



Rail Supply Group



ACT NOW IMPROVING WORK PIPELINE VISIBILITY

UPDATE AND NEXT STEPS

February 2021

About The Rail Supply Group

The Rail Supply Group is the leadership body for the UK rail supply chain. The RSG was tasked by Government in 2018 to deliver the **Rail Sector Deal**, which sets out a new approach to the rail industry and the Government working in partnership to transform the rail sector through taking actions to increase the use of digital technology, boost productivity, improve the service received by those who use our railways and build the skills of the UK workforce to capitalise on these opportunities.

RSG Council members include representatives from the Department for Business, Enterprise and Industrial Strategy and the Department for Transport, Sector Deal Industry Champions, co-opted suppliers, trade associations, client representatives and trade union representatives.

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FOREWORD



THE RAIL SUPPLY GROUP CHAIR, PHILIP HOARE

It is now eight months since the Rail Supply Group's Covid-19 Taskforce undertook its first industry-wide survey looking at the impact of the pandemic on the rail industry and its suppliers.



We listened and we took action. In July 2020 we mobilised three Act Now initiatives looking at:

- **Improving work pipeline visibility** across the whole supply chain that allows organisations to plan and deliver with confidence, driving improvements in productivity and outcomes.
- **Simplifying data access** by accelerating our work to provide 'Open Data' that can be used to bring improvements to customer journeys and freight to increase economic prosperity and Build Back Better.
- **Changing railway access arrangements** by working in partnership to help increase productivity and strengthen the rail industry's recovery.

We are making excellent progress on all three initiatives.

Importantly, the updated 'Pulse Survey' completed at the start of the 2021 re-confirmed work pipeline visibility as one of the priorities for the rail supply chain in terms of medium to long term success. (you can find out more on this from the RSG Pulse Survey report that is being published alongside this Act Now update).

Given the survey results, the progress on improving work pipeline visibility is particularly relevant and remains an important factor in supply chain performance and recovery.

Since last summer we have completed eight pilot projects, involving 28 organisations from all levels in the supply chain and spanning the entire industry. The pilots have included infrastructure enhancement, infrastructure maintenance and renewals, new train fleet supply and support, rolling stock maintenance and development projects.

We learned that all of the pilot projects had sufficient information available to provide in-flight visibility of the work pipeline that could be shared with the supply chain. Cascading this information has significant benefits and incurs little or no cost.

One of the most striking outcomes of the pilot studies has been the significance of improving work pipeline visibility as a key enabler to increasing productivity – which is one of our industry’s greatest challenges.

We found a virtuous circle.

Committing to an arrangement to share in-flight work pipelines was identified as a vehicle to increase collaboration and trust. And increased collaboration and trust created an environment where work pipeline information could be shared without it being exploited by either party.

There is no doubt there is a link between the discipline of providing work pipeline visibility and improving productivity. This was identified in the original Rail Sector Deal and the pilots provide clear evidence. The productivity-related improvements come from a range of sources including planning efficiencies, facilitating innovation, and not least providing a foundation to increase collaboration and trust.

The initiative to increase work pipeline visibility has been well received by its participants and there is an intent to apply its findings more widely. Each of the pilots has identified in good faith a number of areas that we can and should, as an industry, explore. Taking these forward will also strengthen the bond between government and industry – the benefits are both mutual and significant.

The next steps are important, and we will work now to build the learning from the pilots into the way that we deliver and procure rail projects in the future.

We will:

Establish an Industry Expenditure Transparency Charter to be signed by at least 250 organisations so it becomes an integral part of current contracts and future procurement.

Extend the equivalent of the work pipeline visibility commitments in the Network Rail SME Supplementary Action Plan to other customers.

Build on the alignment with the Construction Playbook which emphasises Strategic Supplier Relationship Management and Successful Relationships.

Demonstrate the value of taking action to increase work pipeline visibility.

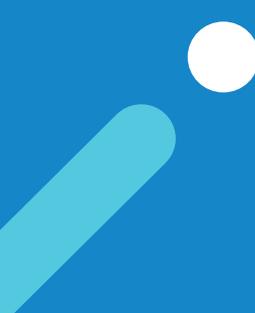
The Rail Supply Group is immensely grateful to all 28 of the pilot participants for the open way they have engaged with the initiatives with a view to making industry-wide improvements. I would like to pay special thanks to Network Rail, HS2, Transport for London, Nexus, Porterbrook, Stadler Rail, the Transpire and REAL Alliances, the Balfour Beatty Vinci joint venture, Story Contracting and the Birmingham Centre for Rail Research and Education.

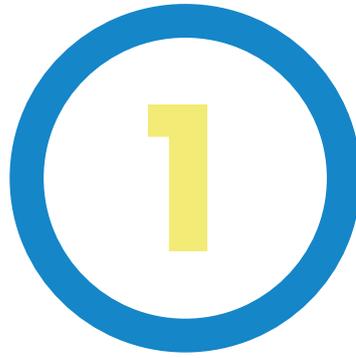


Philip Hoare
Chair of The Rail Supply Group



**ACT NOW UPDATE:
IMPROVE WORK
PIPELINE VISIBILITY**





ACT NOW UPDATE: IMPROVE WORK PIPELINE VISIBILITY

Background

The initiative to increase work pipeline visibility commenced in the summer of 2020 following the formation of the Rail Supply Group Covid-19 Taskforce.

The initiative was identified as an 'Act Now' priority following an independent survey of suppliers with 442 responses, commissioned by the Rail Supply Group.

The challenge

Improve work pipeline visibility across the whole supply chain that allows organisations to plan and deliver with confidence, driving improvements in productivity and outcomes.

The intended outcomes of the overall initiative were:

1. Improved visibility and confidence in forecast expenditure at contract level between 1st, 2nd and 3rd tier suppliers throughout the whole system lifecycle to help businesses survive and develop recovery and growth plans.
2. Delivering a productivity gain to offset the potential fall due to Covid-19 by improving short-term work pipeline visibility and planning.
3. Acceleration of spend on selected projects to provide an immediate fiscal stimulus.

Why this initiative?

1. Lower tier suppliers need greater certainty about immediate expenditure and cash flow on in-flight projects to survive the Covid-19 crisis (e.g. forecast cash flow, borrowing and investment requirements).

2. Work pipeline visibility was identified in the original Rail Sector Deal as a means of increasing productivity by avoiding the disruptive impact of significant changes in work volumes and its impact on critical resource constraints.

3. In the wider context, whilst focused on expenditure, better visibility of the medium-term and long-term procurement pipeline will encourage long-term investment by suppliers below 1st tier contractors.

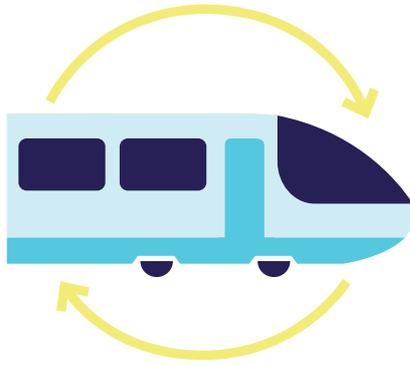
The Pilot Projects

Two pilot projects were completed soon after the survey and based on their findings and success, a further six pilots were started spanning the range of different sectors within the rail industry.

