



Keeping Talent on Track: Addressing the skills shortage in the rail sector

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Introduction

As someone who has worked in engineering for over 30 years, I've seen a huge amount of transformation, particularly in the technologies we use to develop and deliver increasingly complex projects. Starting my career as an apprentice, it's been a pleasure to be part of such an exciting and diverse sector, and I've had the opportunity to work in aerospace, energy, automotive, defence and now the rail industry.

Therefore, it always amazes me when I read headlines that the sector is facing such a major skills shortage.

However, the figures don't lie. According to industry estimates, up to 120,000 additional people will be required in the rail sector over the next five to ten years, with pinch points coming as an ageing workforce retires.

As someone who is passionate about the industry, I, and my CWE colleagues, are committed to doing what we can to employ apprentices and showcase the variety of options a career in rail can provide. That said, it will take a collective effort to convince the next generation that choosing rail will give them the pride and career satisfaction they seek.

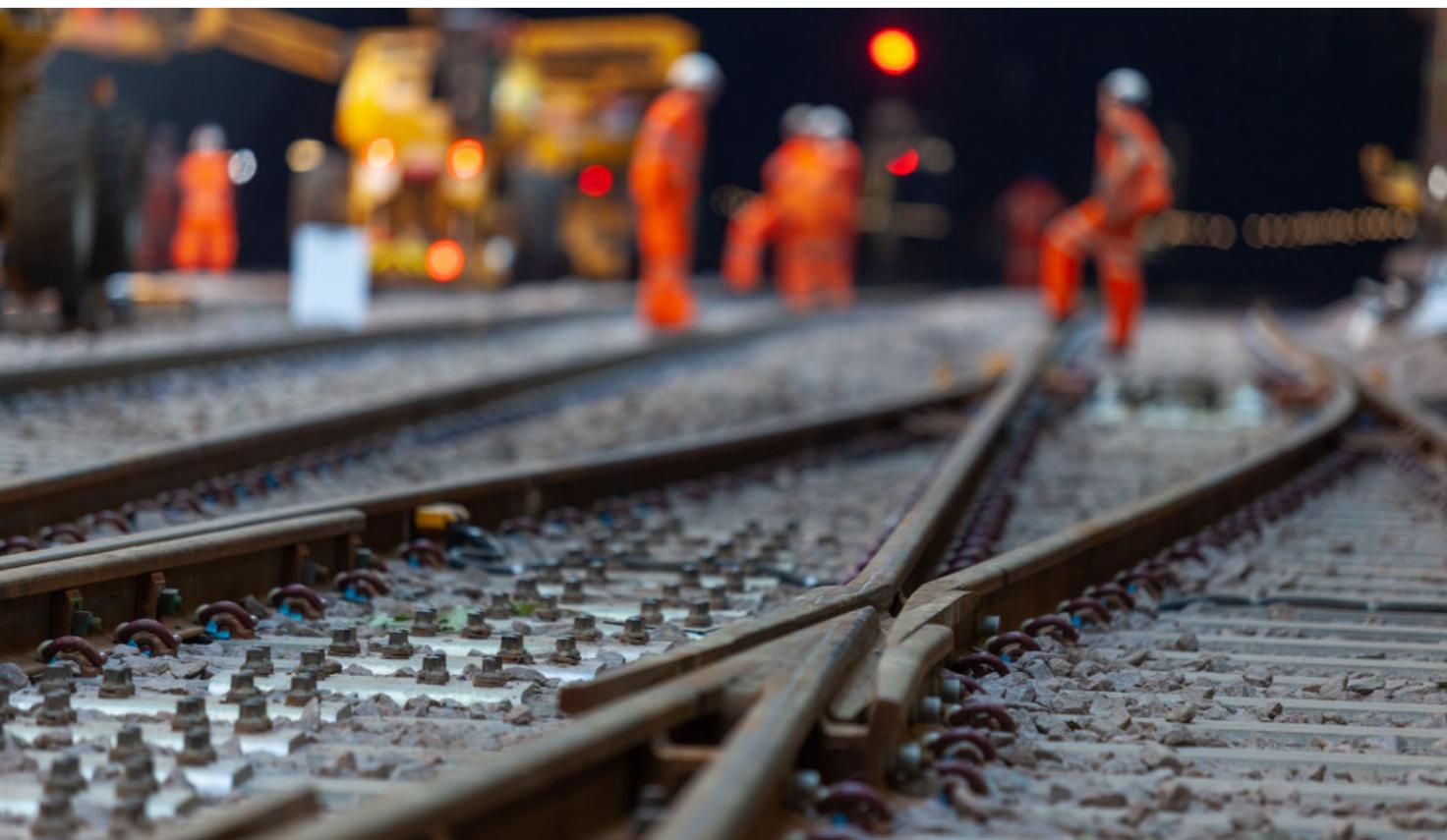
That is why we brought together several leading experts from both academia and the rail industry to debate what the

