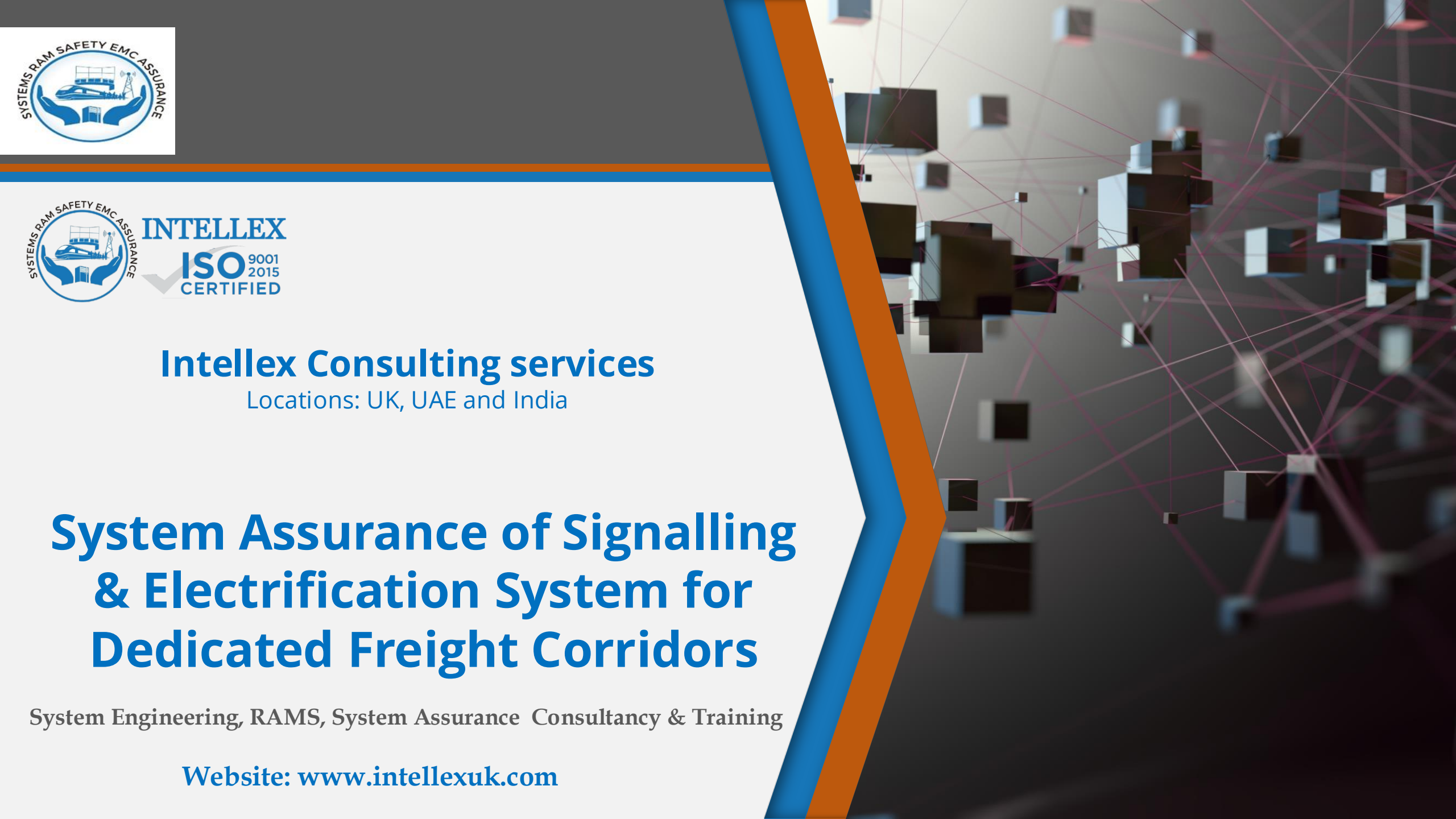

Intellex Consulting services

Locations: UK, UAE and India

System Assurance of Signalling & Electrification System for Dedicated Freight Corridors

System Engineering, RAMS, System Assurance Consultancy & Training

Website: www.intellexuk.com

Project Overview

- **Scope of Work**

  RAM & Safety analysis and System Assurance of Signalling System and Traction Power System for Dedicated freight Corridor as a part of Indian Railway.

