



Welcome to NR+ Demonstrator Event 27 March 2020

Your Event Will Start at 11:00

Please Note the Following:

- Keep your microphone on mute to avoid background noise
- You can use the “Chat” box to type question or comments
- Questions will be addressed between presentation session, at the end or via the chat box

Please Note that this session will be recorded





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Welcome to NR+



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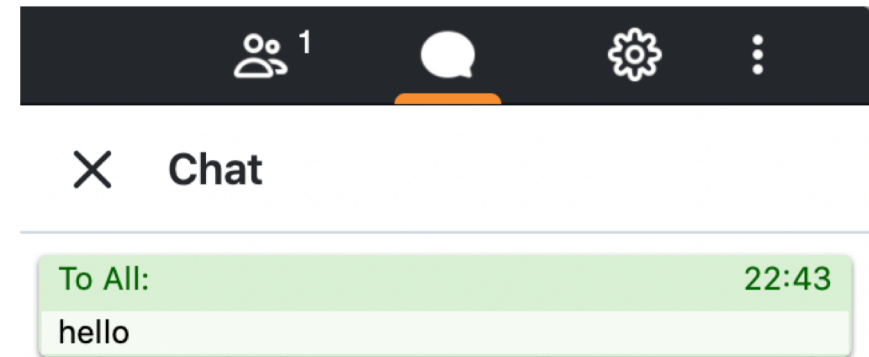
Department
for Transport

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House Keeping Rules

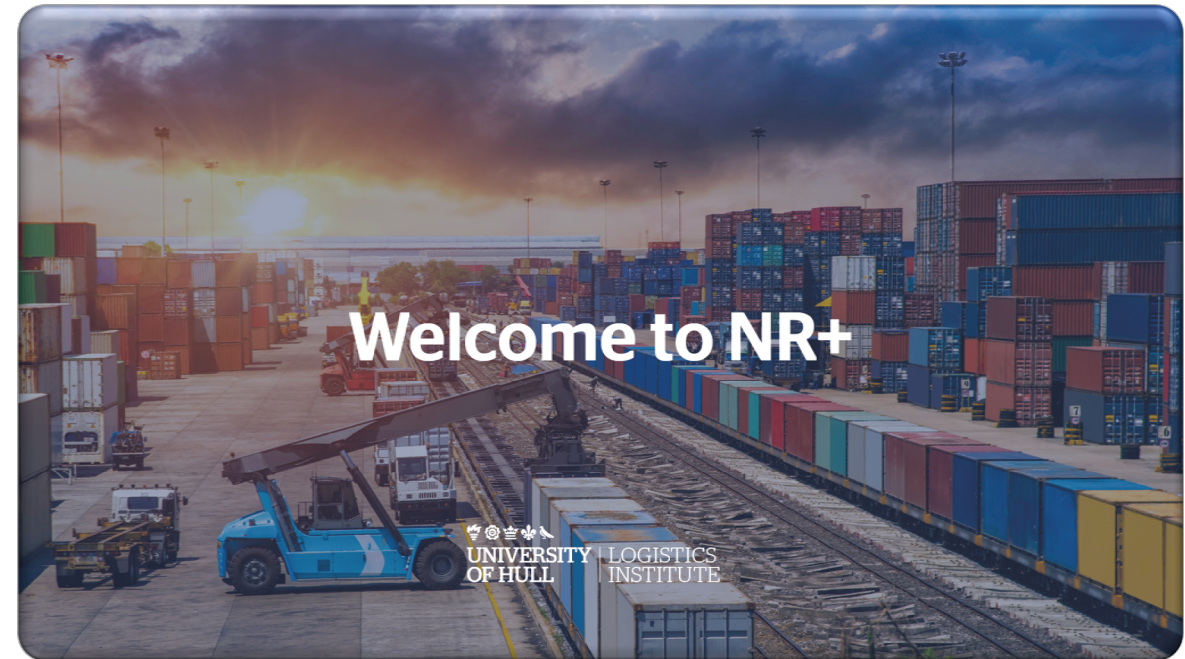
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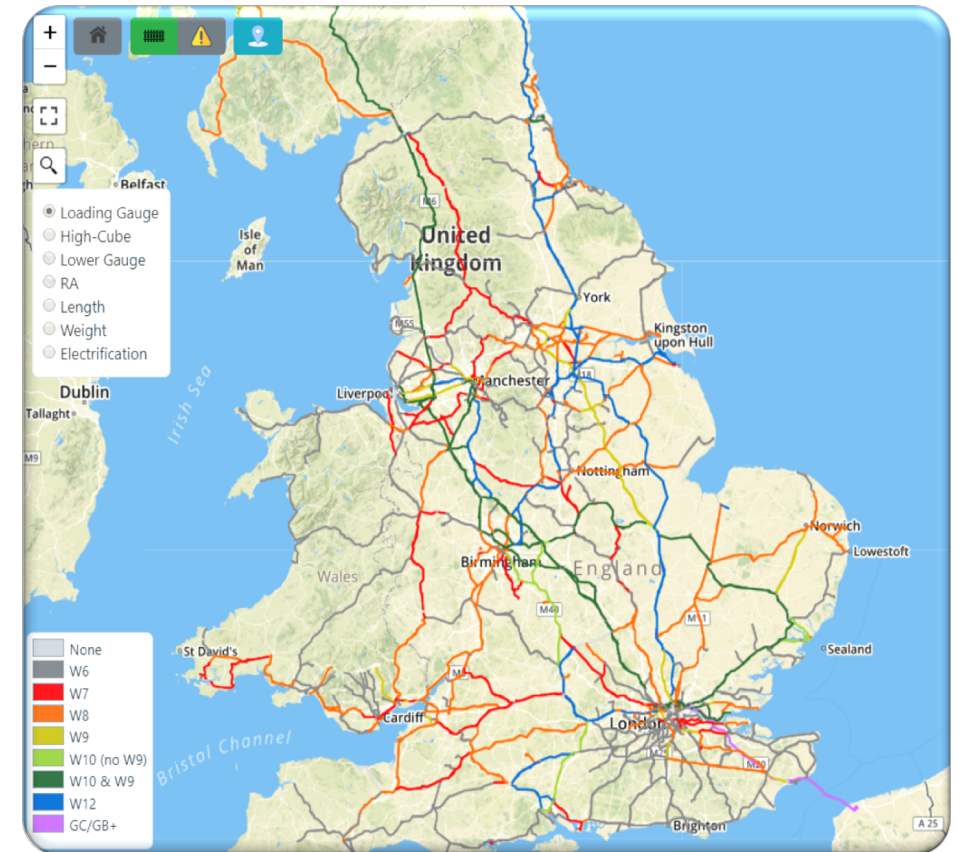
Purpose of Today's Call

