essay Series suggests, the fourth industrial revolution is here. The digital revolution is fundamentally changing the way we live, play, work and travel. This profound convergence of industry and technology will boost efficiency, enhance productivity and create opportunity."*

*"The Digital Revolution is disrupting almost every industry and the breadth and depth of these changes will mean the transformation of entire systems. GTR is embracing this challenge and seizing the opportunities it provides. We are embracing digital technology to blaze a trail in the industry and boost capacity through the heart of London."*

The Essay Series was launched at a major event hosted by GTR at the Digital Catapult, the UK's leading advanced digital technology innovation centre. The launch event featured speeches from GTR CEO Charles Horton; David Waboso, Managing Director of Digital Railway, Network Rail; Irina Parsina, The Modern Workplace Unit, Microsoft; and Rt Hon Sir Patrick McLoughlin MP, former Secretary of State for Transport.

The Essay Series includes the following chapters and contributors. See below for key quotes from each essay:

**David Waboso, Managing Director, Network Rail**  
***Delivering the Digital Railway***

1. “For economic growth, we need a mobile, flexible workforce supported by an efficient and affordable network. One of the key ways to get there is by switching to digital signaling, which will deliver a lower cost railway and unlock capacity on existing lines”
2. “Delivery of our flagship infrastructure projects such as the Thameslink Programme demonstrates that digital train control and signaling can and will bring major benefits to passengers through the heart of London”.

**Charles Horton, CEO, GTR**  
***Digital in the Changing Railway***

1. “Quite simply, we need more trains to run more reliably and more frequently in order to meet passenger demand now and for generations to come. We cannot respond to this growth by doing what we’ve always done. We need to do things differently, and an incremental approach just won’t do”.
2. “With the new Thameslink beginning its phased opening this month, Britain will have its first digital railway in operation, which over time will mean no less than 24 trains running in each direction, in peak hours, through the central core. That’s a train every 2.5 minutes”.
3. “This revolution has started with Thameslink but the potential is nationwide and my ambition is for the brand to become a model of excellence for others across the world”.
4. “My railway journey began working on the back of a tube train. I’m convinced that it will end with me paying for my travel from my front door to my ultimate destination”
5. “The railway laid the foundations of modern Britain in the 19<sup>th</sup> Century. But now we are ready for the fourth industrial revolution and our technology is ready to take centre stage once again”.

**Anthony Smith, CEO, Transport Focus**  
***The Customer Perspective***

1. “The white heat of digital technology should produce improvements for rail passengers as it has for other transport sectors and different industries”
2. “The ability of digital technology to allow more trains to run on the network will also drive passenger satisfaction, trust and how they feel about the journey”.

**Gordon Wakeford, Managing Director of Mobility Division, Siemens**  
***The Technology***

1. “Developed specifically for the Thameslink Programme, for train operator GTR, the all new Class 700 is the world’s first ‘second generation; fully digitally-enabled train in passenger service, providing significantly increased passenger capacity as well as improved safety, security, comfort and economy”.
2. “The Class 700 is the first mainline train to successfully use Automatic Train Operation (ATO) and the European Train Control System (ETCS) in the UK, these technologies being critical to the delivery of additional capacity that is desperately needed for the core routes across London”.
3. “Through the development and implementation of digital technologies, the UK is maintaining a leading role, enabling the rail industry to export that capability to other countries”.

**Jasmine Whitbread, CEO, London First**  
***The Economic Perspective***

1. “Effective transportation is critical to the core strength of London and the South East, as a place where a wide range of economic opportunities exist in close proximity to each other”.
2. “Thanks to digital railway technology, by December 2019 Thameslink will offer a Tube-like service across the centre of London at the busiest times, with trains every 2.5 minutes”.
3. “Over the coming year, the eyes of the world will be upon us as first Thameslink and then Crossrail come into operation. Our challenge now is to ensure that this moment marks the continuation of Britain’s rail renaissance, and not the end of the story”.

**Nick Wright, Head of Digital Manufacturing, the Digital Catapult**  
***Digital beyond the Railways***

1. “Successful connectivity on transport routes is dependent on additional spectrum and infrastructure. For rural 5G deployments, shared systems could unlock significant opportunities for transport routes in the UK”.

**Mark Scully, Head of Technology for Advanced Systems and Propulsion, Aerospace Technology Institute (ATI)**  
***Beyond the Railways: Aerospace***

1. “The aerospace sector has been particularly successful in the application of digital tools to define product concepts, predict the likely impact of new technology solutions, and significantly improve the time between the concept and production of new products”
2. “Digital technology can also provide the opportunity for organisations to work with supply chains to provide an interactive, cooperative and collaborative environment, and use smart contracts to manage and structure ownership”
3. “The use of blockchain technology can provide a more agile approach to design and component maintenance contracts”.

**Nick Mackie, Head of Contactless & Transit, Visa**  
***Beyond the Railways: Fin Tech***

1. “The combination of increasing urbanization, changing customer expectations of their daily travel and the rise of connected devices – is reshaping mass transit”.
2. “Commuters expect their transit experiences to be fast, easy and secure, which is driving demand for multi-modal travel payments to be treated holistically, even when different service providers are involved”.

Ends.