barriers are to rail as a career choice and what needs to be done to overcome these challenges.

We would like to thank all of the participants for taking the time to discuss this important issue, and for the National College of Advanced Transport & Infrastructure in Doncaster for hosting the event. We look forward to taking the next steps of the journey so we can achieve real change.

We launch this report during National Apprenticeship Week 2023, which this year has the theme of 'Skills for Life'. At a time when competition for talent is high, we hope to show why rail can offer a career for life.

Many thanks for reading, we hope you find it interesting.



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Managing Director

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CWE
Transforming
Rail Performance



Debate participants

Facilitator



Nigel Wordsworth
Rail Business Daily



Roundtable attendees



Nick Andrew
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John Hall
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Will Rogers
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Alec Gillham
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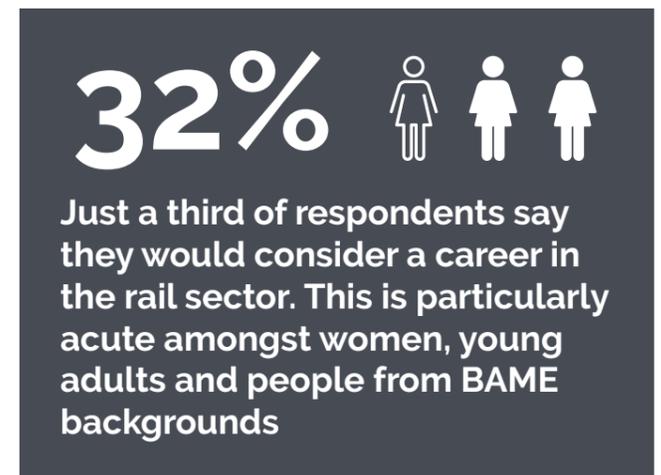
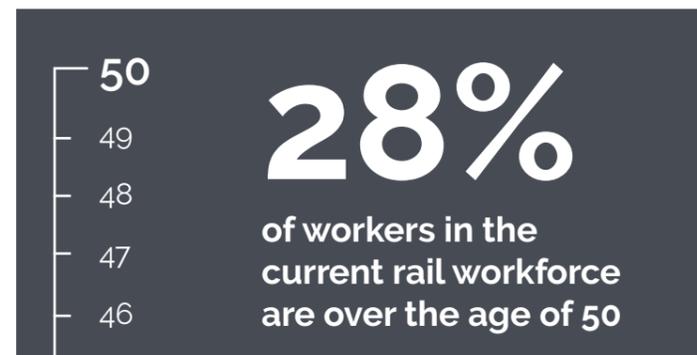


Barry Smith
Head of Assessment
and Skills, National
Skills Academy for Rail
(NSAR)



Setting the scene:

What is the scale of the skills shortage in rail?



Source: City & Guilds and the National Skills Academy for Rail, 'Back on Track'

The Industry Debate:

Skills and rail, what needs to happen to bridge the gap?

The debate was wide-ranging and covered multiple areas, from how to increase diversity through to debunking some of the common myths around apprenticeships. The experts discussed the challenges to overcome, shared best practice and identified practical outcomes to continue the campaign to address the skills gap facing the rail industry.

Does rail have an image problem?

From train delays to increased prices to strike action, the recent news hasn't put the rail sector in the most flattering of lights. Could this impact the prospect of attracting new entrants into the sector? Or, is the sector seen as old fashioned and only for 'trainspotters'?

Barry Smith, NSAR (BS): The first thing we often talk about is whether rail as a sector has an image problem. I'm not so sure it does. I think the challenge in rail, and sectors such as energy and utilities, is it's an industry that is taken for granted.

