



INTERNATIONAL RAIL ADVISORY COUNCIL

HOSTED BY TUBE LINES,
TRANSPORT FOR LONDON
CANARY WHARF, LONDON
22 SEPTEMBER 2010



INTERNATIONAL RAIL ADVISORY COUNCIL

The International Rail Advisory Council's (IRAC) objective is to encourage discussions that advance the application of spatial technology to improving rail infrastructure planning, operation, maintenance and renewal as well as safety and security.

The IRAC brings together rail infrastructure operators, from both light rail and heavy rail, around an agenda defined by the delegates. The IRAC is facilitated by Intergraph, the world's leading supplier of spatial systems to the rail industry.

Learn from the experience of others
Collaborate to define best-practice

Objectives of the International Rail Advisory Council (IRAC)

Spatial technology is used by rail infrastructure operators around the world, from national networks to metro rail and underground systems. Implementations have enhanced operational performance, safety, continuity of service, efficiency and quality of service to customers. The levels of use, and the resulting benefits, vary between organisations as well as between different functions within an individual operator. The IRAC has been established to enable organisations to benefit from shared experience and mutual discussion that advance the application of spatial systems to further enhance their businesses.

Rail and the Crucial Role of Spatial Technology

Rail infrastructure operation covers a multitude of diverse technical disciplines. Coordination and communication of business information is vital to successful, safe and profitable operation. The need for clear, accurate and up-to-date data places challenging demands on Information & Communications Technologies to coordinate work processes, information flows and sources of change across multiple functions and departments.

Spatial technology plays a key role in providing clear business insight and streamlining work processes. Its application has benefitted rail operators in functions spanning: asset and works management, asset planning, environmental control, safety, security, land and property management, amongst others. Location provides a natural referencing framework that enables data to be linked across the myriad of business systems that support rail operations, while viewing the text based records of business systems as a map can provide clear and immediately understandable pictures of the distribution and interaction of assets, activities and performance.

Meeting Discussion Topics for 22 Sept. at Tube Lines in London

Topics are set by the delegates ahead of each meeting and the agenda is structured to encourage open discussion, both in groups and in one-to-ones. Delegates are invited from rail and transport infrastructure operation and management organisations. Delegates can list their key areas of interest and experience enabling organisations to connect to discuss topics in detail or areas not featured in the main agenda. Topics for the 22nd are set out below.



Integration with Works & Asset Management Systems (WAMS)

The discussion topic will be introduced by Italian Railways, RFI

Text-based ERP systems (SAP, Maximo, Mimms Ellipse, Infor, etc.) have their origins in industries where the absolute location of assets and jobs are relatively unimportant. For rail the situation is entirely different; understanding the location of assets and the distribution of faults, jobs and variations in conditions is key to managing the operational performance of the business. However, these types of variations, associations and interactions are hard to see when looking at text reports. Presenting the WAMS' text records as maps brings out these critical factors with immediate clarity. Map interaction can also avoid errors when entering location references and highlight errors in existing records. Unsurprisingly, integration between WAMS and mapping usually forms the core of rail operators' spatial implementations.

Potential discussion topics:

- Making more effective and efficient use of track possessions and avoiding clashes and conflicts between jobs.
- Understanding relative performance around the network in order to direct maintenance and capital investment.
- Identifying combinations of / interactions between factors that lead to accelerated deterioration and elevated faults.
- Identifying and correcting location reference errors in the existing records of text based systems and databases.
- Different strategies for integration - what are the options and how do they compare in terms of the range of business processes they support, implementation effort, sustainability, etc?
- Does industry best practice exist?

Modelling Rail Assets to Maximise Utility & Value to the Business

The discussion topic will be introduced by Tube Lines, part of Transport for London (TfL).

How you record rail assets and works in your spatial system is of fundamental importance in determining:

- The range and number of business functions it is possible to support
- The ease of implementing the system and integrating it within the business and its IT systems
- The flexibility of your implementation and sustainability/maintainability of its data and interfaces



Potential discussion topics:

- What asset classes/types have operators modelled?
- Does the way assets are modelled affect the business functions / processes their systems can support?
- What effect does the model have on integration with other business systems.
- Methods to associate, harmonise and coordinate data from different business systems and what applications can this enable? e.g. combining works and financial data, integration of diagnostic and TRV data, coordinating and collaborating with third-parties, etc.
- Is there any consensus emerging over documented models or industry best practice?
- Using map views and analysis to identify and correct location/referencing errors in data held in other systems.



EU INSPIRE Directive - What are the Impacts & Opportunities?

