

## Systems Engineering

### Academic Staff

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Systems integration involves the consideration of how a set of components interact with one another during the entire life cycle of a system. An important step is the progressive linking of system components to merge their function characteristics into a comprehensive interoperable system. It is essential to analyse how components, stakeholders and processes interact to achieve a defined function.

The railway group has applied these principles to a range of large scale multi-participant projects.

### Current projects:

- EC – Integrated Railway Data Management (**InteGRail** (<http://www.integrail.info/>))
- EC – **Innotrack SP1** (<http://www.innotrack.eu/>) (System Engineering)
- EC – Safer European Level Crossing Assessments and Technology (**SEL CAT** (<http://www.levelcrossing.net/>))
- EC – Infrastructure Environmental Management (Infraguider)
- EPSRC (RRUK) – Railway Cost Modelling (with Leeds and Imperial)
- EPSRC (RRUK) – **Dynamic Re-scheduling of Trains** (<http://portal.railresearch.org.uk/RRUK/Site%20Pages/ProjectB1.aspx>)
- Network Rail – Test and Simulation to Understand Conductor Shoe Dynamics
- Network Rail – Railway Capacity Metrics
- PhD Student – Safety Critical Design Processes using Constraint Satisfaction (with TRW Conekt)
- PhD Student – Benefits of Adopting Systems Integration Approaches in Rail Projects (with Atkins)

