Skills, STEM and our workforce

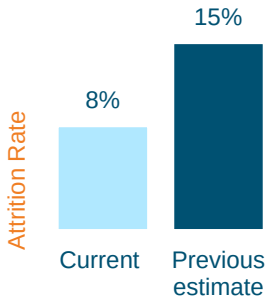
UK Rail Industry: Headlines

220,500

Workers employed within the Rail sector – down 9.4% over the last year.

90,000

Demand for replacement alone to 2030 will be around 90,000 workers, despite a significant drop in industry attrition estimates.



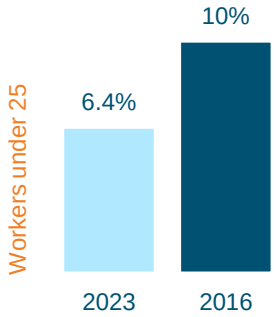
£20.3bn p/a

Anticipated Rail sector investment over the next five years. A proportion of which will be labour costs.

17.4%

Of workers within the Rail sector are women (an increase from last year's 16%)





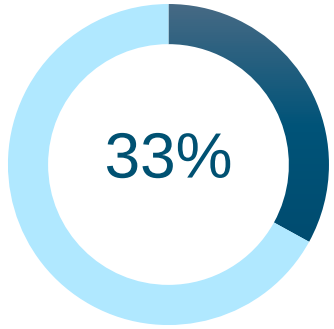
The number of workers under 25 in the sector is increasing, but below the 2016 high of 10%.

<1%

New Apprentices employed by the sector per annum; recommendation to increase by 150% to 2.5%

44.1yrs

Average age within the Rail sector has decreased



However, a third of the Rail sector are still **aged 50 or over**

UK Rail Workforce demographics

Replacement demand - all of the roles below have more than 250 workers in the sector and an average age in excess of 50:



