

ASSET MANAGEMENT AND SERVICE LIFE OF CONCRETE STRUCTURES AND COMPONENTS

Potential benefits of emerging data capture and management technology

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This Information Paper explores approaches to the asset management of concrete components and structures using data from sensor and wireless information communication technology (ICT). As well as providing a short description of the emerging technology and its potential uses, the paper examines the potential business cases for use of data capture and management technology, and specific areas (including supply chain and through-life management) where its potential value may spur early adoption.

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Construction projects are undertaken to fulfil the business and service objectives of the owners and users and the success of a built asset depends on how well it meets these needs. ICT-enabled technology can help in: improving manufacturing, supply chain and construction management of the structure and its component parts; and providing data and analysis capabilities to facilitate the through-life management of the structure.

RFID TECHNOLOGY IN MANUFACTURING, SUPPLY CHAIN AND CONSTRUCTION

Introduction

RFID technology, also commonly referred to as 'RFID tagging' or 'e-tagging', already has a proven track record in many applications such as retail^[1]. RFID is a complex and rapidly developing group of technologies with a variety of readers, systems (see Box 1 for a brief description) and wireless or hard-wired technologies being available (see Box 2). The main focus of this



Information Paper is, however, on the application of RFID technology in construction.

RFID technology has the potential to provide significant business benefits to the construction industry including:

- productivity improvements
- availability of 'real time' data capture
- job tracking
- better quality control
- better stock control
- reduction in paperwork
- reduction in the number of wrong products sent to site
- improvement in information available to the customer
- web-enabled customer information system.

There are a number of potential uses of RFID in manufacturing including:

- paperless invoicing, ordering and delivery system
- inventory control
- stock control
- manufacturing process control through centralised tracking and resource allocation
- project monitoring – correlating the manpower used with the tasks performed