- To demonstrate the capabilities of NR+ platform for rail freight planning
- Requirement of SBRI FOAK projects funded by DfT and Innovate UK



Agenda

- Introduction to NR+
- Live Overview of NR+ platform
- Complexity of Finding Freight Routes
- Live Demonstration of NR+ Prototype of Path Bidding Process
- Value Proposition
- Data Management
- Next Steps and Concluding remarks
- Questions and discussion

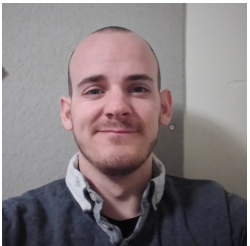






NR+ Extended Team and Collaborators

Speakers

		
Leann Eames Capability and Planning Manager, NR	Barrie Louw Operations Manager Logistics Institute	Amar Ramudhin Professor & Director Logistics Institute

NR+ Core Development Team

				
Liam Crozier Lead Developer	Liam Wilson Developer	Nick Richards Research Analyst	Nick Langley Data Technician	Roxana Rusu Administrator

Collaborators/ Supporters



DB Cargo UK



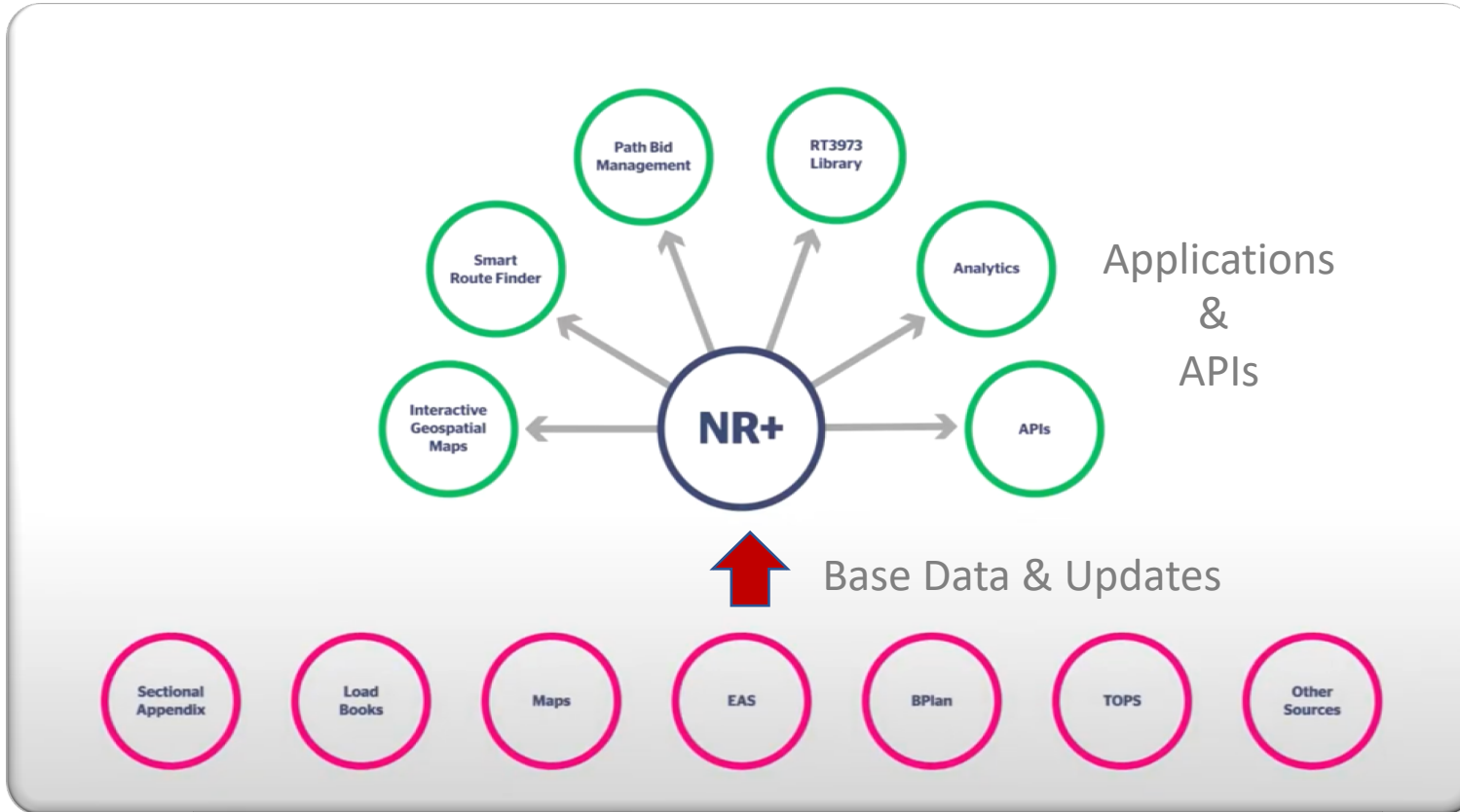
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Members of
Steering Group

What is NR+?

First Comprehensive Digital Platform to Combine All Relevant Information Required for Freight Train Planning



- 600+ pages from Sectional Appendices
- 1000 tables from load books including updates
- 10,000+ Tiplocs mapped and verified
- 10,000 pages from 11 documents for EAS
- Data Updates Monitored