Train Driver



Customer Service Manager



Revenue Control Inspector



Team Leader - Track Inspection



Driver Instructor



Team Leader - Rail Testing



Senior Technician



Customer Service Supervisor



Shift Signaller Manager



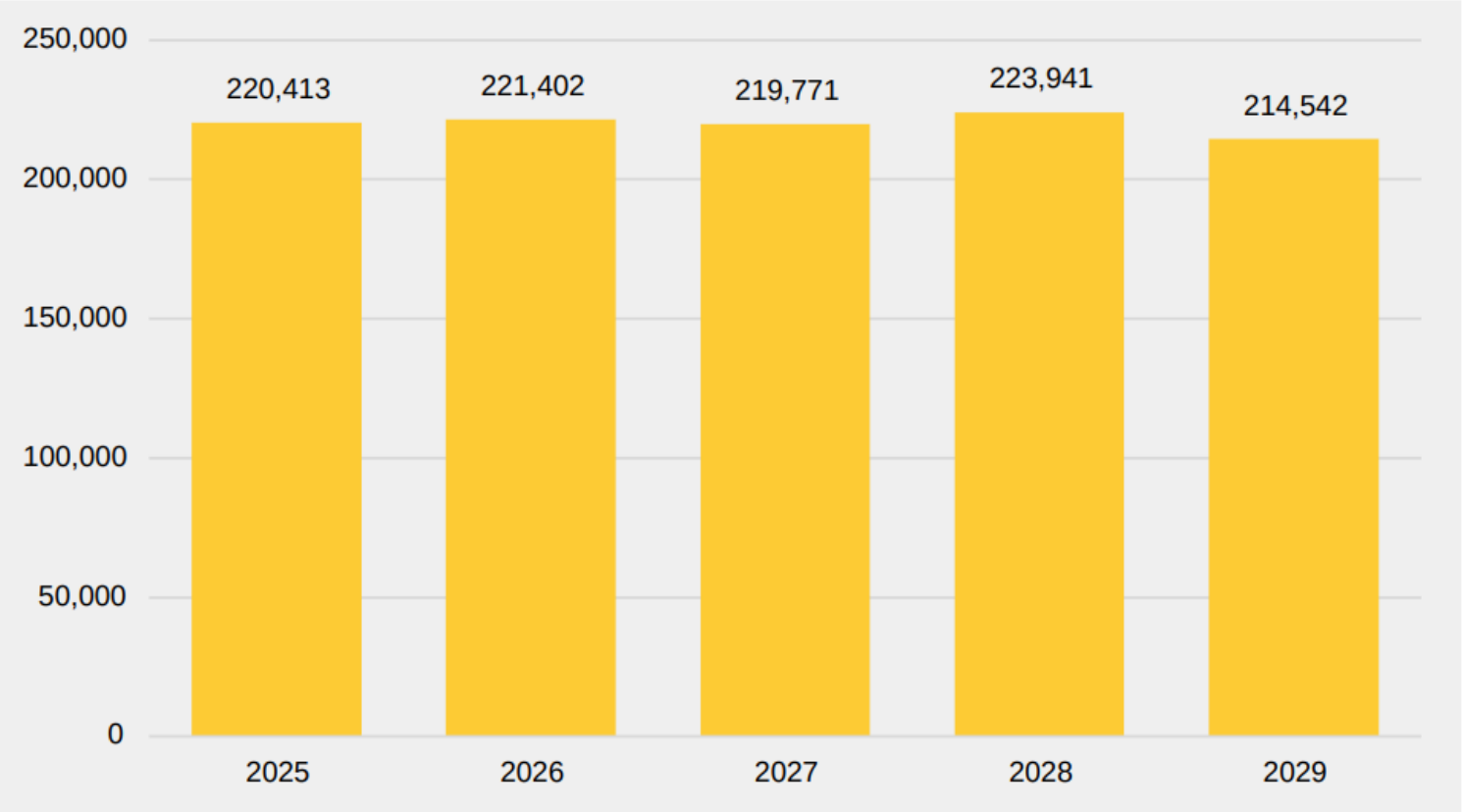
Construction Manager

Predictions: Replacement demand

- Retirement: estimated 45 – 55k (based on retirement age scale of 60 to 62)
- Other replacement demand IE those leaving the rail industry: Circa 35k
- Top 5 Risk Roles based on 5-year total replacement demand and skill level
  - Engineers – Skill Level 6 – 3,100
  - Customer Service Assistants – Skill Level 2 – 2,900
  - Train Drivers – Skill Level 3 – 2,700
  - Maintenance Technicians – Skill Level 3 – 1,900
  - Testers – Skill Level 6 – 1,300

- Cost of skill shortages: In the UK rail sector, we believe that the cost to CAPEX activities can be as high as **£720m per annum**, as a result of higher costs through wage inflation, delays to project completions as a result of staff shortages and loss or delay to project benefit realisation

Predictions: Industry Demand



Source: NSAR Workforce Survey 2024

Based off Rail investment forecasts of £20.3bn p/a, we can predict numbers of workforce demand with a good degree of confidence.

Whilst overall figures will remain relatively steady with variances between +1.5% and – 2.7% of current workforce levels, skill profiles are likely to change dramatically with the advent of **AI, new technology, decarbonisation and industry reform**.

How do Skills shortages impact us?

Wage Inflation: The shortage of skilled workers is driving up wages, which in turn increases project costs.



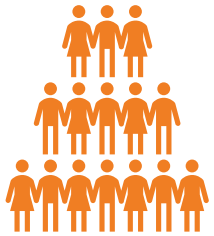
Project Delays: Many projects are being delayed or even cancelled due to the lack of skilled personnel.



