

## Workshop

On

### Asset Management for Railway Systems: Opportunities and Challenges

(February 1, 2013)

at

IIT Kharagpur



Organized by  
Centre for Railway Research  
Indian Institute of Technology  
Kharagpur 721 302 India

## Introduction

In today's highly competitive business environment, management of physical assets (their selection, maintenance, inspection and renewal) plays a key role in determining operational performance and profitability of any industry that operate assets as a part of their core business. Asset Management, being the art and science of making right decisions and optimizing these process, attempts to minimize the total life cost of assets and directly or indirectly influences manufacturing/production/operation/service cost, processes and quality, and throughput or delivery time. There is particular interest in the application of asset management principles to the management of railway network in any country where the cost and performance of the infrastructure are of national significance.

Asset Management for the railway infrastructure needs to focus on maintenance, renewal and enhancement activities, with an integrating mechanism, on delivering sustainable outputs valued by customers and funding providers at the lowest whole-life cost emphasizing on creating knowledge of how assets degrade and fail to optimize maintenance and renewal interventions. It is essential that railway industries across the countries promote a consistent asset management approach to railway infrastructures in order to help organizations develop their own methods and to compare their progress both with other railways and asset intensive organizations.

Although railway industries in general are aware of the potential of Asset Management for achieving excellent and all-out organizational performance, a well-trained group of personnel cutting across different

functions and departments of any railway organization is a prime necessity in order to achieve the goal of Asset Management. IIT Kharagpur, being an internationally recognized technical institution of India with its Centre of Railway Research having a number of experts with proven knowledge, expertise, and research capabilities in the broad field of asset management, plans to organize a Workshop on 'Asset Management for Railway Systems: Opportunities and Challenges' to provide railway industry professionals and researchers with valuable insights into several pertinent issues required for successful implementation of Asset Management framework at an organizational level.

**Internationally acclaimed academics, researchers and practitioners with proven knowledge, experience, and demonstrable ability in teaching, consultancy, research, and training in the field of Asset Management in Railway System will deliver and lectures and discuss cases in the workshop.**

## Objectives of the Course

The primary objectives of the workshop are as follows:

- i) Exposing participants to the fundamentals of asset management practices,
- ii) Building in confidence and capability amongst the participants in the application of asset management tools and techniques and mapping the organizational activities and problems in terms of Asset Management framework,
- iii) Providing exposure to practical problems and their solutions, through case studies

- and live projects in railway asset management,
- iv) Enhancing the capability of the participants to identify, control and remove asset management-related problems.

### Course Contents

The workshop will address the following **main issues**:

- i) Present industrial situations and relevance of Asset Management
- ii) Theory and principles of Asset Management
- iii) Asset Management methodology
- iv) Tools and Techniques for Asset Management
- v) Implementation Framework for Asset Management

The following specific topics (tentative) will be covered in the course:

**Railway Research in India with Special Reference to Asset Management** by Indian Experts at Senior Management Levels of Indian Railways

**Railway Research in Australia: CRC, University and Industry Research** by Professor Colin Cole, Director of Centre for Railway Engineering and Rail CRC, Australia

**Life Cycle Management of Railway Bridges: A Case Study on Australian Heavy Haul Network** by Professor Gopinath Chattopadhyay, Central Queensland University, Gladstone, Australia

**ISO 55000: Recent Trends in Asset Management** by Professor Gopinath

Chattopadhyay, Central Queensland University, Gladstone, Australia

**Failure Mode and Effects Analysis of IR Signalling Systems** by Dr Subhas C Panja, Reader, Jadavpur University, Calcutta, India

**Lean Engineering and Management for Indian Railways** by Professor Pradip Kumar Ray, Indian Institute of Technology Kharagpur, India

**Railway Bridge: Design and Maintenance Issues** by Professor Nirjhar Dhang, Indian Institute of Technology Kharagpur, India

### Workshop Schedule and Methods

9 am to 5 pm with 2-hour lunch break.

The methods consist of lecture sessions, hands-on-exercises, discussions on cases, and live problems.

### Eligibility

Executives, engineers and researchers from Indian Railways and Organizations in the entire supply chain of Indian Railways including R&D units research laboratories, and technical institutions.

### Workshop Coordinators

**Professor Siddhartha Mukhopadhyay**, Professor-in-Charge, Centre for Railway Research, IIT Kharagpur

### Professor Pradip Kumar Ray

Department of Industrial Engineering and Management, IIT Kharagpur, India

### Address for Communication

All queries regarding the course may be addressed to:

#### Prof P K Ray

Coordinator, Department of Industrial Engineering and Management, IIT Kharagpur, West Bengal 721 302

Tel: +91 3222 283742 (O), 283743 (R)  
+91 9434055274

Email: [pkp@vgsom.iitkgp.ernet.in](mailto:pkp@vgsom.iitkgp.ernet.in)

### Application and Fee

The interested participants are requested to apply to one of the coordinators by filling in the Registration Form provided with the brochure. The total number of seats is restricted to 30. The participants will be selected on "first-cum-first-served" basis out of the eligible candidates.

### Workshop Venue

Seminar Room  
Department of Industrial Engineering and Management

**Workshop**  
**on**  
**Asset Management for Railway**  
**Systems: Opportunities and**  
**Challenges**  
(February 1, 2013)  
**Registration Form**

1. Name: \_\_\_\_\_

2. Affiliation: \_\_\_\_\_

3. Educational Qualification: \_\_\_\_\_

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4. Address for Correspondence: \_\_\_\_\_

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Telephone: (O) \_\_\_\_\_

(R) \_\_\_\_\_

(M) \_\_\_\_\_

E-mail: \_\_\_\_\_

\_\_\_\_\_  
Signature of the participant

\_\_\_\_\_  
Signature of the Sponsoring Authority

(with seal)