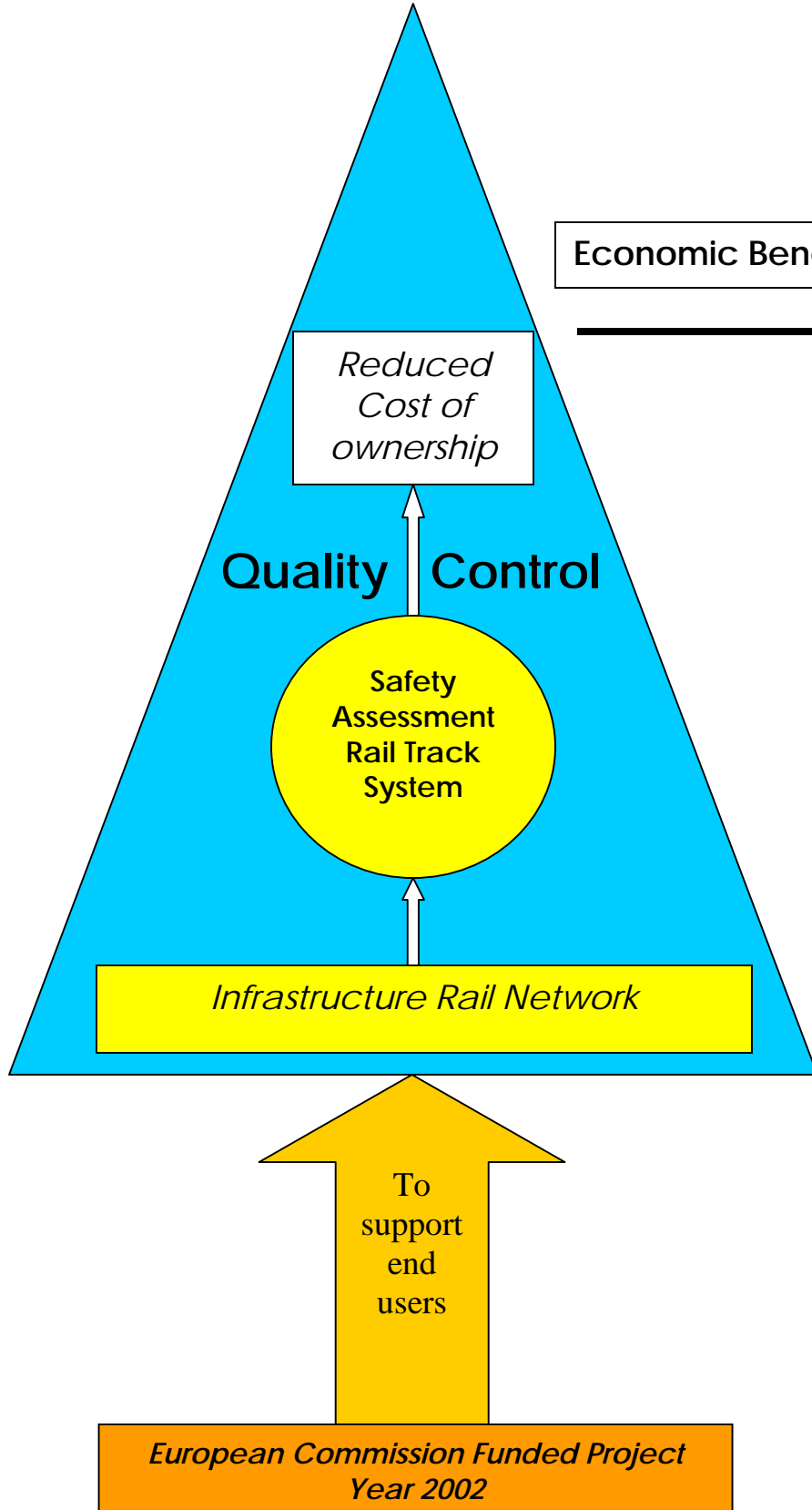


 Computerised Information Technology Limited



**Rail Track Safety Monitoring Management System**





## Rail Track Safety Monitoring Management System

- ### Main Features
- ◆ Fast and efficient Risk Based intelligent feedback system
  - ◆ Reusable digital radiographic technology
  - ◆ On stream Electronic storage and archiving of radiographic data
  - ◆ Powerful Product Inspection Software Package

### Product Sheet

## Thermite Weld, Switch Blade, Radiography of Rail Tracks ( TSRR )

### Background

Safety assessment of Rails against failures is a paramount factor to avoid rolling stock accidents. The safety assessments rely heavily upon NDE results, which depend upon routine NDT inspections. Statistically several accidents have been analysed where track have contributed to the cause of the failures. Hence on stream safety assessment system is proposed which provides information from which repair and remedial maintenance can be scheduled and promptly carried out.

Within the Rail Track Thermite welds, switchblades and fish bolts failures can be examined Radiographically. This has only become possible with the technological developments of the Digital radiography solutions.