The outcomes will be used to inform the follow-on implementation of industry-wide actions to improve work pipeline visibility.

The initiative is focused on expenditure for in-flight projects.

The implementation of the Work Pipeline Visibility 'Act Now' initiative is supported by the Rail Supply Group, the Department for Transport and the Department for Business, Energy and Industrial Strategy.



RAIL SECTOR DEAL PILLAR: SUSTAINABLE RAILWAY

The pilot projects

A total of eight pilot projects were selected from across the industry, with 28 participating organisations.

The pilots include:

Infrastructure Enhancement

Infrastructure Maintenance and Renewals

New Train Fleet Supply and Support

Rolling Stock Maintenance

Development

Success criteria

The pilot projects were evaluated by the following:

- Is the work pipeline visibility information available for dissemination to suppliers?
- Are the end customer and 1st / 2nd Tier suppliers willing to share the information with their suppliers?
- Has the expenditure information been shared?
- Is the suppliers' cash flow and expenditure profile now more predictable?
- Has it been possible to accelerate supplier expenditure?
- What are the benefits and do they outweigh the costs of sharing the information with suppliers throughout the supply chain?
- Have the parties agreed the initiative should be continued and become part of Business as Usual for supplier engagement?
- Based on the benefits and costs, will the parties look at expanding the initiative to other programmes?

The work pipeline visibility pilot projects

Eight pilot projects have been completed with a total of 28 organisations involved.

The pilot projects span a range of different contract types.

TransPennine Route Upgrade - Manchester Victoria to Stalybridge Enhancements

East Coast Mainline Power Supply Upgrade

HS2 Phase 1 North Infrastructure Delivery

Scotland Region Maintenance and Renewals Projects

Transport for London - London Underground Track Partnership

Nexus Train Fleet Supply and Support Services

Rolling Stock Heavy Asset Maintenance

HydroFLEX Development Project

Pilot Participants

BAM Nuttall

Balfour Beatty Vinci

Birmingham Centre for Railway Research and Education

Buckingham Group

Chrysalis Rail

Gemini Rail

Hanson UK

HS2

ISS Labour

Keltbray

Lanarkshire Welding

Lundy Projects

MHB Consultants

Network Rail

Nexus

PLS Civil Engineering

Porterbrook

REAL Alliance

Stadler Rail UK

Story Contracting

Transport for London

Transpire Alliance

TXM Recruit

Unipart Rail

Vital Rail

VolkerFitzpatrick

VolkerRail

Wabtec



OUR KEY FINDINGS

THE INDUSTRY IS READY FOR CHANGE



THE WHOLE OF THE RAIL INDUSTRY IS IN A POSITION WHERE ALL OF ITS CUSTOMERS AND SUPPLIERS CAN PROVIDE IN-FLIGHT VISIBILITY OF THEIR PROJECT EXPENDITURE PIPELINES.

All of the pilot projects had sufficient information available to provide in-flight visibility of the work pipeline that could be shared throughout the supply chain.

This is true across the whole of the rail industry.

Providing greater work pipeline visibility information has significant benefits and incurs minimal or nil cost.

The initiative to increase work pipeline visibility has been well received by its participants and there is an intent to apply its findings more widely.

NEXT STEPS

Establish an Industry Expenditure Transparency Charter to be signed by at least 250 organisations so it becomes an integral part of current contracts and future procurement.

Extend the equivalent of the work pipeline visibility commitments in the Network Rail SME Supplementary Action Plan to other customers.

Build on the alignment with the Construction Playbook which emphasises Strategic Supplier Relationship Management and Successful Relationships.

Demonstrate the value of taking action to increase work pipeline visibility.



What else did we learn?

There were many positives ...

- Providing more visibility enables the forward planning horizon to be increased, thereby increasing productivity – sub-optimal resource planning and material scheduling issues are exposed earlier so action can be taken to deal with them.
- The availability of information helps improve staff utilisation and reduce avoidable project constraints due to scarce resources.
- Providing certainty on work profile allows for a short-term 'return on investment from staff retention' to help maintain the ongoing availability of staff to continue working in the rail sector – many people in the infrastructure market have knowledge and skills that are easily transferable to sectors other than rail.
- There is no need to prescribe a format for sharing information since project-specific formats already exist as part of existing project reporting packs.

But ...

- Although most participants are sharing work pipeline visibility information with their suppliers already, insufficient levels of detail and out-of-date forecasts undermine its value – opportunities to realise benefits are being missed.
- Whilst the visibility of in-flight expenditure was openly shared between the client and 1st Tier suppliers, this transparency was not consistently repeated further down the supply chain. However, as each pilot progressed the benefits of sharing information throughout all levels of the supply chain became clearer and participants at each tier made commitments to increase work pipeline visibility.
- Increasing visibility of expenditure has not led to accelerated expenditure. The challenge of programme acceleration is a much wider challenge.





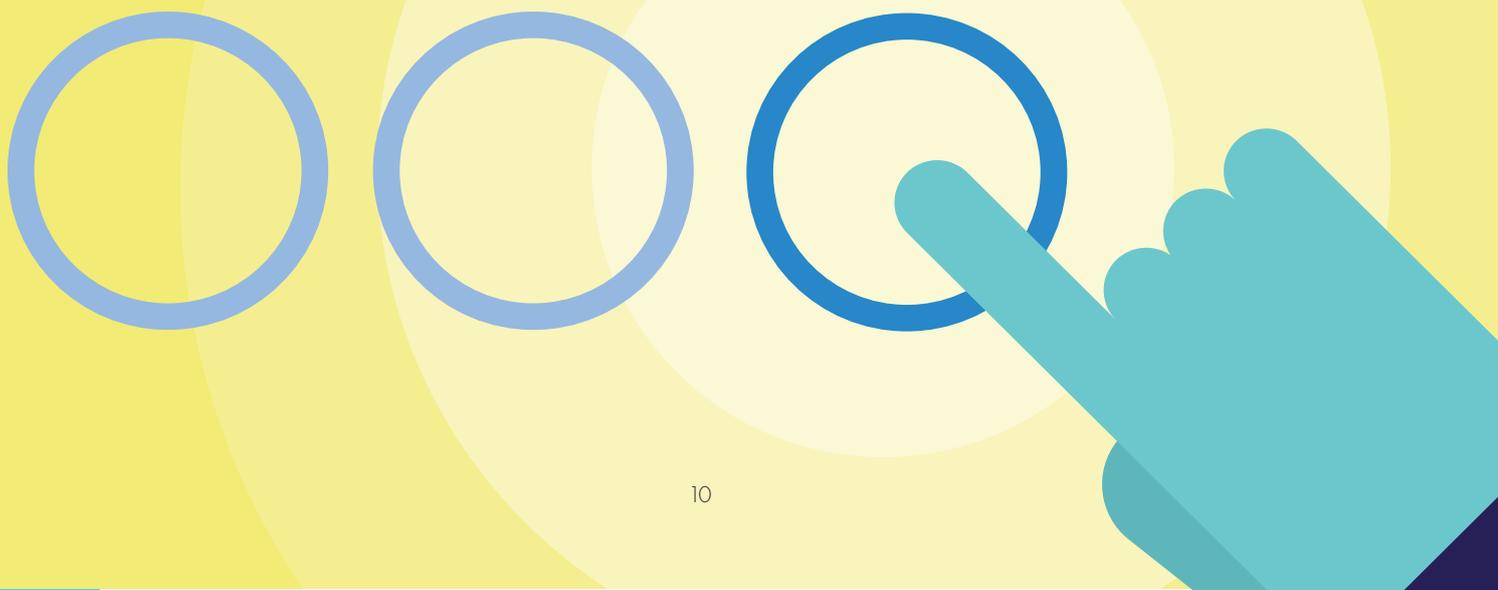
THE RAIL SUPPLY GROUP COVID-19 TASKFORCE PULSE SURVEY AND WORK PIPELINE VISIBILITY