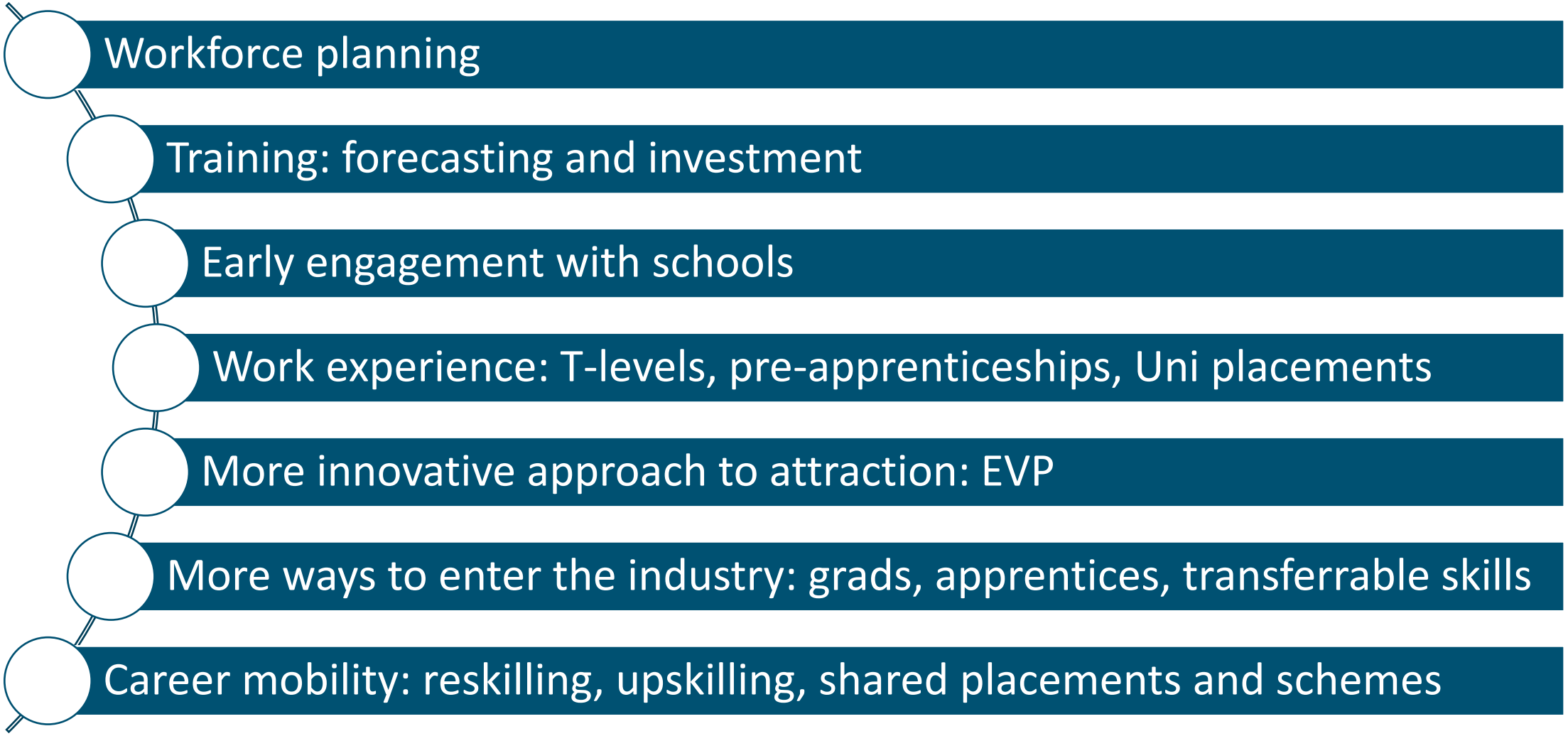
Training Issues: There is a shortage of trainers, leading to deferred or cancelled training programs, which further exacerbates the skills gap.



Economic Impact: The cost of not having the right skills in place could add an additional 7.25% per annum to project costs, which are not currently budgeted for.