And, the bit of rail that's visible is just the tip of the iceberg - people assume 'that's it'. So, when we talk to young people about rail, they'll say 'drivers, people who work on the trains and those on the track'. So that's the challenge - not necessarily the image, but showing the range of careers.

Christine Fernandes, CAF (CF): I would challenge that, I think we do have an image issue. When I joined the industry 30 years ago, in what was then British Rail, it

was seen as a job for life. Now, with social media, young people have a vision of being a professional footballer or TikToker - it's mainly about the money they can earn.

That's what we need to address. In the media at the moment, when you think about the rail industry, do we have any good news stories? All we ever hear about is what we've done wrong. So we need to think about the image we're portraying to young people. You've got so much depth and diversity in jobs, you've got finance, law - there's a whole raft of things that we need to be communicating. We need to think about rebranding rail and showing the added value it can bring to the greater good.

Alec Gillam, NCATI (AG): The problem is we're all trying to get the same people, so why go to rail when you can go to other sectors? I know in the West Midlands, people are attracted to JLR (Jaguar Land Rover) because they know what it is, they're drawn to the brand and aspire to it. We don't have that attraction and other sectors do.

Nick Andrew, CWE Ltd (NA): So, is the challenge addressing the brand of rail itself? That it's not seen as high-tech or attractive enough?

John Hall, Davis Wagon Services (JH): There is also a problem within rail itself. We're not playing freight as the victim but to put it into context, if you have a marketing strategy in the passenger sector and your brand is up and down the tracks, then kids will see it. Freight isn't branded in the same way. How do I brand rail freight? Every person we have employed in our office has always said they didn't even know rail freight existed. It's not an attractive industry but it's a very solid industry. If you're looking for stability, you will find it in rail.

NA: If you look at success stories from manufacturing - many years ago I was on a steering group in Sheffield. You've got big names there like Forgemasters, there's a lot of heritage but there's also a skills shortage.

On a regional basis, those employers and manufacturers got together and said, 'Right we need to do something in the Sheffield region'. And the first thing was creating a training programme. We devised, between all of the major

manufacturers, a skills competency curriculum that gave us what we needed. There were a couple of organisations that got employers to get into schools with the 10 and 11 year olds to challenge the status quo.

It's like branding, you get in at an early age and you promote that brand - this was what we did with manufacturing. Then we had the AMRC (Advanced Manufacturing Research Centre) which has grown over the last 15 years. You've now got McLaren there, Rolls Royce there, Boeing there to mention a few. This is exciting to potential employees. Rail has none of that.

BS: It's also bringing the green agenda more to the forefront. Promoting green jobs in rail would help to attract young people so they can see that the apprenticeships are involved in that agenda.

NA: Everything in the industry is about carbon footprint. On the passenger side, we've got hydrogen trains and electric trains - then you look at freight. There's an abundance of wagons that can come off the road. If you do that, all of a sudden, we become a much greener economy in the UK. There's a massive opportunity to promote rail as a green career choice.



The Industry Debate:

Skills and rail, what needs to happen to bridge the gap?

Should apprenticeships be for all?

Are apprenticeships the best route into the rail sector and do they offer the right training and qualifications? Are they still seen as the 'poor relation' to a traditional degree, or is that an outdated concept? And, are they exclusively for young people, or is that one of the major myths to be challenged?

BS: It seems to me that apprenticeships just haven't caught the imagination of the rail world and there must be reasons for that.

AG: A 3-year apprenticeship costs around £24,000 and is funded by the government (via the Apprenticeship Levy), so shouldn't cost the employer a penny, compared to a degree which is now £27,000 over 3 years. The bit we need to work on is how can we get this through to the sector and say to people, 'if you develop your people within rail, you could receive the funding for the tuition fees or apprenticeship costs.' Yes, you have to employ them, but the money is there.

CF: Is the reason for no take up because there is more accessibility to university? So, actually people don't have a desire to have an apprenticeship because there is a potential perception of it being substandard?

Will Rogers, East Midlands Railway

(WR): I think it's about the understanding of an apprenticeship and what it actually is. I used to think that an apprenticeship is something that used to happen at 16, you either went to work or did an apprenticeship. Now, you have level 2 to level 7. We have 117 apprentices at the moment, predominantly in train driving but an apprenticeship is a really good pathway, it's kind of a masters. I think it's a valuable thing, it's accessible to all and they cover a big range. We have people from 17 to 50 in apprenticeships, the average age is 34.