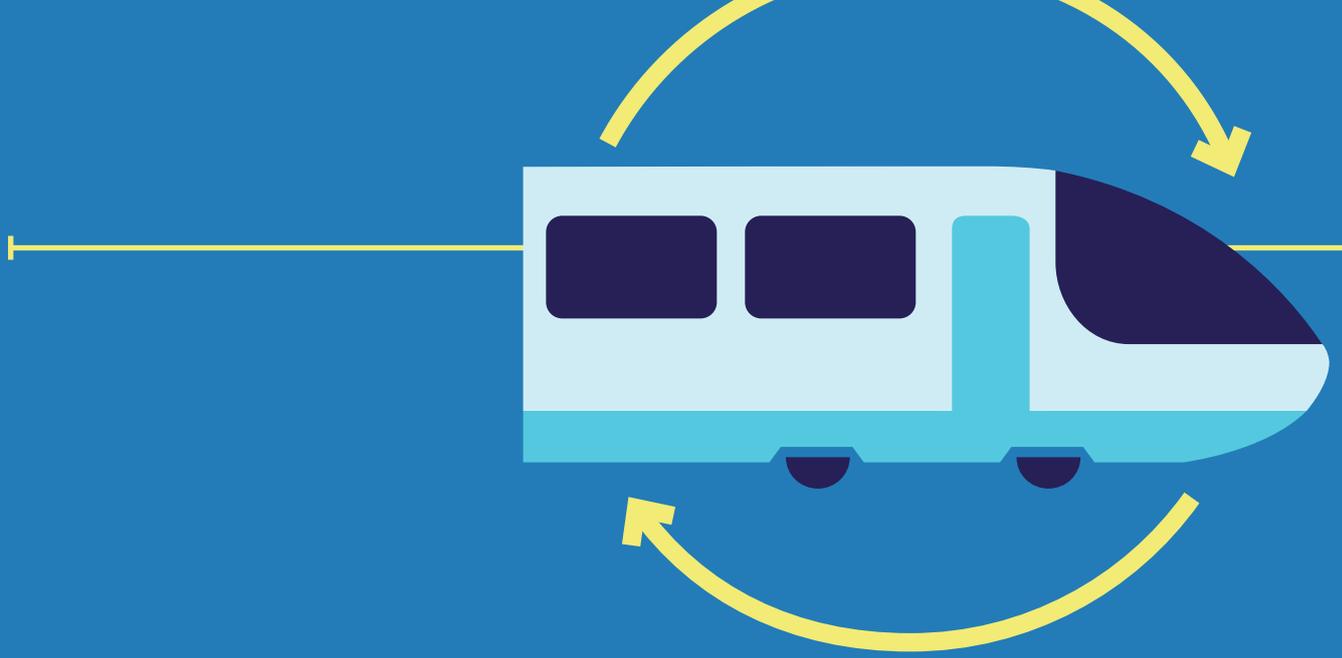
The Rail Supply Group Covid-19 Taskforce Pulse Survey completed by Savanta ComRes on behalf of the Rail Supply Group is published alongside this report. It comprises 399 responses from companies in the UK rail supply sector between 25th November 2020 and 20th January 2021.

This latest survey follows on from the previous research survey conducted between 30th April and 18th May 2020.

The aims were to:

- Assess and track the impact of the Covid-19 crisis on organisations in the UK's rail supply sector.
- Understand where organisations need support to ensure their survival and success in the short and long term.
- Explore the anticipated barriers to achieving success in the future.