NR+ Knowledge Base and Applications



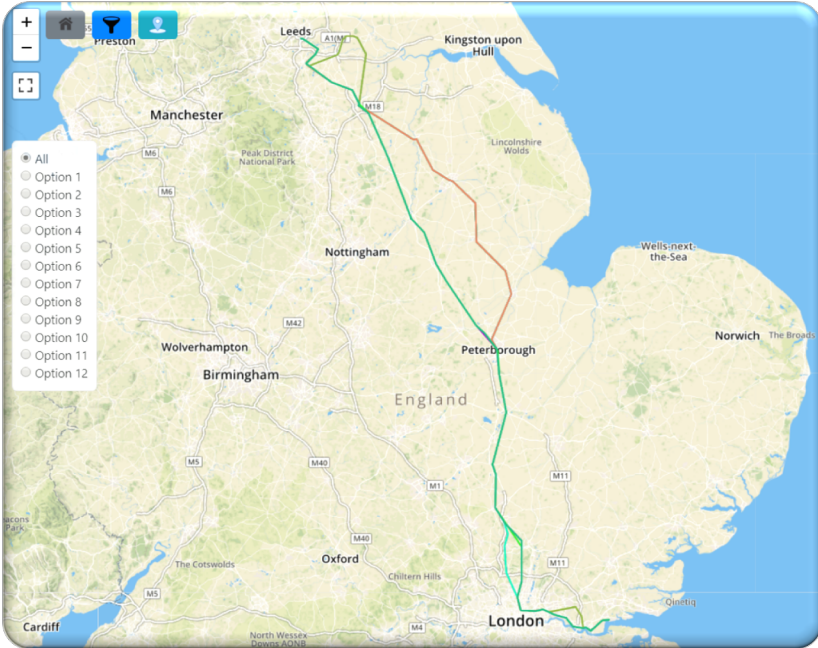
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Video Overview of NR+

<https://www.youtube.com/watch?v=Jny7QB4pmaQ>

Easy to Use / Easy to Connect



Open Architecture for 3rd party connectivity

NR+ is Not a Train Scheduling System

NR+ enables users to quickly find rail freight routes between any two points