CF: You assume apprenticeships are just for the younger generation but they're not necessarily.



WR: I think opportunity in this case is, if you've got a senior team leader, what is the kind external apprenticeship that person does to give them management, line management or project management qualification? A lot of senior managers are going on apprenticeships as part of their development.

BS: I think young people as well are moving into the degree apprenticeship space, so they don't get the debt of university. They'll look for a degree with an apprenticeship to 'earn while you learn'.

But also, the government has really focused on their Level 6 degree apprenticeships as a way of bringing an alternative to the academic with the vocational. But we continually undervalue the level 2 and probably the Level 5 or middle-management type of roles - that's not something that is widely understood by politicians or civil servants.

NA: The problem we have with apprenticeships in the rail sector is that everything is manufacturing based at Levels 2 and 3. So if I've got a rail fitter, I can't find a rail fitting course for wiring or fitting. You can't find a course that says, "this is a passenger vehicle and this is a fitting course". In manufacturing, there's no problem.

"A lot of senior managers are going on apprenticeships as part of their development."

Even if you did a standard year 1 apprenticeship, in years 2 and 3 there's no diversification to do rail maintenance. So we're having to do it on the job because there's no specific modules to cover that. There is nothing specific to rail maintenance.

JH: I can elaborate on that, we haven't ever taken on an apprentice and it's not through not wanting to. If we had our business in just one area, that takes away a lot of our headaches but we're not. We're based in Scotland, South Wales - we're everywhere and we have small teams. Now, we are going to address that, we are going to look at apprenticeships in the office, but we're getting no uptake at all in the area.

AG: I think people who want to go to university for the experience and qualifications - they're going to go. But apprenticeships can help to address the skills requirement for people who don't want to look at higher education. It's more flexible and they get paid.

Nigel Wordsworth, facilitator (NW): With a degree, you have to pay to do it. In an apprenticeship, you get paid.

The Industry Debate:

Skills and rail, what needs to happen to bridge the gap?

Attracting Talent: What are the rules of engagement?

Taking a step back, when it comes to reaching potential employees or apprentices, how is it best to encourage people into rail? Is it via schools and colleges or does the industry need to be more creative to grab the attention of a new generation of rail talent?

BS: One of the bugbears I have is that I don't think we engage with schools properly, I don't think we engage with young people properly. I think we forget what schools are all about and the pressures they are under. What we tend to do is go in and give them more careers. We go in as the rail sector, the power sector, the water sector, the advanced manufacturing sector and tend to talk about careers or individual projects and sometimes we go in at company level. It's too much.

NA: Myself and all the members in our business get involved with local schools and academies, doing STEM events, doing jobs and careers events, to try and promote our business and the sector. But it needs a critical path. It needs a plan.

NW: So, should we be going into schools as the rail industry or should we be going in as manufacturing, as engineering? Then a bit later on does it become rail?

Is it about bringing it to life for children to make it mean something?

BS: You and I shouldn't be going into schools at all. Our apprentices should be, our young people should be going into schools to speak to young people.

NW: There are organisations like Young Rail Professionals who have STEM ambassadors, and companies have STEM ambassadors. But, there is no overarching goal and there is no STEM association. Will (Rogers), as a train operator, do you get involved in STEM ambassadorial work?

WR: We do some STEM ambassadorial work but I wouldn't say it's a huge part of what we do. The kind of thing we're trying to do is to create new pathways in the organisation. So the biggest reach we got was through Snapchat. So it's how we find those new pathways.

"We're doing work at the moment on our 'See It to Be It' campaign, which gives young people the chance to see the job so they can say, 'I could be doing that'."



We're doing work at the moment on our 'See It to Be It' campaign, which gives young people the chance to see the job so they can say, 'I could be doing that'. So, the video we use at the moment is a Black driver, and for him it's his dream job as he was a rail enthusiast as a child. He's not a traditional rail enthusiast - that would typically be a young, white man. I think it's really important we bring that kind of story to life so people can feel themselves being in that position.

CF: For me, it's not just about educating primary school children, it's about educating parents and making them aware of the opportunities within the industry. And teachers, who are not aware of the breadth of careers the railway can offer.

I also think we need to be better at signposting. I know as a senior woman in rail it's incredibly difficult - there's no one place to go to, we're not making it easy to help people to develop. How is someone from outside the industry going to navigate it and understand what the opportunities are?