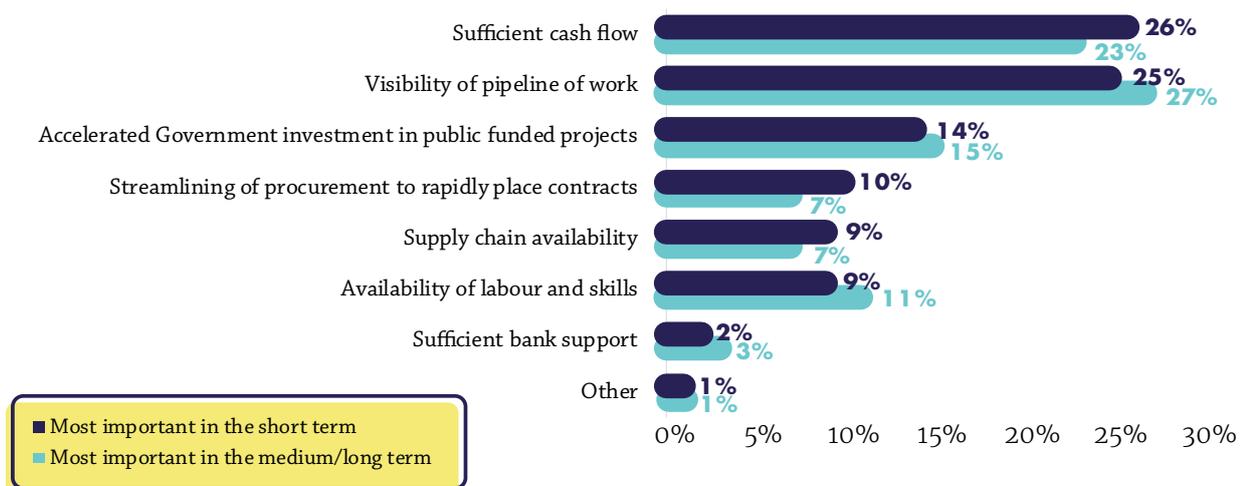


**WORK PIPELINE VISIBILITY
IS AS IMPORTANT NOW AS
IT HAS BEEN AT ANY TIME
SINCE THE START
OF THE COVID-19
PANDEMIC.**

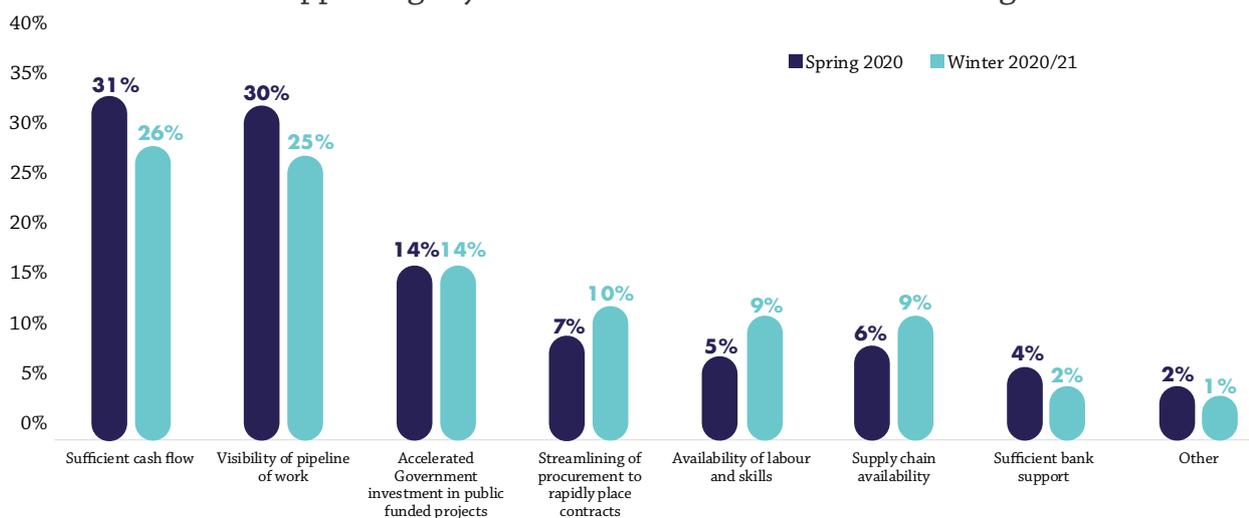


The Continuing Impact of the Pandemic and Work Pipeline Visibility

Work pipeline visibility is now the most important area identified by businesses to support their survival over the next 7-12 months, with one in four businesses saying it is the most important area of concern. It has been highlighted by 27% of businesses, ahead of cash flow (23%), acceleration of investment in public funding (15%) and availability of labour and skills (11%).

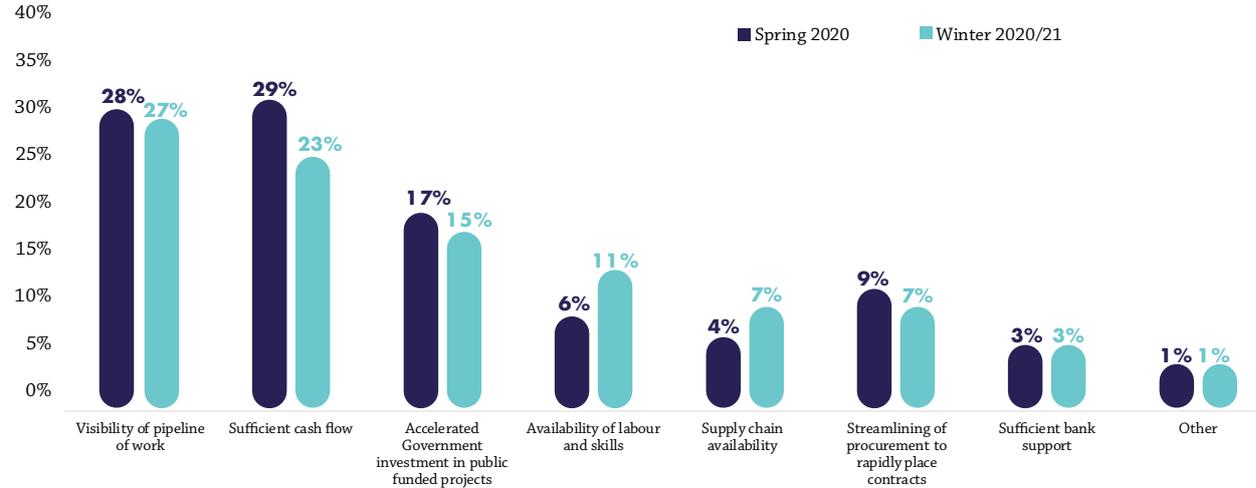


In the short term, over the next six months, work pipeline visibility is seen as equally important as cash flow, with 1 in 4 businesses saying it is the most important area of concern. The level of concern regarding work pipeline visibility and its impact on short-term survival has dropped slightly from 30% to 25% but still remains high.

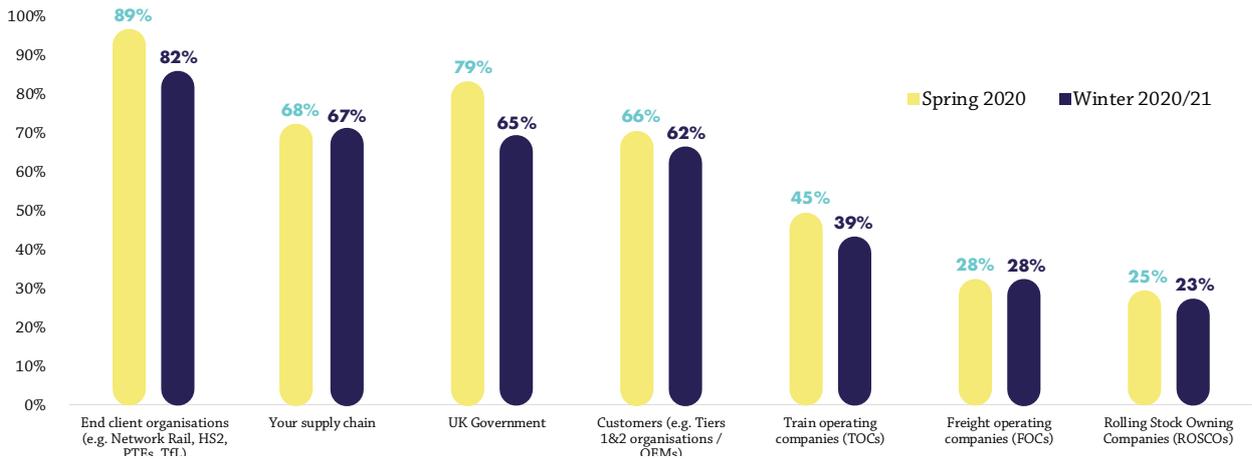


This has remained unchanged from the original survey in the summer of 2020 where, again, work pipeline visibility and cash flow were the top two concerns.

In the medium to long term, over a horizon of 7-12 months, the level of concern remains virtually unchanged.



With regards to recovery, businesses are still ranking the supply chain as highly important, at 67% compared with 68% last summer.



COLLABORATION AND TRUST

WHAT DID WE FIND?

WE FOUND A VIRTUOUS CIRCLE.

Committing to an arrangement to share in-flight work pipelines was identified as a vehicle to increase collaboration and trust.

And increased collaboration and trust created an environment where work pipeline information could be shared without it being exploited by either party.

“Customers can do more to provide suppliers with more visibility without making contractual commitments. Their suppliers are keen to see information, along with related assumptions and qualifications since delivery programmes and business plans are better informed. Sharing anything that may be relevant is better than sharing nothing due to concerns about contractual liabilities.”

“Alliances work because they have deeper relationships that avoid archaic construction sector behaviour by growling dinosaurs.”

