Catching the wave
How do we find enough rail systems people?
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Plan Design Enable
The perfect wave?

Crossrail
LU Upgrades
Electrification
IEP
ERTMS
HS2…

We want to contribute to the success of these projects
How do we find enough rail systems people?

Rail systems people?
Anyone taking a system-wide view of projects

Enough?
The minimum resource/cost necessary to restrict the risk of systems problems to an acceptable level

Find?
Within rail, from traditional disciplines
From other domains, for transferable skills
New entrants from the education system
How do we ride the wave?

Like a good surfer, the rail SE community requires:

• Skill
• Stamina
• Balance
• Agility
• Flexibility
• Timing
Our Strengths

Need for SE accepted
Body of knowledge
Experience
Domain knowledge
Industry presence
Established supportive community (RIG)
Our Weaknesses

- Small community
- Reliance on experienced people
- Poorly integrated with the wider rail engineering community
- Inward-looking?
Opportunities

Evidence that System Engineering is essential for successful projects

Embed System Engineering principles into the “day job” - share values and integrate with wider community

Embed domain expertise into System Engineering

Develop the System Engineering community
Threats

Amount of work and competition for resource

Diverse standards and processes

Resistance to integration

Competence

Contractual structures

Feast and Famine
Match demand and supply

The Challenge

UK Rail Industry
SE Capability

Meeting the challenge

= Tuned Processes

+ Increased Capability
Conclusions

We are resource limited:
- Don’t rely on a large influx of raw talent
- Draw on resource from the rail community
- Avoid over-commitment of experts

We need to become better integrated:
- Engage with the wider rail community
- Work within project teams, not as isolated specialists
- Embed SE into everyday project processes

We should use our influence at all levels of supply chain to:
- Enable movement between projects
- Promote risk based tailoring of SE processes