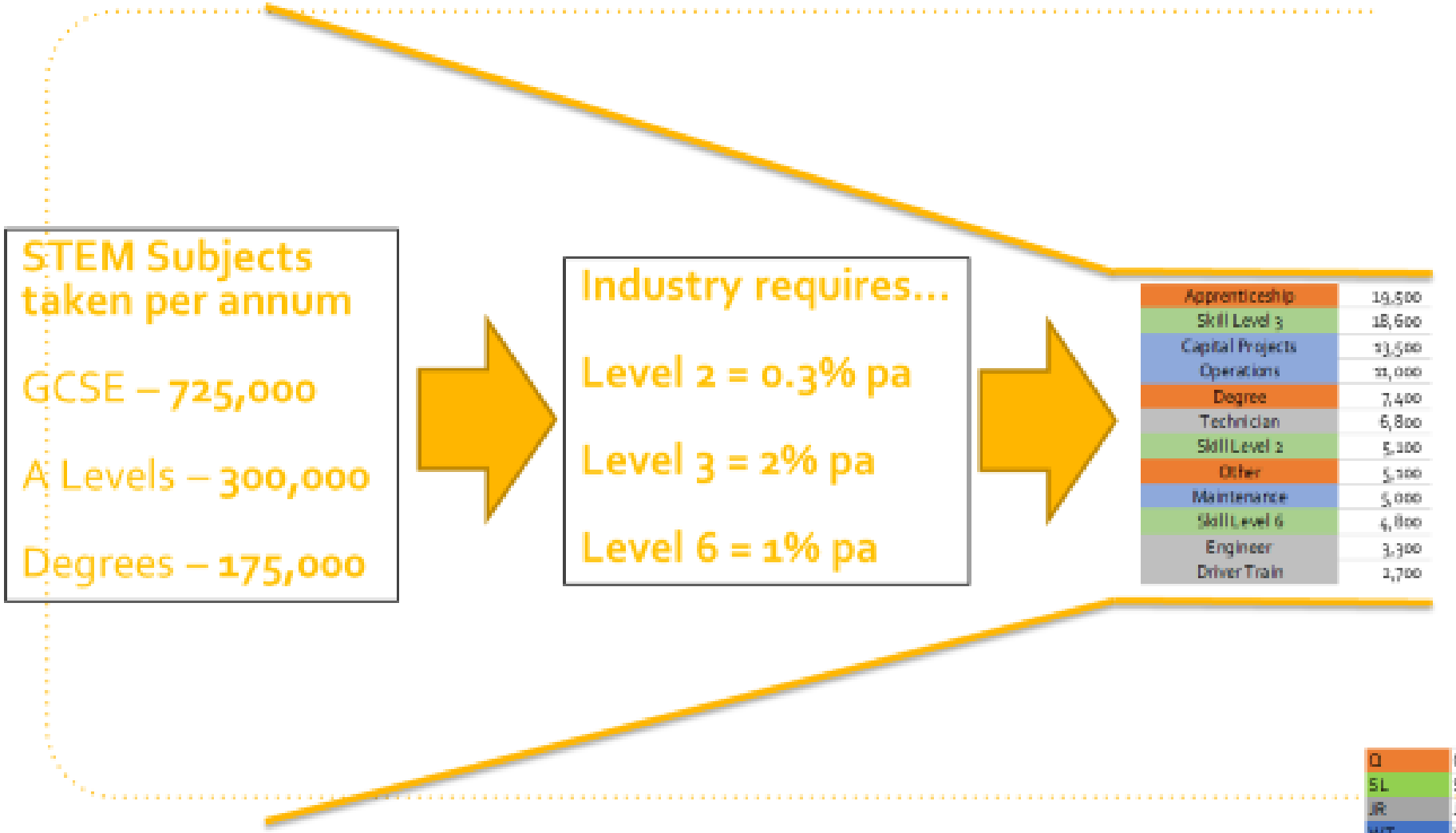


Where can we make an impact?



Starting early: developing a diverse pipeline…

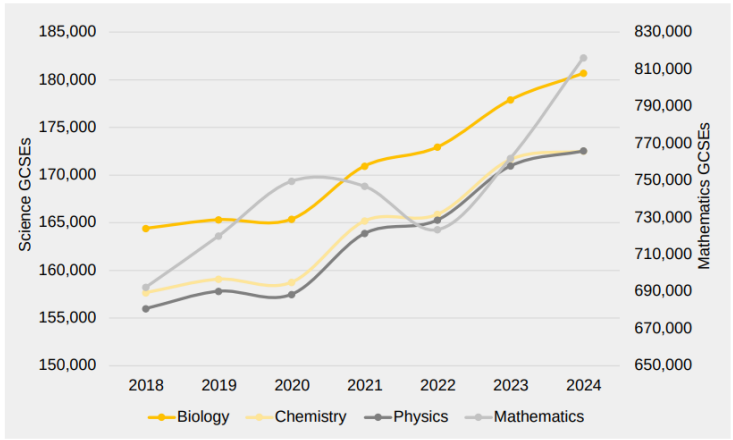
- Total replacement demand: **32,000 industry wide over 3 years**



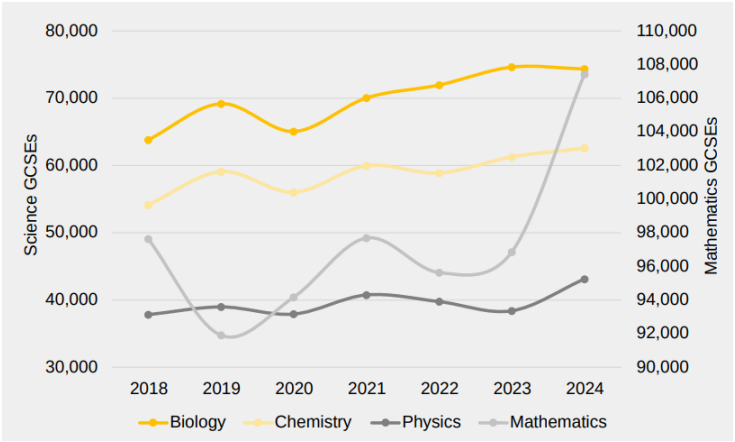
What is our potential future pipeline of talent?