“Mature businesses should already be adopting these practices more widely.”

“When there is programme change, its impact and cost can be mitigated based on already established relationships.”

“Unplanned and short-notice project change is a key factor that reduces productivity. Work pipeline visibility can enhance early notification and engagement with the supply chain throughout the project lifecycle. This will help minimise all aspects of downstream project change, thereby increasing productivity.”

Collaboration

Why can collaboration and trust be so difficult to achieve?

All of the pilot projects emphasised the significance of strong collaboration and high levels of trust as being essential to help deliver successful contract outcomes.

And every single one of the participants in the study genuinely wanted to increase collaboration.

When exploring the issue, the findings of the pilot projects have highlighted a clear link between increased trust and productivity for in-flight projects.

The many examples of lost opportunities to find better ways of working provide clear evidence. Real examples were provided for infrastructure renewals, infrastructure maintenance, new train supply and support, rolling stock maintenance and development projects.

However, at the same time, there are significant barriers to overcome.

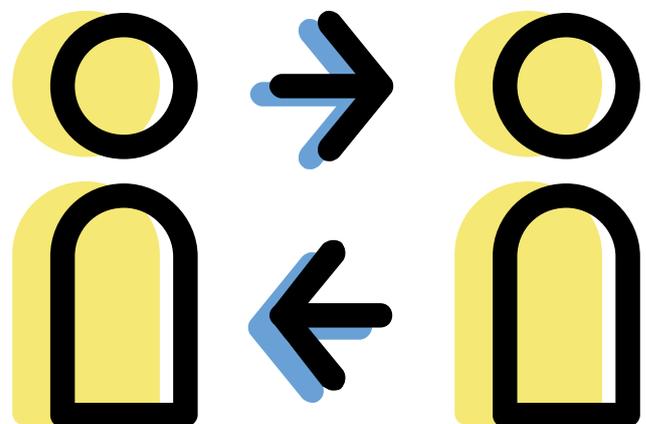
- Some contracts create a scenario that can promote vested interests ahead of positive contract outcomes. Pre-contract negotiations often focus on dealing with the ‘what-if’ scenarios should things go wrong, as opposed to the opportunities to foster innovation and create value.
- A focus on hard negotiations to drive down unit costs inhibits opportunities to identify the value-adding solutions that might deliver game-changing productivity improvements.
- A ‘claim and counter-claim’ culture can often develop, especially when things are going wrong. Resources and effort are diverted to gather evidence to resolve contract valuation and settlement issues.

What happens when plans change?

Programme change is inevitable, and all parties need to be ready to deal with it without killing productivity. This means sharing information early to avoid surprises.

The most common reason for customers not sharing forecasts with suppliers was associated with contract change. In transactional arms-length relationships, sharing in-flight forecasts of the project’s work pipeline could be seen as unnecessarily exposing the customer to downstream supplier claims for costs and extensions of time associated with programme or scope change.

However, it was recognised that this scenario has many unintended negative consequences and inhibits the realisation of benefits. Sharing in-flight project information actually clarifies programme status, scope, risks and issues – thereby helping identify preventative measures to limit the scale of change based on informed planning and collaboration.



What else have we done?

The work to date has already highlighted opportunities for immediate action.

The Network Rail SME Action Plan

Network Rail is in the process of developing an SME Supplementary Action Plan which will ask for commitments from its Top 100 Suppliers.

One of the 'Asks' of the Top 100 Suppliers will be directly linked to the Work Pipeline Visibility initiative.

The Network Rail SME Action Plan will require its Top 100 Suppliers to:

- Help boost productivity, increase supplier investment and improve supply chain resilience by providing their suppliers with up to date forecasts on work pipeline visibility, even if the work is not yet contracted.
- Engage and support their supply chain to do the same.
- Collaborate and build trust with their supply chain by taking and promoting supportive behaviours.

With regard to the wider Rail Sector Deal the SME Action Plan will also ask the Top 100 Suppliers to:

- Confirm their support for the overall delivery of the Rail Sector Deal.
- Align their business activities to support industry commitments within the Rail Sector Deal.
- Identify links between various industry groups that might support the Rail Sector Deal and contact the Rail Supply Group to seek active involvement and alignment.
- Support the implementation of Rail Sector Deal priority initiatives.

[Please click here to view the Network Rail SME Action Plan](#)

The link between the Construction Playbook and work pipeline visibility

What is the Construction Playbook?

The Construction Playbook, published in December 2020, provides Government Guidance on sourcing and contracting public works projects and programmes.

It applies to all public works projects and programmes, including building, civil engineering, construction and equipment supply projects. It describes what should be done from policy inception through to transition and operation and sets out a best practice framework to achieve better, faster, greener delivery and improved outcomes.

The Construction Playbook is mandatory for central government and arm's length bodies on a 'comply or explain' basis recognising that there is not a one-size-fits-all approach for all public works. It applies to all new projects and programmes from December 2020 onwards.

What is the link to this Act Now initiative?

The Construction Playbook emphasises the importance of Strategic Supplier Relationship Management and Successful Relationships.

"For more complex projects and programmes, experience has demonstrated that a partnership model with the principles of collaboration, openness, transparency and flexibility based on contractual delivery can be beneficial in driving successful outcomes and innovation."

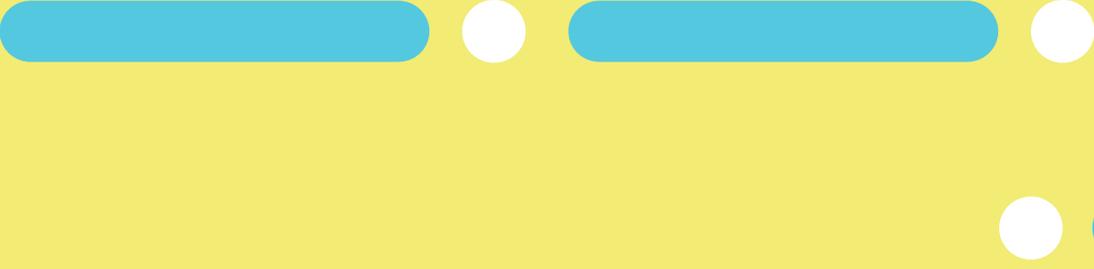
It makes clear references to the importance of sharing information within consortia and between customers and suppliers and the need to establish a "shared understanding of how to resolve disputes and collaborative culture".

This includes:

- Collaborative behaviours and working.
- Value creation beyond that originally contracted.
- Management of aggregated performance and risk.
- Shared common reporting to aid transparency.
- Developing joint-partnership principles and adopting a one-team 'win-together, fail-together' approach.

Sharing work pipeline visibility on in-flight projects can be a key enabler that supports the intent and implementation of the Construction Playbook.

[Please click here to view the Construction Playbook](#)



THE CASE STUDIES

A TOTAL OF 8 PILOT PROJECTS SPANNING DIFFERENT PARTS OF THE INDUSTRY HAVE BEEN COMPLETED.