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Live Demo of Main Features

Barrie Louw

Logistics Institute



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Complexity of Current Planning Process

Leann Eames

Capability and Planning Manager,
Network Rail



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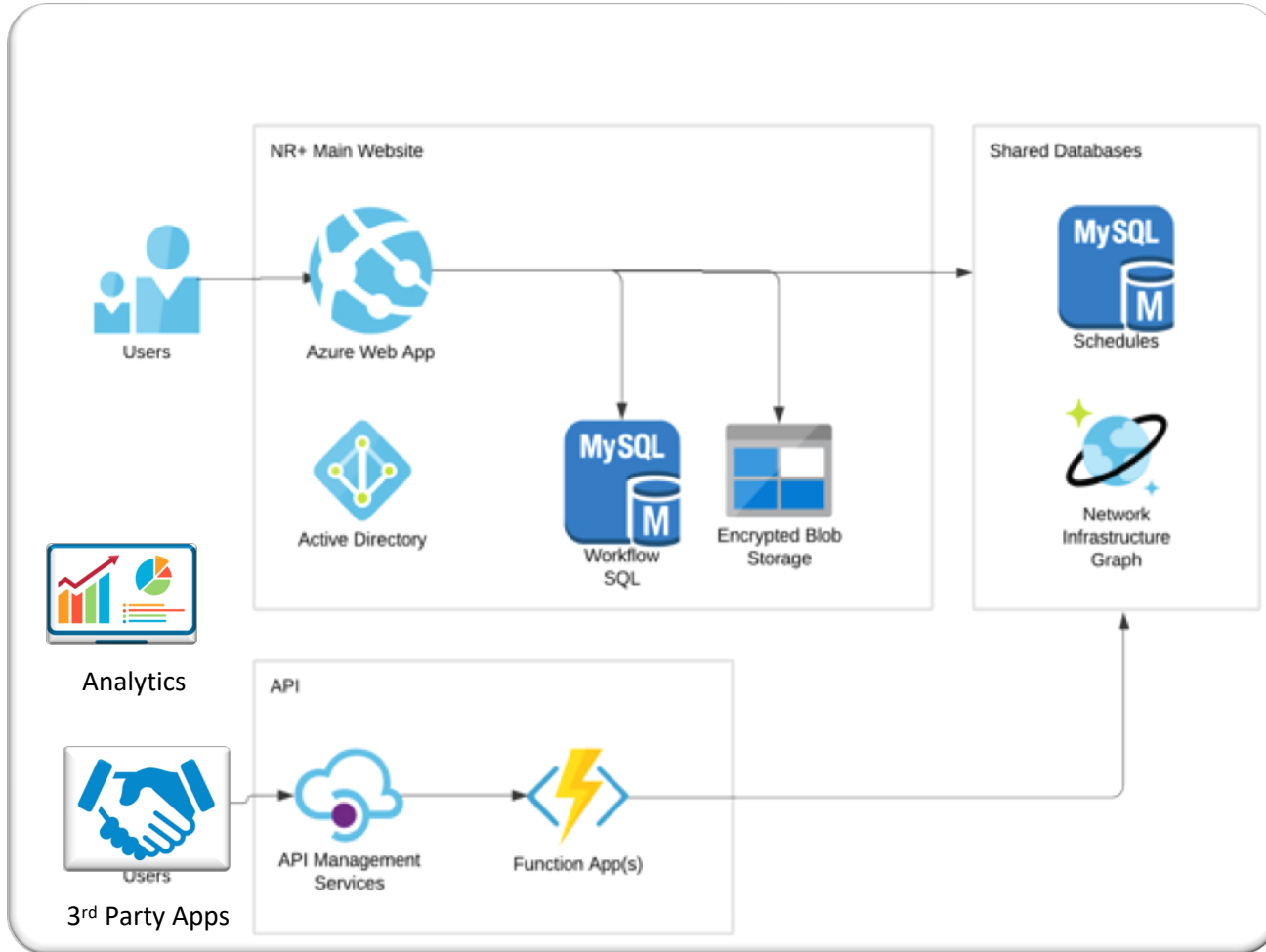
NR+ Demo:

- Finding a Freight Path
- Prototype of Path Bidding Workflow System

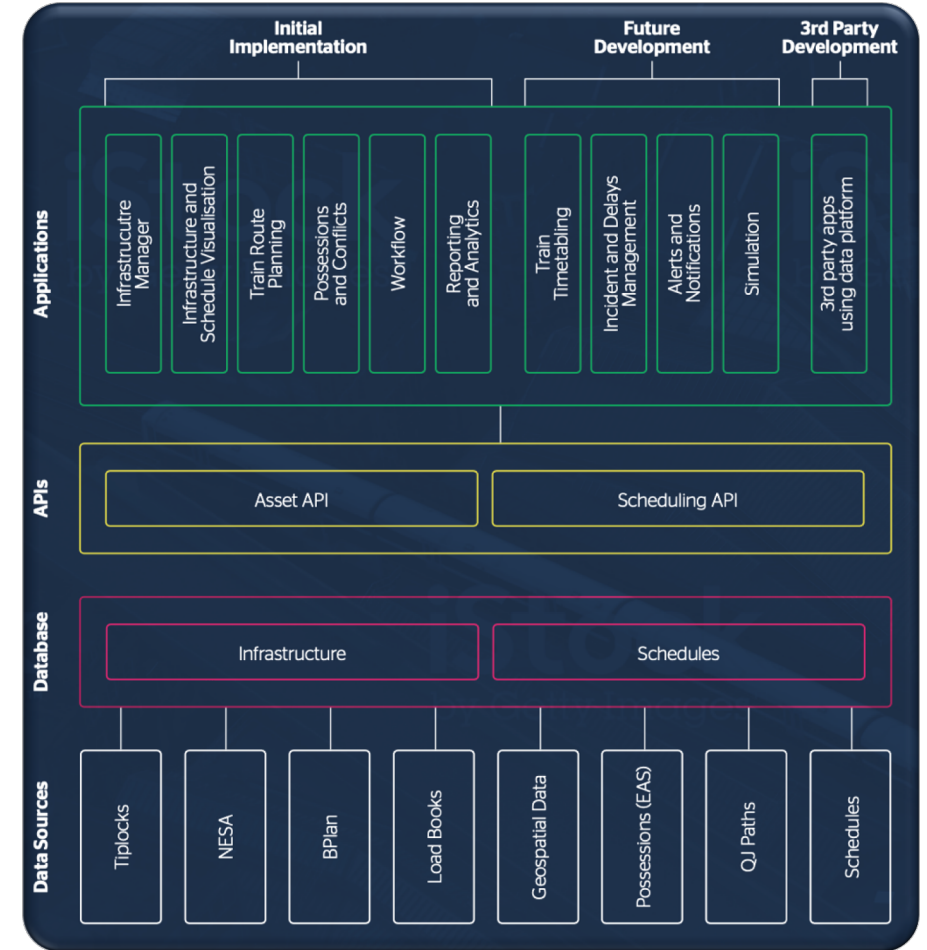
Barrie Louw

Logistics Institute

Architecture



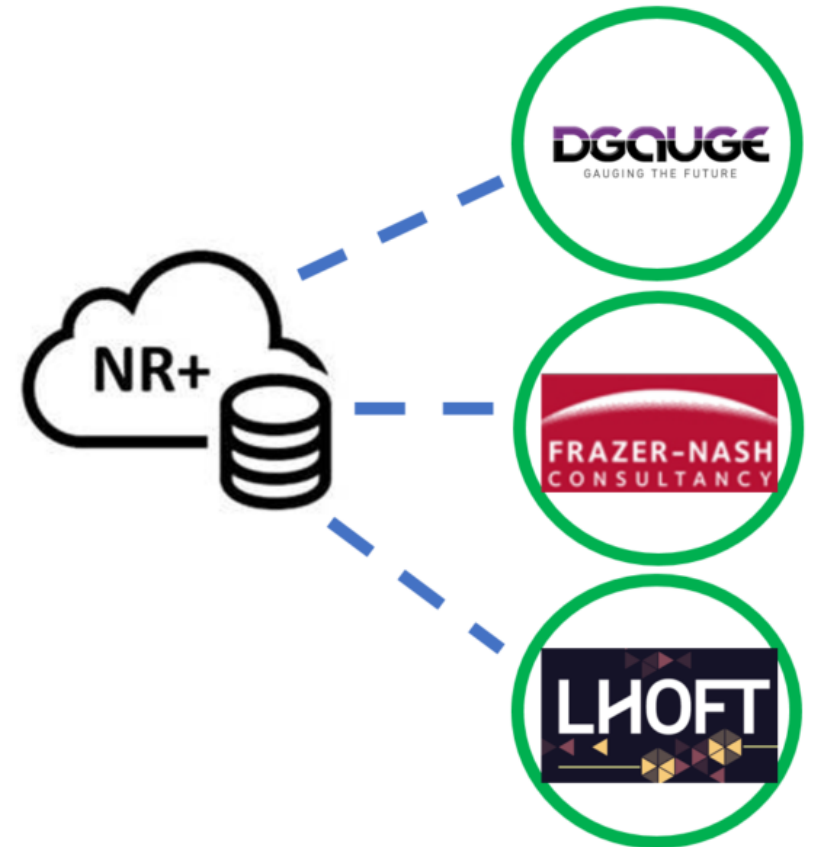
Deployed on MS Azure cloud platform
Secure and Scalable



Infrastructure Graph Database
Database of Planned & Actual Schedules

NR+ Value Proposition

- Efficiency in finding routes, constructing and processing path bids
 - Save one day per week per planner
 - Faster on-boarding of new planners
 - Increased safety and resilience
- One source of information and integrated data
- Trigger for the digitalisation strategy of source data
- Enables an eco-system of smart rail applications development by 3rd party applications

