

**Performance Measurement:
to drive System Improvement**

**RRUK Theme B Whole System Performance
Research Workshop
1400-1800, Thurs 19 January 2006**

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Scope of my input today

Information ... and an idea

- ATOC Engineering – partial but focused TOC picture
- KPIs
- SICs
- Possible area for RRUk

ATOC Engineering – where I come from

- **Voluntary group:** all TOCs, plus Freightliner, NIR (fund & direct a small team & some resource at ATOC)
- **Common interests:** sharing info, clubbing together for a collective response (where more efficient/ effective)
- **Examples:** Graduate training scheme (we also train NR's Rail Vehicle Engineers); NFRIP (lead industry, report to Ministers); ARTTT (customer-supplier initiatives with RIA); Euro standards development engagement; Research (RSSB, SICs, AGRI, euro)
- **Aims:** facilitate reliability improvement (and reduce risk of future degradation) – see KPIs on next page

ATOC Engineering KPIs

- **Reliability/ performance/ cost** – examples of KPIs on output
 - Short: TOC fleet delay mins & incidents; reduction & delivery to target (per pd)
 - Medium Specific: AWS/TPWS from 43k mpc in 2003; to 100 by 2004; 200 by 2005; 350 by 2010
 - Medium Generic: Defects per million components from 3900 in 2002; to 3400 by 2003; 2500 by 2004; 2000 by 2005;
 - Long: system optimisation through SICs, TSIs (e.g. raise track quality to enable lower vehicle mass – and hence lower traction energy & track mtce)

Also address other Tech Strategy goals:

Safety & Sustainability – *at least as much (or the same amount more cheaply) in the railway; more in the country through modal shift*

Capacity – *more, to enable more modal shift*

SICs

- **Structured:** governance rules, administered by RSSB
- **Cross-industry members:** TOCs, FOCs, NR, Roscos, RIA (suppliers)
- **Other participants:** ORR (inc HMRI), DfT, RSSB (both standards and research), Tesco (experts/researchers)
- **Purpose:** To do some serious engineering/ technical thinking and deliver some clear recommendations

The aim of all SICs is to develop engineering understanding so that we can better optimise across various interfaces in the industry

What are the 6 SICs (specifically)?

In order of being set up (during 2004):

- **Vehicle-Track**; Chair Andy Doherty (NR)
- **Vehicle-Structure**; Chair Andrew McNaughton (NR)
- **Vehicle-Train Control**; Chair Clive Burrows (DfT)
- **Vehicle-Communications**; Chair Steve Bence (ATOC)
- **Vehicle-Traction Supply**; Chair Tony Mercado (Alstom)
- **Vehicle-Vehicle**; Chair Rebeka Sellick (ATOC)

What are SICs for?

- **PURPOSE:** economic optimisation across industry interfaces, with safety as a given
- **FOCUS:** depends on what problems in relevant area
- **ACTIVITY:** different types of solution, relating to problems (e.g. policy development, research commissioning, process improvement, communications delivery)
- **COMMON:** feed into DfT Technical Strategy which feeds into DfT HLOS
- **ADVERT:** *Weds 8 Feb seminar here at IMechE “6 SICs and 1 DfT Technical Strategy Day”*

Example of SIC thinking (sic)

- What does the railway system look like from the point of view of train control? (see handouts)
- How does the system perform now?
- What are the criticalities, costs, reliabilities, risks, opportunities of each bit?
- What are the output KPIs we all want?
- What does this tell us about where we should focus our effort? Where will we get most value for money in improving reliability/ reducing cost?
- Can we use this thinking to improve system performance (measured in reliability and cost)?

What next for RRUK?

Proposed starter for workshop discussion:

- do you like the idea of system performance models like this, at this level, across this breadth?
- if so, what specific form could/ should they take?
- what specific benefits could/ should they bring?
- are they doable?
- if so, how?
- which first?!