These have looked at:

Infrastructure Enhancement

Infrastructure Maintenance and Renewals

New Train Fleet Supply and Support

Rolling Stock Maintenance

Development

Infrastructure Enhancement

Context

Infrastructure enhancement projects are driven by strategic priorities to increase capacity, improve passenger experience and accelerate journey times between key cities. National and regional connectivity between cities drive economic growth and the 'levelling-up' between regions to meet the needs of the future mix of passenger and freight travel. All three programmes are complex in terms of scope, duration and entry into service. The three infrastructure enhancement projects were:

- East Coast Main Line Power Supply Upgrade
- TransPennine Route Upgrade - Manchester Victoria to Stalybridge Enhancements
- HS2 Phase 1 North Infrastructure Delivery

Each project's supply chain involves several hundred or more suppliers with a complex mix of labour, plant and materials programmes requirements.

What did we learn about work pipeline visibility?

- The principles that underpin Alliances and Joint Ventures are consistent with sharing information on work pipeline visibility throughout the supply chain. Work pipeline visibility information is available for dissemination and the pilot participants are open to sharing information.
- Second tier labour and materials suppliers are keen to embrace the principles behind the work pipeline visibility initiative and are, as a result, also committed to cascade the information further down their own supply chains.

- Frequent formal and ad-hoc engagement on work pipeline visibility accelerates the speed of dealing with change and its cascade down the supply chain.
- Establishing a discipline of providing in-flight project work pipeline visibility and requirements lays a solid foundation upon which to improve all project procurement. Up to date information enables suppliers to prepare high quality bids based on informed dialogue which minimises downstream cost escalation and delays by reducing the level of contract change.

Infrastructure Maintenance and Renewals

Context

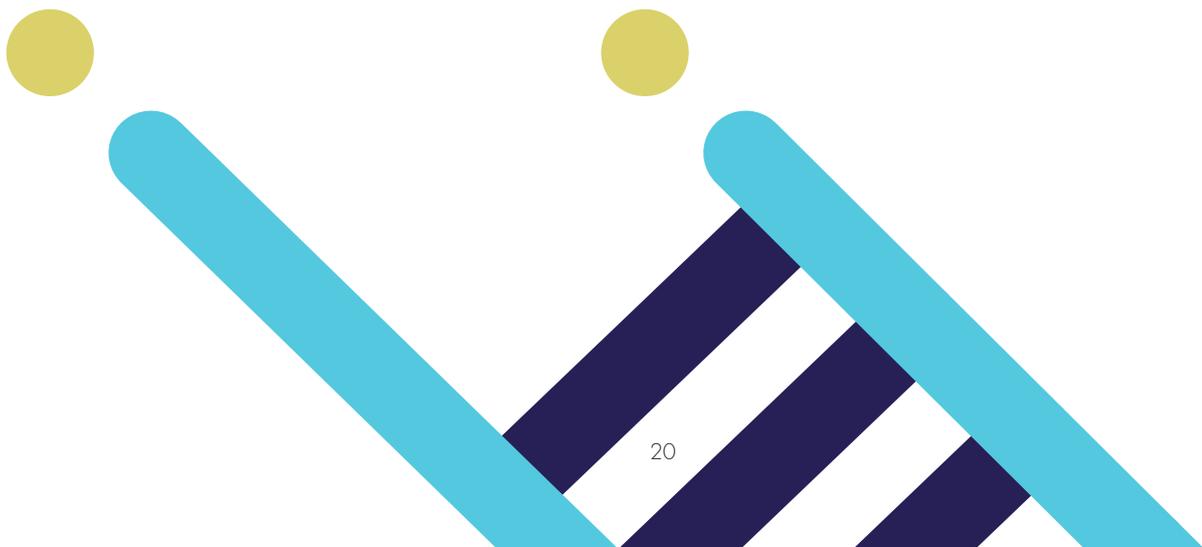
Maintenance and renewals work comprises the day-to-day upkeep of the rail network. The work covers all types of infrastructure – signals, power supplies, tracks, bridges, tunnels and embankments. They are typically delivered through discipline specific framework contracts and the number of projects within each contract could be more than 50 each year.

The two pilot projects were:

- Scotland Region Civils Maintenance and Renewals Projects
- Transport for London - London Underground Track Partnership

What did we learn about work pipeline visibility?

- Extending work pipeline visibility allows suppliers to 'size' their workforce with the right mix of people and skills.
- An 18 to 24 month work pipeline horizon provides greater opportunities for planning efficiencies throughout the whole of the supply chain. Work can be planned on a line-of-route basis to minimise disruption and costs.
- Extending work pipeline visibility will create planning efficiencies. Insufficient information on the work pipeline leads to peaks and troughs, especially at the start of Control Periods or during contract mobilisation.
- Improvements in planning based on a visible work pipeline mean possessions requirements are led by the work, as opposed to the possessions leading the programme, remit and design. Planning of work around possessions imposes unnecessary constraints on the renewals works and their impact on services.
- Unplanned and short-notice project change is a key factor that reduces productivity. Early engagement of the whole-life supply chain at the point of remit definition and design will help minimise all aspects of downstream project change and provide greater certainty on the work pipeline.



New Train Fleet Supply and Support

Context

In February 2020, Nexus Tyne and Wear Metro signed a contract with Stadler for the delivery and maintenance of 42 Metro trains in Newcastle upon Tyne. The contract is 35 years in duration, with Stadler also taking on the existing fleet maintenance operations management and new train service contracts using Stadler Services UK. The project includes the build of new depot facilities to maintain the existing fleet of vehicles until they are replaced with Stadler’s own new rolling stock.

The maintenance service includes both preventive and corrective maintenance carried out by ex-Nexus staff, who have transferred to Stadler Services UK. The in-house delivery means that supply chain engagement for the refurbishment activity is mainly limited to component supply by existing suppliers, which comprise almost 100 in total. Some specialist services are also procured externally.

The contract is similar to Stadler’s existing contract with Merseytravel, awarded in February 2017, to build 52 Metro trains for the Liverpool City Region, including servicing and maintenance for 35 years.

In this instance the findings also include some findings from wider research across the industry.

What did we learn about work pipeline visibility?

- Work pipeline visibility plans can be built from the existing high-level plans for train supply, existing fleet refurbishment, capital works and maintenance services.
- The benefits of the very long-term client-supplier whole-life contracts with greater certainty of work pipeline, already being realised by 1st Tier suppliers, are now being extended to the lower-level tiers of the supply chain.

- Many benefits are associated with improved productivity. These include optimal allocation of labour, greater responsiveness to programme change and increased supplier resilience.
- Taking into account the long length of the contracts, the importance of increasing trust and collaboration is a significant benefit. Whilst hard to quantify financially, it was agreed that adopting forward-looking practices around sharing information helps build long-term relationships.
- The 35-year contracts with both Nexus and Merseytravel provide a platform for establishing long-term strategic supplier relationships below the 2nd Tier suppliers. This might include some form of project expenditure transparency charter that would be signed by all suppliers, capturing the work pipeline visibility principles.

Rolling Stock Maintenance

Context

The pilot project was based on Porterbrook's Heavy Asset Maintenance Programme. The nature of rolling stock heavy maintenance programmes has not faced any substantive change for many years, but the shockwave and insecurity created by the Covid-19 pandemic has highlighted the need for closer working throughout the supply chain to find new ways to increase productivity and reduce the risk and high cost of supplier failure.