The discussion topic will be introduced by Intergraph

Both light and heavy rail networks are included in the Annex 1 themes of INSPIRE, meaning rail operators will be obliged to publish spatial data describing their rail network under this EU directive. Key delivery dates that encompass Rail data sets in their scope include:



1. December 2010 : Publication of INSPIRE-compliant metadata cataloguing existing data (lets people know details of the relevant data sets that you hold).
2. October 2011 : Discovery and view services operational – enables people to find and browse the data in a map-based viewing application.
3. December 2012 : Transformation and download services operational – transform your data to match the INSPIRE transportation theme data model and publish enabling authorised users to download it.

Potential discussion topics:

- What are your obligations for publishing rail network data and what is the timescale for achieving compliance?
- How can your organisation meet its obligations?
- Can you take advantage of the work required to deliver INSPIRE to benefit other functions or uses within your organisation?



References:

INSPIRE Roadmap: <http://inspire.jrc.ec.europa.eu/index.cfm/pageid/44>

INSPIRE data model guidelines for the Transportation theme:

http://inspire.jrc.ec.europa.eu/documents/Data_Specifications/INSPIRE_DataSpecification_TN_v3.1.pdf

Safety & Security for Rail Infrastructure

Safety is always a primary consideration of rail operators. Sadly, the tragic events witnessed in London, Madrid and Moscow highlight the real and growing threats to safety. Rail and mass transit systems have been targets of terrorism due to the high concentration of passengers, their importance to the economy and movement of goods, and the basic security measures they have historically implemented. Do the elevated threats require a review of current security measures? Can security and safety be enhanced in ways that are both effective and affordable?



Potential discussion topics:

- What are the real threats and risks for rail operators?
- What are the positions of EC and national legislation?
- Are we aware of their impacts on daily planning and operation?
- What systems are currently in place to address the issues? How might advanced spatially-based security and safety solutions help improve what we have in place today?
- What best practice exists - can existing projects help support or guide other users?
- What needs to be considered and planned for in terms of organisation, procedures and financial investment?
- What results can we expect in terms of genuine additional protection and direct/indirect return on investment?

IRAC Meeting Agenda

09:00	Doors Open. Registration, refreshments and networking	
10:00	Welcome by our Host, Tube Lines, Transport for London	Welcome by Lee Jones, Operations Director
10:10	Introduction to the International Rail Advisory Council	The purpose and operation of the IRAC network
10:20	Setting the scene - The Roles and Uses of Spatial Technologies in the Rail Sector	An overview of business functions that rail operators support and enhance through the use of spatial technology illustrated with examples from around the world.
10:50	Integrating Spatial with Works and Asset Management Systems	Topic introduction given by Italian Railways, RFI
11:10	Modelling Rail Assets to Maximise Utility and Value to the Business	Topic introduction given by Tube Lines, TfL
11:30	EU INSPIRE Directive - What are the Impacts & Opportunities?	Topic introduction given by Intergraph
11:50	Security and Safety	Topic introduction T.B.C.
12:10	Open discussions	
12:30	Networking Buffet Lunch	
1:30	Break into groups to discuss the agenda topics or other issues raised in the morning session and Informal networking discussions	
3:00	Break with tea and coffee	
3:20	Summary & Q&A	Conclusions and actions from the group discussions
3:30	Actions	Topics for the next meeting
3:35	Optional activities opportunities for one-to-one discussions, networking and visit to Tube Lines' control room	
4:00	Meeting close	

Meeting Venue

The IRAC meeting on the 22nd September is hosted by Tube Lines (part of Transport for London) at their offices in Canary Wharf, London. During the meeting, we hope to be able to offer delegates a tour of their control centre (pictured on the following page together with details of the venue and travel information).

Meeting Registration

The IRAC meeting is open to all rail infrastructure operators. There is no charge for attending, but delegates must pre-register. Please confirm your attendance early to secure your place.

To register or for further information, email: ralph.diment@intergraph.com



Rail milling train
Tube Lines



About Your Host: Tube Lines, part of Transport for London (TfL)

Part of TfL, Tube Lines is responsible for the operation, maintenance and improvement of three of London Underground's most important routes: the Jubilee Line, the Northern Line and the Piccadilly Line. Under its management, Tube Lines has cut delays on these routes by over 50% and delivered all of their projects to-date on schedule. Key achievements include:

Piccadilly line - reliability has been transformed and it is consistently 70% more reliable than in 2003.

Northern line - previously known as the "misery line" saw great improvements in 2008 and is now 65% more reliable than in 2003.