BS: We need a more modularised route into rail to show the potential for mobility, and the options when coming in from different starting points and different ages

to respond to the agility that young people want. Candidates want to keep their options open and we need to respond to that. We're not good at changing, we have to adapt to the world we're now in to attract the younger people coming through.

NA: We need a better industry approach to understand where the young people are, how we are culturally and what the influencers are so we can address it. If we don't understand, how can we address it? We need to understand how that person is shaped at different ages to be able to respond.

WR: It's also about some of the more tactical things you can do, like work experience and really making that a priority. Getting young people into the workplace so they can see the jobs, realities and opportunities. I think it's really hard to connect - we talk about channels, but there's almost too many channels to have a real impact.

AG: People know our college in Birmingham because we have a train outside and people see it. We have this national college for rail in Doncaster, but people don't know what it is. It's about getting out there and saying, 'this is rail and we have world class facilities'.

The Industry Debate:

How can we encourage greater diversity in rail?

The City & Guilds and NSAR research showed that only 16% of the workforce in the rail sector is female and just a third (32%) of respondents say they would consider a career in the rail sector. This is particularly acute amongst women, young adults and people from BAME backgrounds.

Does rail have a diversity problem? If so, how can this challenge be overcome to attract more people into the sector?

AG: I do think there's a problem with diversity and inclusion within rail. I know good undergraduates, very skilled people who wouldn't consider rail because it's not the right environment for them as it doesn't look like them. I can totally understand why. So I think there is an issue there in terms of how attractive it is.

BS: The other big issue I think we've got around this area is that recently, in the short term, rail is incredibly reliant on upskilling or reskilling and cross-skilling.

So comparatively speaking, a number of new entrants are down. Re-skilling is a good thing for different reasons, particularly in terms of reapportioning staff. But it does mean we limit our exposure and intake of new people. And of course, when you look at the demography of the rail sector, in terms of access and inclusion, it's the new entrants that will help us move the dial on equality and diversity.

NW: I can see your point exactly. If you're reskilling a white male civil engineer from the utilities industry into the rail industry – you still end up with a white male. So the way to get more diversity is to start at the beginning.

WR: I think it's also about how we reach out through our recruitment. We've been working hard in our engineering team to see how we can get a more diverse mix. We're trying different methods, we can't keep using the same old traditional ways of recruitment.

We're also starting to do blind screening and balanced panels as well – and through that we're getting a much better mix of people. In our last intake of apprentices, we had 4 females, 2 males and one of them was from an ethnic minority background. And for us, that's a huge step forward in terms of the mix of people and the difference they're bringing. But, that has required quite a significant change in the way we work, the way we do things and using techniques and tools that traditionalists in this industry may not be very familiar with.

because it returns the same result all the time and we've got to find a way of getting a much broader mix.

One of the things we've set up is the women's network called 'Balance', which was entirely set up by our staff. I've been on a session we had about the menopause with women all across the business, all grades and frontline staff – talking really honestly about the challenges of the menopause. For me, I probably learned more about that in a 30-minute session, than I would in the whole of my life.

CF: Since I've been with Women in Rail, the intention is to build up the database within various sectors, colleges, local councils to do more connecting with the community. What we're going to do is run a series of programmes and within those programmes and videos, we're going to give people an insight into different roles. Not just the train drivers and things like that, but company diversity and roles and opportunities. Also, the intention is to launch a national campaign – we're putting posters up in all the train stations saying, 'Your railway needs you'. Women in Rail has around 13,000 social media followers – a massive platform – to help boost the diversity and the inclusion of women.

“Women in Rail has around 13,000 social media followers – a massive platform - to help boost the diversity and the inclusion of women.”



The Industry Debate:

Skills and rail, what needs to happen to bridge the gap?

Is there a communications disconnect between academia and industry?

The participants discussed the lack of bespoke apprenticeships for the rail sector - is that because those designing the courses and industry aren't communicating effectively?

NA: The launch of NCATI is a great example where industry could have had more of an impact. When we talked about launching it, key people from around the rail industry were invited to discuss what they needed from apprenticeships. However, the curriculum had already been done for the next few years.