GCSE STEM Subjects

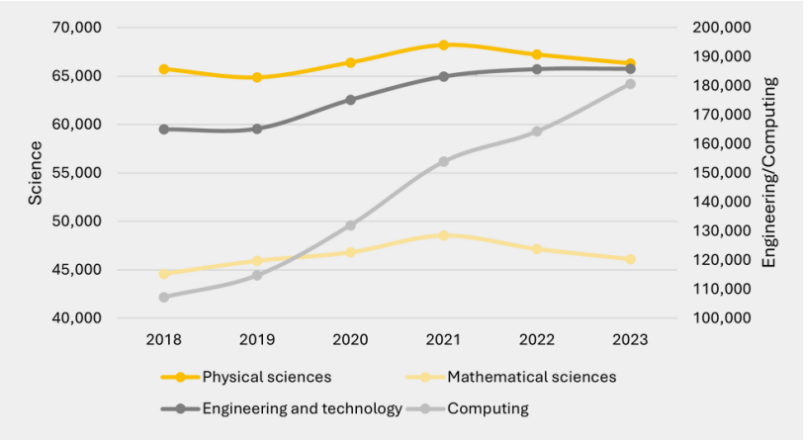
Science numbers are on the left axis and Mathematics numbers are on the right axis.



A-Level STEM Subjects



University STEM Subjects



There are **positive increases** across the Education system related to STEM subjects that are being studied.

Despite dips during the COVID pandemic, a general upward trajectory across all subjects is GCSE and A-Levels, with exceptional increases being evident in **Mathematics**.

At University level, Physical Sciences has slowed from its post-Pandemic peak, as has Mathematic Sciences, however those studying **Computing have nearly doubled in 5 years**.

NetworkRail

Rail Industry Talent Exchange

The Rail Industry Talent Exchange Programme has been designed to facilitate cross industry secondment opportunities for colleagues to help develop knowledge, skills and capability to support and beneft the modern rail industry.



Overview

External secondments have traditionally been arranged on an adhoc basis with a lack of transparency. The benefits for colleagues and engaging organisations has been unknown.

The purpose of the Rail Industry Talent Exchange Programme is to provide a managed, transparent and inclusive approach to cross industry secondments.

With clear objective setting, a catalogue of developmental tools and resources, the value of external secondments can be realised for both individuals and participating organisations for the greater good of the industry.



PLANBEE RAIL.

Shared Apprenticeship Employment – Delivery of L4 Project Management

Gateshead College

Educational delivery partner –

Training, Assessment, QA, Reporting, EPA & Qualifications

Shared Apprenticeship Employer

NSAR (National Skills Academy for Rail)