Digital Radiographic inspection methods enable an inspector to interpretate a radiographic image of the internal structure of the area under examination. Various defects, welds details and metallurgied non-uniformities become partially visible. From the historical experiences and international standards the inspector can positively conclude the report from the image.

All the inspection images and data are saved on the risk based inspection method from which predictive maintenance can be accomplished. This information adds a new dimension of on stream safety assessment.



CIT/DR1200 Digital Radiography System



Report of Digital Radiography



Risk based Condition Management

## System Description

The Rail Inspect Digital Radiography Safety assessment package is a powerful management and quality control system that hosts the radiographic Images and other document records captured, Stored, Retrieved to enable the Report generation and Advanced Radiograph Analysis for the entire infrastructure of the rail network.

TSRR system consists of the

1. Field mobile radiography systems for capturing of digital radiograph images in the field. The number of units depends upon the production throughput. The data captured is saved in a structured capacity that can be uploaded or downloaded from the central system.
2. Central supervising system for archiving of all data and inspector reporting.
3. Risk based assessment, monitoring maintenance planning and feedback system

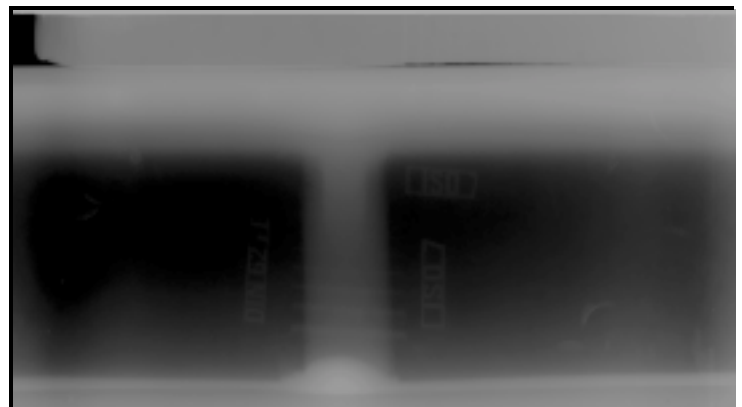
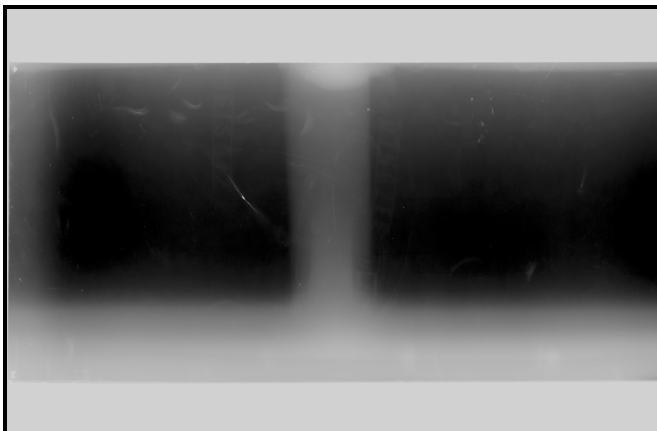
The Digital Radiography Replaces Conventional Film Radiography with Flexible Reusable Digital Imaging Plates, Digital storage and retrieval of digital radiograph images. The system provides a fast set-up and generates results within minutes eliminating any dark room requirement, chemicals, chemical disposable, films and film wrapper and storage requirements. It uses the existing radiographic set up but with reduced radiation strength value and reduced exposure time to generate Digital Radiography Image making it very environmental friendly. The application also includes high security at all levels; operator, supervisor, inspectors and auditors.

The system can be upgraded to include a global positioning system to point the location of the item being inspected and also linked to the satellite communication for transmission of the images to the central location.

The economic benefits results in Reduced Cost of Ownership with faster access to information for predictive planning and maintenance to meet the regulatory requirements and the safety of the plant.

Rail Inspect Digital Radiography Technology provides a powerful means to the rail authorities to monitor the state of the rails from which corrective action should be taken.

The Brief system details are provided with the images



Digital Radiography Radiographic Images

## Technical Specifications

### System performance

- Risk Based Inspection : Intelligent query search based upon RBI factor
- Inspection Though Put : -15-20 Minutes per Thermit Weld
- NDT sensor or Scanning Resolution : - 100 Microns
- Radiography Display Image : - 2.1 Magnification  
: - 200 Microns  
: - Monochrome type
- Radiography method
  - First View : - Railhead & web Base
  - Second View : - Foot View Front
  - Third View : - Foot View back
- Radiation Type : -Iridium 192/ or Se75
- Health & safety Radiation Area : - 2 Meters safe working area  
: - Uses flexible radiation Shielding
- Shielding for protection : - To comply with the radiation Safety Code
- Local regulations & rulings :Health & Safety department

### Ordering Information

1. Rail Inspect licence for radiographic technology based upon each customers and the number of units.
2. TSRR systems based upon the capacity and production needs. Central and field radiography systems.
3. Operator, training and certifications.
4. Management services once the Rail Inspect radiographic licences have been purchased

### **For further details contact: Rail Inspect Consortium Members**

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