AG: The curriculum development team wants to develop new apprenticeship pathways and it's our job to inform them with what's required and what the demand is. I think it's chicken and egg as well, they'll develop an apprenticeship pathway if the demand is there - but they won't if there isn't the demand. They need a certain number of learners to develop the course. It's the same with any qualification.

NA: My argument is, if you've got an effective industry board, then you've got an incredibly strong rail focus and can create a curriculum that creates a pathway which is industry-led.

BS: The logistics industry has got some good examples of this. They've developed apprenticeships for areas such as 'what it's like to be a manager in logistics', and that's working quite well for them because it is particular to the sector.

What rail is doing at the moment is looking at more generic management stuff but we're also looking to address that, so rail engineering standards from Level 2 all the way through to Level 7 are being re-written now. We've got the data, we looked at how it performed in that format and we're making it much more responsive to what actually happens in the workplace. There's the Level 2 craft operative, progressing into the technician and then there's the advanced technician at Level 4. Instead of level 5 being harder still, it looks more at managing teams of technicians, and then level 6 sits differently again. That becomes more of a degree apprenticeship to attract new talent.

"We really need to work out how we optimise apprenticeships, making them more responsive to the sector."

We really need to work out how we optimise apprenticeships, making them more responsive to the sector. As we write the standards, we look at the names of things, what we call these job roles and the language we use, because the difference between 'rail assistant' and 'rail engineer' is meaningless.

We also try to look at how apprenticeship standards can be employer-owned and employer-written. But, if they're not using them, then we have no one to blame but ourselves because we're only as good as the intention and insight given to us from the employer.

NA: That's interesting because we've got John who's in the RFG (Rail Freight Group) and we've got Will and I on the Rail Forum, but I wasn't aware there were any groups coming together in rail to talk about skills.

JH: I think the RFG and Rail Forum should come together and create a working group from this.

NA: It's about communication though as well. We have companies here in the supply chain for both passenger and

freight. We are on the two main rail boards in the UK, but we don't know about it so don't think anything is happening.

NW: Is that part of the problem? You've got the big players with 100 apprentices involved in shaping the qualifications and standards, but companies like CWE with four apprentices don't know what's happening.

NA: I think between the RFG, Rail Forum and NCATI and NSAR, it's the comms line that's fragmented. You're telling us something is happening, but the two main bodies in rail don't know about it. Because if we did, we would be talking about it at board level.

JH: I wanted to be part of this because our business will die unless we get future talent in or there's an investment in new technology for freight vehicles.

BS: There's nothing stopping people getting involved. What we do need to get right is getting to the right people involved at the right time to tell us the skills they are looking for.



The Industry Debate:

Skills and rail, what needs to happen to bridge the gap?

How is the economic picture affecting investment in apprenticeships?

The challenging economic environment is impacting many companies, who are trying to combat the impact of rising inflation, high energy bills, materials shortages, supply chain issues and a cost-of-living crisis. Is this having an affect on the willingness to invest in new talent in the rail sector? And, what more could the Government be going to support businesses?

BS: For a long time now, we've struggled with the absence of a clear Industrial Strategy. And, we're still not sure what the plan is for rail – we're all waiting. What that does is incredibly destabilise anything beyond the short-term, there's no medium to long-term plan.

This is why some of the solutions rely on politicians. It must be challenging at the moment for a train operating company and for companies in the supply chain to forecast what they're going to do. How can they take on apprentices when they don't know what their order books look like in a year or two?

CF: We know we need to do it, particularly when many of the procurement contracts are geared towards social value. But when

you've got no security to forecast, that impacts investment because you don't know what the future's going to be.

NA: I think I need to challenge that. Businesses that do well have to invest – there's nothing certain, especially in business. If you want to develop a successful business, you've got to take the plunge. What my frustration is, there is a massive reluctance in multi-million pound organisations who have that comfort, who have that luxury of cash flow, and who are standing there saying, 'I don't know.'

“Businesses that do well have to invest – there's nothing certain, especially in business. If you want to develop a successful business, you've got to take the plunge.”

At CWE we have to develop a 3 year plan of 'this is what I am going to do and this is what it looks like', because otherwise I can't get any investment. We've employed two apprentices over the last two years and we want to employ a minimum of four this year.



In fact, I had an email from a training provider just recently saying. 'We've got this really great kid, he's looking for employment – would you look at him?' And the answer is, yes I will.