Jubilee line - an extra car was added to every Jubilee Line train at the end of 2005, adding 17% extra capacity.



www.tubelines.com & www.tfl.gov.uk

Venue Location and Travel Information

The venue for the IRAC meeting is Tube Lines' offices in London's Canary Wharf, the modern financial district developed on the former docks of east London.

Address: Tube Lines, 15 Westferry Circus, Canary Wharf, London, E14 4HD. Telephone: +44 (0) 845 660 5466.

By Public Transport

Underground: the nearest station is Canary Wharf on the Jubilee Line

Docklands Light Railway (DLR): the nearest station is Canary Wharf on the DLR

For details of Underground and DLR routes visit www.tfl.gov.uk/assets/downloads/standard-tube-map.pdf

Train: Rail connections to the Underground (Jubilee Line) can be made at Canada Water, and with the DLR at a number of stations. For details of train times and routes visit <http://journeyplanner.tfl.gov.uk/>

By Air

Heathrow Airport: Take the Heathrow Express from the airport into London's Paddington station. Then take the Underground's Hammersmith & City or Bakerloo line to Baker Street, change to the Jubilee line for Canary Wharf.

London City Airport: The nearest airport to Canary Wharf. Take the Docklands Light Railway from City Airport to Canary Wharf station.

Gatwick Airport: Take the Gatwick Express to London's Victoria railway station, then take the Underground's Victoria Line to Green Park and change onto the Jubilee Line for Canary Wharf.

Hotel Accommodation in the Area

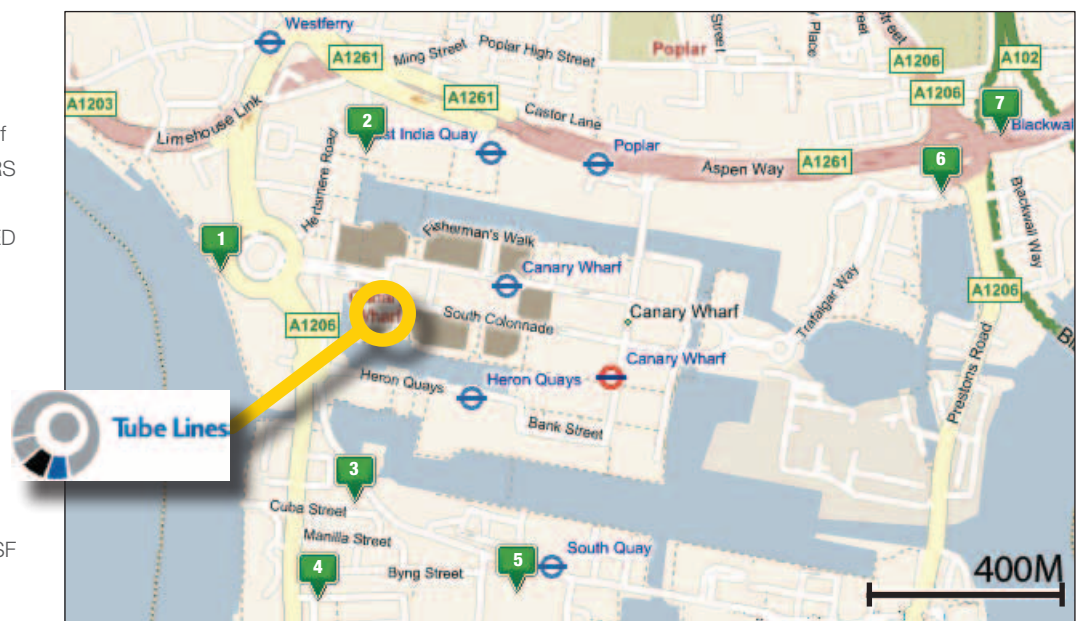
Hotels in the immediate vicinity are listed below. As Canary Wharf has good connections to the city centre, it is also possible to stay central London.

Tube Lines

15 Westferry Circus, London, E14 4HD

Hotels

1. Four Seasons, London Canary Wharf
46 Westferry Circus, London E14 8RS
2. Marriot, West India Quay
22 Hertsmere Road, London E14 4ED
3. The International Hotel
163 Marsh Wall, London E14 9SJ
4. Marlin Apartments, Canary South
11 Byng Street, London E14 8GG
5. Hilton, London Canary Wharf
South Quay Marsh Wall, London E14 9SH
6. Fraser Place, Canary Wharf
80 Boardwalk Place, London E14 5SF
7. IBIS, London Docklands
Wardley Lodge, London E14 9PE





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