- The project aims to develop a high-capacity corridor using advanced technology to help Indian Railways reclaim its freight market share by providing efficient, reliable, safe, and cost-effective mobility options.

- **Project Duration : 7 months (June 2024 – December 2024)**

Project Overview

Project Background & Context

- Freight corridors for Indian Railways are dedicated high-capacity rail lines designed to streamline and accelerate the movement of goods, boosting efficiency, reliability, and market competitiveness in freight transport.
- Intellex RAMS Assurance Consulted Pvt. Ltd. has been awarded a contract to ensure the safety and reliability of signalling and traction power systems for dedicated freight corridors.
- The Dedicated Freight Corridor aims to enhance Indian Railways' market share in freight transport by expanding capacity and ensuring efficient, reliable, safe, and cost-effective mobility options for customers.
- Freight Corridors seeks to establish multimodal logistics parks for comprehensive transport solutions and promote ecological sustainability by encouraging a shift to rail, the most environmentally friendly mode of transport.

Case Study Highlights

Case Study Outline

The RAMS techniques and assurance methods used in this project to identify and mitigate risks impacting the safety, reliability, and performance of the system are given below;

- ❑ RAM Plan, Safety Plan, Safety Validation Plan and System Assurance Plan
- ❑ Comprehensive Hazard Analysis –IHA, PHA, SSHA & OSHA
- ❑ Safety Studies Report (Including FTA), Safety Validation Reports
- ❑ RAM Analysis & Prediction Reports , Failure Mode Effect and Criticality Analysis (FMECA)
- ❑ Safety Case , Compliance Traceability Matrix & Perturbation Analysis
- ❑ RAM Demonstration Reports –Including FRACAS

Case Study Highlights

Challenges Encountered

- **Limited Client Engagement -** Difficulty in securing regular feedback or decision-making from the client led to delays in project milestones.
- **Slow Approval Processes -** Prolonged client approval cycles for documents, designs, or changes impacted project timelines and progress.
- **Limited Training and Knowledge Transfer -** Lack of sufficient training or knowledge-sharing sessions from the client side affected the team's understanding of complex requirements.
- **Coordination Challenges -** Difficulty aligning project timelines and managing client expectations effectively.
- **Conflicting Priorities -** Different priorities between client departments created misalignment and delayed decision-making.

Case Study Highlights

Resolutions

- ❑ Conducted regular checkpoint meetings with the client to review key decisions and ensure their active involvement in the project progress.
- ❑ Set up clear timelines for approvals and scheduled bi-weekly meetings with the client to receive status updates on critical documents.
- ❑ Facilitated workshops to clarify the project scope and requirements.
- ❑ Held regular internal team meetings with senior engineers and conducted reviews of deliverables to gain a better understanding of project requirements and scope.
- ❑ Focused on prioritizing key deliverables to meet deadlines without compromising quality.

Conclusion

- Regular and effective communication with the client is crucial to expedite the delivery of deliverables and adhere to project timelines.
- Effective coordination, discussions, and knowledge sharing within the team are essential for enhancing the quality of deliverables and meeting project deadlines.
- Incorporating RAMS principles into the preliminary design stages crucial for identifying safety requirements, achieving safety targets, and proactively mitigating potential risks that may not be evident in early design stages.

Thank You

Contact us to discuss where we can assist.

UK: INTELLEX Consulting Services Ltd.
34, Altair Way, Middlesex, Northwood HA6 3JH, UK

India: INTELLEX RAMS Assurance Consulting Pvt. Ltd
505 A, Galleria Hiranandani Gardens A.S Marg, Powai
Mumbai- 400076 IN

Dubai: INTELLEX Consulting Services (Middle East)-FZCO
312-D, A4, Dubai Digital Park, Dubai Silicon Oasis,
Dubai UAE

Website : www.intellexuk.com
Email: info@intellexuk.com
Contact no.: +44 7984456146 (UK)
+971 042160780 (UAE)
+91 484 3137673 (INDIA)

INTELLEX ISO 9001 2015 CERTIFIED