Conclusion and next steps

It is clear from this debate, that addressing the skills shortage in rail is something that impacts across the board, from the academic institutions wanting to attract students onto their courses, to the supply chain companies such as CWE looking for engineering apprentices, through to train operating companies hoping to recruit drivers.

It is also clear that progress cannot be made if actions happen in isolation. The discussion highlighted that there are communications disconnects to overcome - particularly between academia and industry - and that, while there are exciting initiatives happening, best practice can be shared more effectively to have more of an impact.

Following the debate, the panel identified seven actions to take:

- 1. Breach the communications gap:** We need closer alliance between colleges such as NCATI, organisations such as NSAR, and bodies including RFG and RFM, so industry and academia can better collaborate and design qualifications that meet the needs of students, colleges and employers. The potential to create a 'your railway needs you' campaign to bridge the gaps between the relevant parties.
- 2. Share expertise to better engage:** From how promotional material is worded and produced, to the channels used to communicate and engage with young people, including social platforms, to the benefits of blind screening to improve diversity, there are a huge number of success stories from companies in the rail sector. Better collaboration will help businesses learn from each other to increase recruitment into the sector.

The Industry Debate:

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3. Engage the wider workforce: While it is important that senior leadership teams are the driving force behind attracting talent and cultivating a positive company culture, it is also important that this is reflected throughout the company. Creating working subgroups at an operational level within industry groups such as RFG and RFM will help drive action.

4. Campaign for clearer national strategies: There is a need for government to update and make its Industrial Strategy and Rail Strategy fit for purpose to help address the skills gap in the industry.

5. Learn from other sectors: Engaging with organisations and industry bodies in similar sectors, such as utilities, aerospace and manufacturing can help companies in the rail industry to learn and apply new thinking. This 'out of sector' mindset will help with diversity and to attract people from outside rail and demonstrate the value of roles within rail.

6. Celebrate the opportunities: We need to combat rail's image problem by showcasing the variety of careers available - from engineering to design to technology development to law to marketing - and the important role the

sector plays in the UK, including its contribution to the green agenda, by engaging with a wider range of people and communities. Celebrate the positives - it is a robust career choice with longevity that makes a lasting impact.

7. Better signposting for career pathways: The debate identified the complexities around access to apprentices and where to go for career progression opportunities. We need to showcase that rail offers multiple pathways to a fulfilling career.

When it comes to addressing the skills shortage in rail, everyone in the industry has a role to play in promoting the sector as exciting and dynamic. And, crucially, one that promises huge variety and the opportunity to develop pioneering technologies and processes that can make a real difference.

We look forward to taking the ideas discussed in this debate to the next stage.

Comment from Rt, Hon Tan Dhesi MP, Shadow Minister for Railways



“As so many highly skilled workers retire from the industry, taking with them their wealth of experience, it is undeniable that the rail sector needs to be better supported to prepare for the future.

Whether it's the phasing out of diesel-only trains or the electrification of our rail network, there are a multitude of challenges facing the industry which are integral to meeting our 2050 Net Zero target and building a network fit for the future.

As Nick Andrew, Managing Director at CWE, rightly outlined, this must include meaningful engagement with younger generations ensuring that rail is not only a first choice for travel but also career prospects.

The importance of diversifying our rail network's workforce through apprenticeships and the sector's communication platforms are evident throughout this report. Harnessing the potential of this will surely only enhance the rail industry's potential.

We must be optimistic and realistic about the future of rail. Yet unfortunately, the Government's failure to communicate a long-term rail plan, coupled with ever-rising fares across our rail network is doing little to inspire this shift. We must continue to celebrate and showcase the excellent opportunities a career in rail can provide and ensure that younger people are at the heart of it.”



About CWE Ltd

Established in 1966, CWE Ltd is the largest independent supply, maintenance and logistics partner for the rail industry. CWE's services include overhaul, refurbishment, machining and fabrication, providing complete lifecycle management of rolling stock from technical design and reverse engineering of key parts, through to non-destructive testing and obsolescence management, helping to minimise downtime and support the decarbonisation of rail.

An active member of the Rail Forum, CWE is RISAS-accredited, EN 15085, ISO 3834-2 and BS EN ISO 9001:2015 certified, RISQS approved, and working towards BS EN ISO 14001 and BE EN 18001.

To find out how we can support your project, visit www.cwelimited.com