In the longer term, the nature of heavy asset maintenance will continue to change. Technology driven transformation will demand commensurate changes to processes, competency and culture.

In this instance the findings also include wider research across the industry.

Key Findings

- Prior to this pilot it had already been recognised that sharing information, even when uncertain, on both near-term and longer-term work pipelines has been of mutual benefit throughout the supply chain.
- Supply chain resilience would improve with increased work pipeline visibility. This would benefit both customers and all businesses in the supply chain.
- With limited opportunity to reduce overheads and unit costs, supplier-specific or contract-specific productivity initiatives, led by the customer, may be the most suitable vehicle to drive down unit cost. These could increase throughput and minimise the impact of production-line disruption. This should be driven by collaborative behaviours as opposed to the contractual terms and conditions.
- Greater certainty of work pipeline information can be shared with staff and improve staff and competency retention.
- Once the vehicles are in the depot, changes to the work disrupt the programme and therefore its timing, costs and cash flow. The greater the change, the greater the uncertainty. Early visibility of work content based on vehicle and asset information and availability provides time to improve maintenance plans and help minimise unplanned change.

Development Projects

Context

Government-funded development projects are essential, promoting product and service innovation that can create both UK and export market opportunities. The projects are usually based on collaborative arrangements between industry and academia or research organisations. This pilot project comprises a collaborative working arrangement between the Birmingham Centre for Railway Research and Education (BCRRE), Porterbrook and a number of smaller suppliers. Porterbrook has invested £3bn in 2,500 new passenger and freight vehicles and is looking to invest around £1bn in UK rail in the coming years.

The HydroFLEX Mainline Project aims to develop the UK's first operating hydrogen train, 'HydroFLEX', based on hydrogen fuel cell technology, for which there is now a working demonstrator that has been run on a test-track.

This pilot project comprises the running and operational testing of a HydroFLEX train on mainline infrastructure, requiring approvals and collaboration with Network Rail, the Office of Rail and Road and the Rail Safety and Standards Board.

The development of the demonstrator was, up to March 2020, part-funded by Innovate UK. The same BCRRE/Porterbrook team has remained in place to deliver this next stage of the project, again funded by Innovate UK. The funding was granted in June 2020 and the project will be completed by the end of March 2021.

Key Findings

- The shared sense of purpose within the consortium, based on the sustainability and zero-carbon benefits of hydrogen trains, has led to close working between the main parties and outcome-led innovation such that when there is programme change, its impact and cost have been mitigated based on already established relationships.
- Work pipeline visibility information is available throughout the consortium for dissemination. Its members know, for the full duration of the programme, what they will be paid and when, based on the original grant application for funding of the programme.
- The collaborative behaviours and the shared purpose within the team are key enablers to this project's success. The various parties trust each other to behave in a fair and reasonable manner when addressing any commercial issues.
- There is a clear intent to continue with the close and open collaboration as and when future applications for funding are approved and this level of collaboration and transparency should be replicable on other research and development projects.

Beyond work pipeline visibility

Whilst undertaking the pilot projects we identified a number of areas that could be explored further within the wider industry to improve work pipeline visibility and productivity.

Infrastructure Enhancement

- Inclusion of a contractual commitment on all in-flight infrastructure enhancement projects to share work pipeline information with 2nd Tier suppliers and promote its sharing throughout the whole of the supply chain.
- Establishing supplier hubs for in-flight programmes, not just for pre-contract supplier engagement, could be a source of value-adding innovation and collaboration to reduce whole-life costs and increase whole-life productivity.
- The link between the timing of business case and investment case approval on large programmes and its impact on purchase order cover at all levels in the supply chain. Uncertainty in the economic and political environment trickles down through the supply chain and purchase order cover is often limited in duration as a result.

Infrastructure Maintenance and Renewals

- Engaging suppliers from the whole-life supply chain to support remit definition and design for build. Maintenance and renewal projects have a 'funnel of opportunity' for value engineering to increase productivity and solution quality. The greatest opportunity is at the start of the funnel when defining the works remit. This can then be used to inform work pipeline visibility.

As the work progresses from design to remit definition, approval in principle, detailed design, build then completion, there are fewer opportunities for value engineering – the funnel narrows. Several examples showed that engaging expertise from the whole-life supply chain at an early stage, ideally when commencing the remit definition, and retaining their engagement throughout the project can lead to lower costs, higher quality and reduced railway access requirements.

- Completion of on-the-shelf remit definitions and detailed design work to level out the workload and limit the discontinuities in work volumes by putting designs on-the-shelf well ahead of annual and control period works mobilisation, ideally with an 18 to 24 month horizon.

New Train Fleet Supply and Support

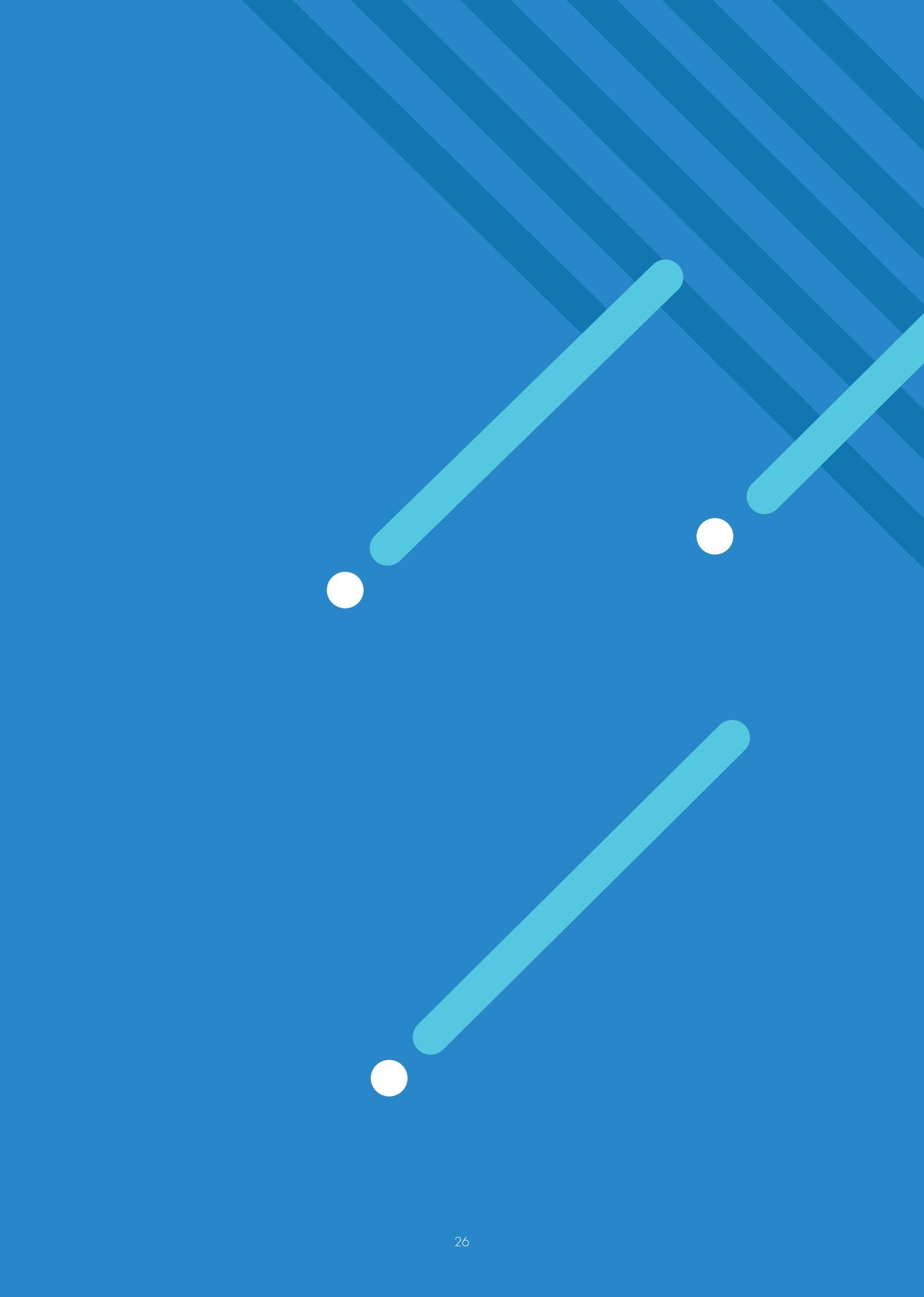
- Establishing long-term strategic contracts with suppliers throughout the supply chain to provide them with the type of work pipeline visibility that increases supplier resilience.
- Developing industry-wide best-practice in long-term skills development to support new UK train fleets with digital technology.