HR, Finance, & Reporting Levy

Sponsors

Host work placements & pay for salary for one or more apprentices

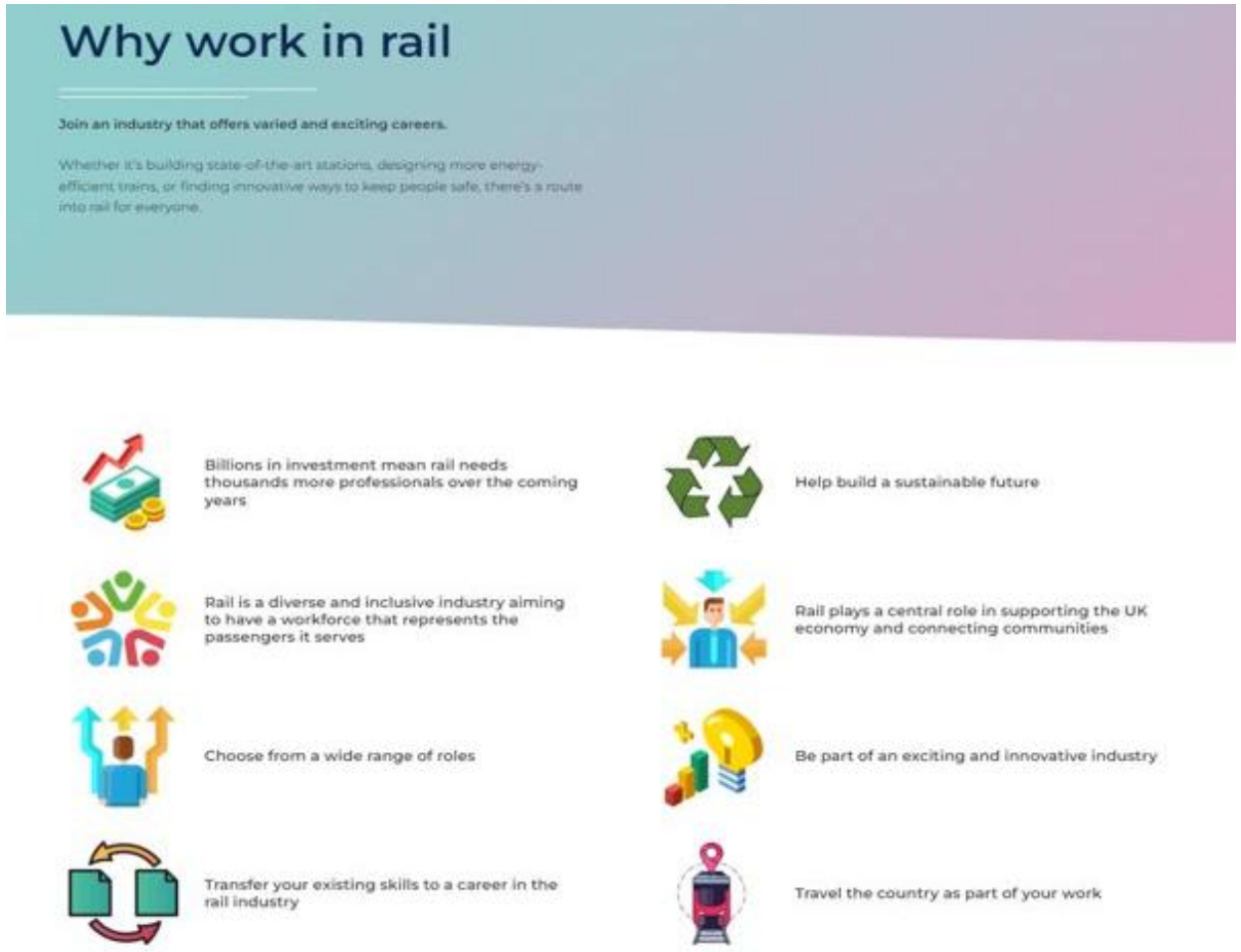
Apprentices are employed by NSAR & will rotate to across four employers every 6 months

Consortium Organisations

1. Alstom
2. AMCO Giffen
3. Amey
4. Balfour Beatty
5. BAM
6. Keltbray Infrastructure Services
7. Morgan Sindall Infrastructure
8. Murphy
9. Network Rail – TRU
10. Network Rail - Capital Delivery
11. Systra
12. Transpennine Express
13. Volker Rail



Working together…



routesintorail

Your one-stop-shop for rail careers, funded by industry employers.

Search careers...