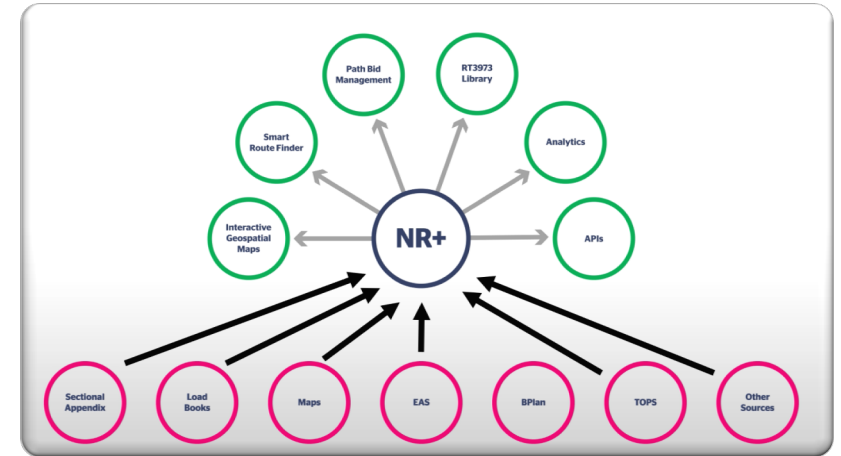


Users and Applications

Level	Use	Customer	Applications
Strategic	Network Capability Analysis Input to Cost/Benefit Analysis Decarbonization Strategies	NR, DfT, Regulators, Consultants, Research Orgs	Geospatial Map Builder Smart Route Finder Analytics/ Simulation
Tactical	Determination of New Routes	Rail Customers ROC/FOC, NR 3rd Party Developers	Geospatial Map Builder Smart Route Finder NR+ API
Planning	WTT and STP	NR ROC/FOC 3rd Party Developers	Smart Route Finder Bid Management NR+ API
Control	VSTP Operational Control	NR ROC/FOC 3rd Party Developers	Real-time Visibility Document Generation VSTP delay management App

Data design and Maintenance

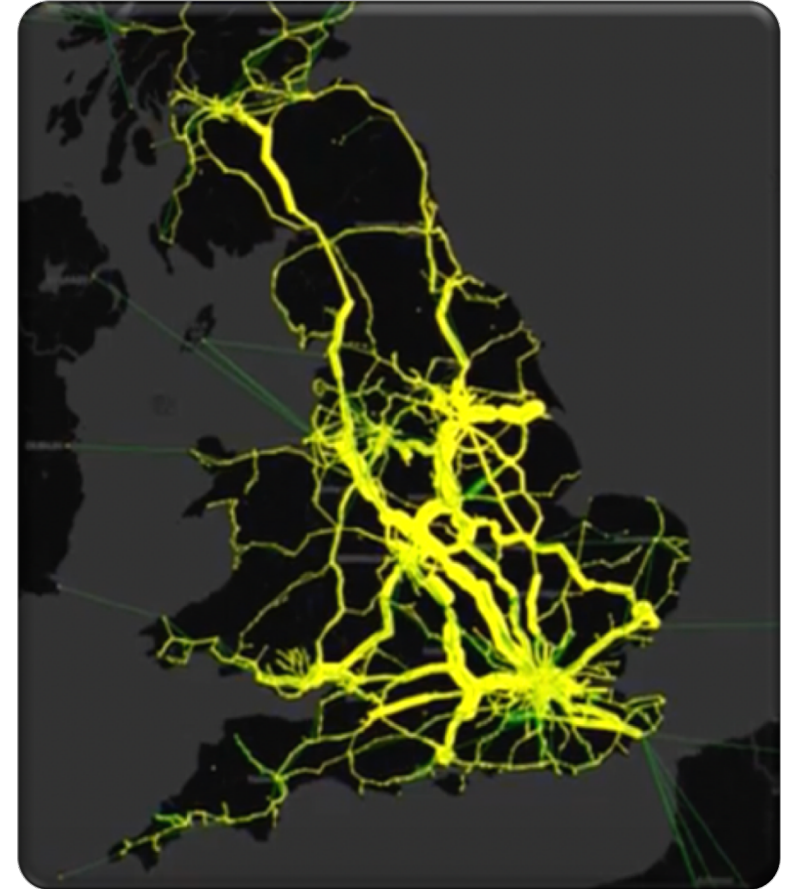
- Frequency of updates
 - Varies from daily to yearly
- Difficulty: Automation vs Manual
 - Varies from fully automated to Manual e.g.
 - Fully automated: B-plan
 - Excel imports: e.g. Load books
 - Manual: Tiploc positioning
- Accuracy: Automation vs Manual
 - Smart matching & validation
 - Still some manual validation required



Requires agreement with NR as to SLA for updates and digitalisation possibilities