Rolling Stock Maintenance

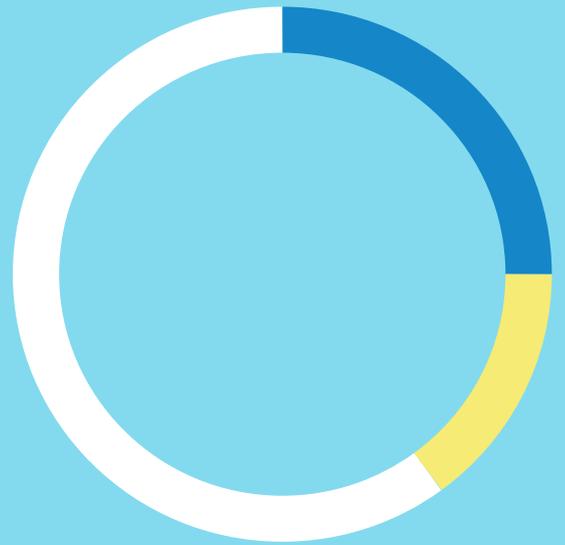
- Minimising disruption to the maintenance plan by minimising the amount of unplanned work due to limited vehicle knowledge.
- The use of technology-enabled surveys and processes, condition monitoring and digital records to provide more detailed information on vehicle and asset condition to build greater certainty into the maintenance planning process.

Development

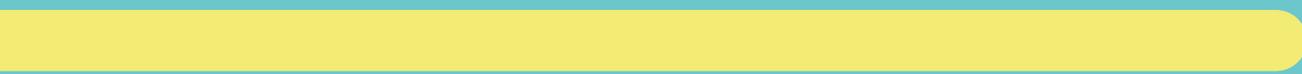
- How can we develop a sense of shared purpose in more development projects? A shared sense of purpose supports close working between the main parties and promotes outcome-led innovation. When there is programme change, its impact and cost can be mitigated based on already established relationships.
- Inclusion of 'Collaboration Criteria' for Innovate UK funding proposal assessment to increase the likelihood of consortia achieving successful project outcomes.
- Increasing the duration of grants for government funded development projects in rail. Discontinuities on what are often strategic projects can lead to a loss of productivity and some participants may have to inject additional funding to avoid demobilisation and remobilisation costs and a loss of momentum whilst awaiting funding application outcomes.



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PULSE SURVEY RESULTS SUMMARY



A breakdown of survey respondents

44%

of respondents' annual revenue was in the £1-£10m bracket.

54%

of respondents' rail related revenue was in the less than £1m bracket.

399

survey responses completed.

REGIONS WHERE STAFF ARE EMPLOYED

9%

SCOTLAND
WALES
N.IRELAND

12%
NORTH

12%
MIDLANDS

20%
SOUTH
EXC LONDON

17%
LONDON

30%
PROFESSIONAL
SERVICES

makes up at least 25% of the revenue.

53%

of respondents have between 2-24 UK-based rail employees.



5.9%

average revenue decrease seen by organisations and a 3.4% decrease in demand compared to before the crisis.

LESS LIKELY

But organisations are less likely to say they are experiencing reduced revenue, demand and productivity than they were in Spring 2020.

2 in 5

organisations in the rail supply sector say their access to materials and resources and the availability of employees to work has declined compared with pre-virus levels.

LESS LIKELY

But organisations are less likely to say they are experiencing a reduction in access to materials, the availability of employees, confidence in their supply chain, terms being honoured and recruitment level than they were in Spring 2020.

78%

of organisations have started/ increased use of working from home or changed practices in the workplace, while two in five have furloughed staff to reduce the impact of the Coronavirus.

▼ 20%

use of the furlough scheme is down 20 percentage points.

64%

of organisations saying they are very confident of surviving the crisis.



9 in 10

firms are confident of surviving the crisis, but if the impact were to continue for more than 12 months, this drops to around half.

CONFIDENCE

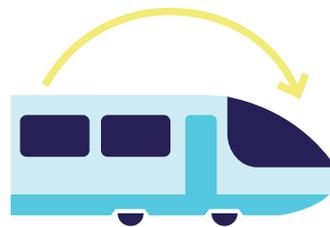
However, compared with expectations in Spring 2020, there has been a significant increase in confidence of survival even if the impact continues for more than 12 months.

ZERO

The announcement of a national lockdown on January 4th 2021 appears to have had no impact, with organisations who completed the survey in January just as likely as those who did so before Christmas to say they were confident of surviving the crisis.

CASH FLOW

While the importance of different criteria to survival / success is broadly consistent over time, sufficient cash flow is slightly more likely to be the most important priority in the short term, while visibility of pipeline of work is most important to medium/long term success.



PIPELINE VISIBILITY

and sufficient cash flow remain the two most important areas for short term survival.



SUFFICIENT CASH FLOW

is less likely to be considered important in the medium/long term than it was in Spring 2020, with availability of labour and skills being seen as increasingly important

DEMAND

Lack of demand, cash flow, staff availability and other restrictions related to Covid-19 are the most significant barriers for the recovery of their organisation to pre-virus levels.

STAFF AVAILABILITY CONCERNS

While lack of demand, cash flow and social distancing rules are less likely to be viewed as barriers to recovery, staff availability is an increasing concern for organisations.



4 in 5 LESS LIKELY

organisations still consider support from end client organisations to be important for their recovery from the Coronavirus crisis.

Organisations are less likely to consider the UK Government important in helping their recovery from the Coronavirus crisis than they were in Spring 2020.



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