Search

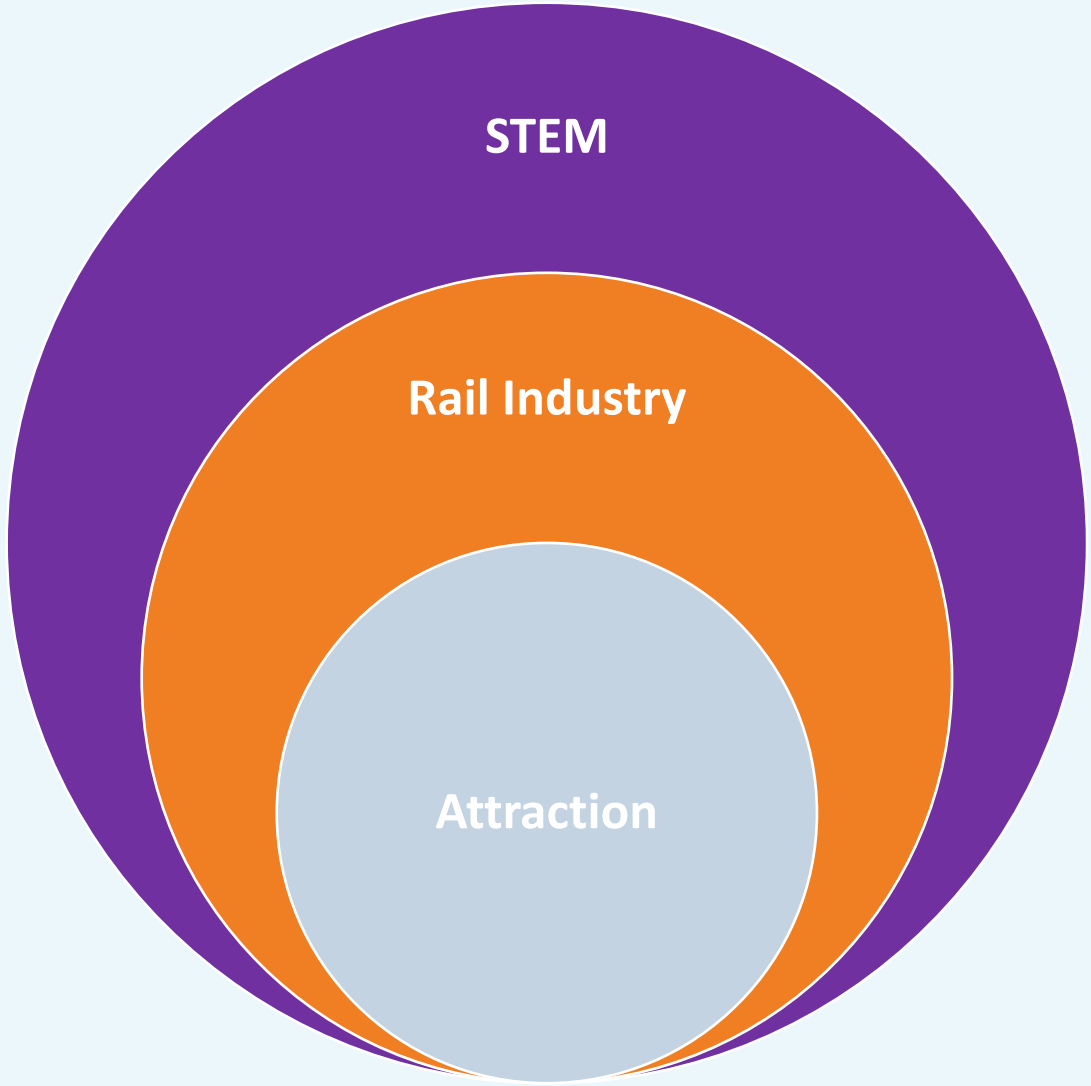
Careers

Apprenticeships

Graduate schemes

Ex-armed forces

Inform, inspire, engage



Encourage children aged 5 – 16, to choose STEM Subjects

"you can't be what you can't see"

Promote rail via role models, attract to rail

Change perceptions of rail, and rail roles, improve industry image

Attract to the employer: Brand, adverts, campaigns

Increase Diversity, enable social mobility

Where we focus:

Do you love working in the STEM (Science, Technology, Engineering and Maths) sector?



Skills:

Plan: Using strategic workforce planning information (internal and external forces), tools and activities, we chose initiatives that will build skills where they will be needed. Create good entry level schemes.

Diversity and social mobility:

Inform and inspire: Diverse role models, good work experience, we will increase the diversity of our future talent pipeline. We want young people to be able to relate to role models and see that rail jobs could be for them.

Increasing Confidence:

Equity: Give young people the information they need to make informed choices and support teachers. This will build confidence, their networks where they may not have them and enable social mobility.

Schools Engagement Statistics From Academic Year September 2023 - July 2024

NetworkRail

7,000
Emily the Engineer books distributed to young people aged 6 – 8 at stations across the country.

64
colleagues signed up as STEM ambassadors in the last year.

53
Young people attended a work experience placement.

243
colleagues have volunteered in our national programmes and events.

2,546
primary school aged children took part in the Primary Engineer Rail Project programme from 82 schools, 70 engineers volunteered and 82 teachers trained to deliver the programme.

Big Bang Fair.
2041 young people visited the Network Rail stand over 3 days.

Students achieve more.

Our support reaches
174,000
young people
through Network Rail supporting national STEM outreach activities, increasing engagement, aspiration and attainment.

152
young people attended a Network Rail Bring Your Child into work sessions

Our funding supported
610
schools
to participate in a STEM outreach activity.

We have supported
10 national schools' programmes
and delivered 50 events over the last academic year.

There were
30,500
meaningful interactions
between Network Rail role models and young people in the past academic year.

1795
Children from 42 schools took part in our Light Bulb Moments programme.

Where can you make an impact?