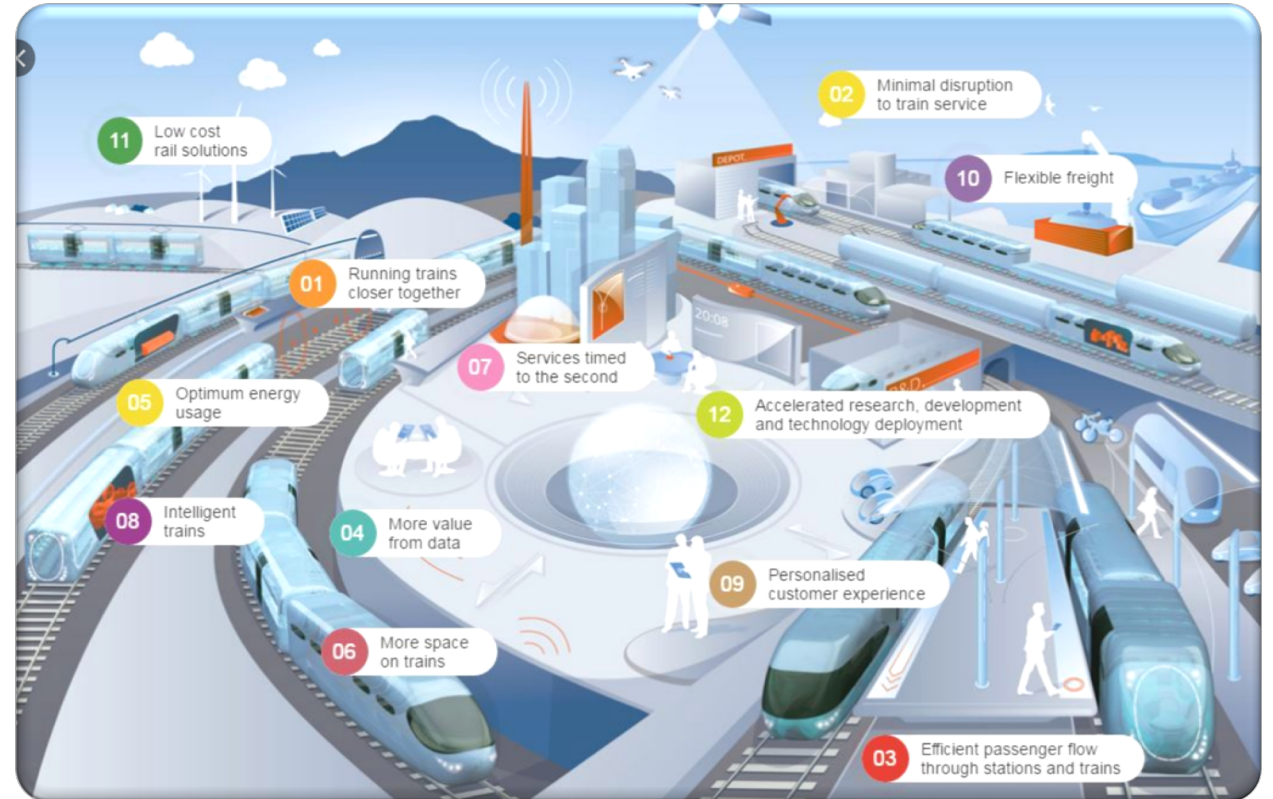
Next Steps for NR+

- Platform Validation by NR
- Strategy for Data Update and Management
- Enhancement of NR+ for Handling Special Dispensation
- More collaboration and partnerships
e.g.
 - Delay Propagation
 - VSTP
 - Enabling Multimodal Rail Freight Connectivity



Conclusion

- NR+ is an innovative digital platform for rail planning
- Could play a pivotal role in UK digital rail planning and control strategies



Special Thank-you



DB Cargo UK



Innovate UK



Network Rail

Ed Wilson
James Hilton
Leann Eames
Alex Holley
Gemma Burgess
Stuart Bloye and team



Members of Steering Group

Bethan Stokes, DfT
Chris Swan, Tarmac
David Turner, Malcom Logistics
Peter Graham, Freightliner
Richard Clarke, DB Cargo
Simon Emery, Highways England
Steve Taylor, Private Wagon



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Questions?



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Thank you

For more information
visit www.hull.ac.uk

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