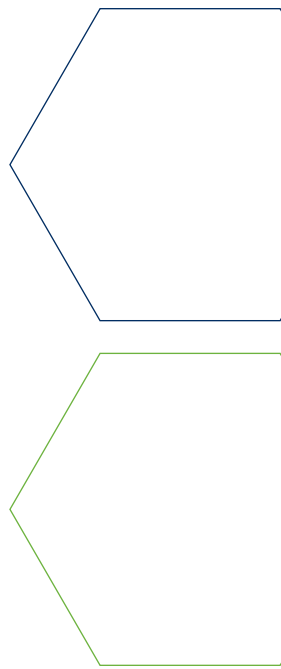




Part of the  group





It's a funny thing about life; if you refuse to accept anything but the best, you very often get it **Somerset Maugham**



Worlds First Fully Integrated Component + Corrosion + Fabric Management System

At the heart of our client-centred approach is the Strategic Corrosion Management Concept: 'cost effective management of corrosion and fabric maintenance'. Our ultimate aim is to determine where maintenance can be safely **reduced, deferred or eliminated** altogether.

Why would you want to apply RISCm in your plant?

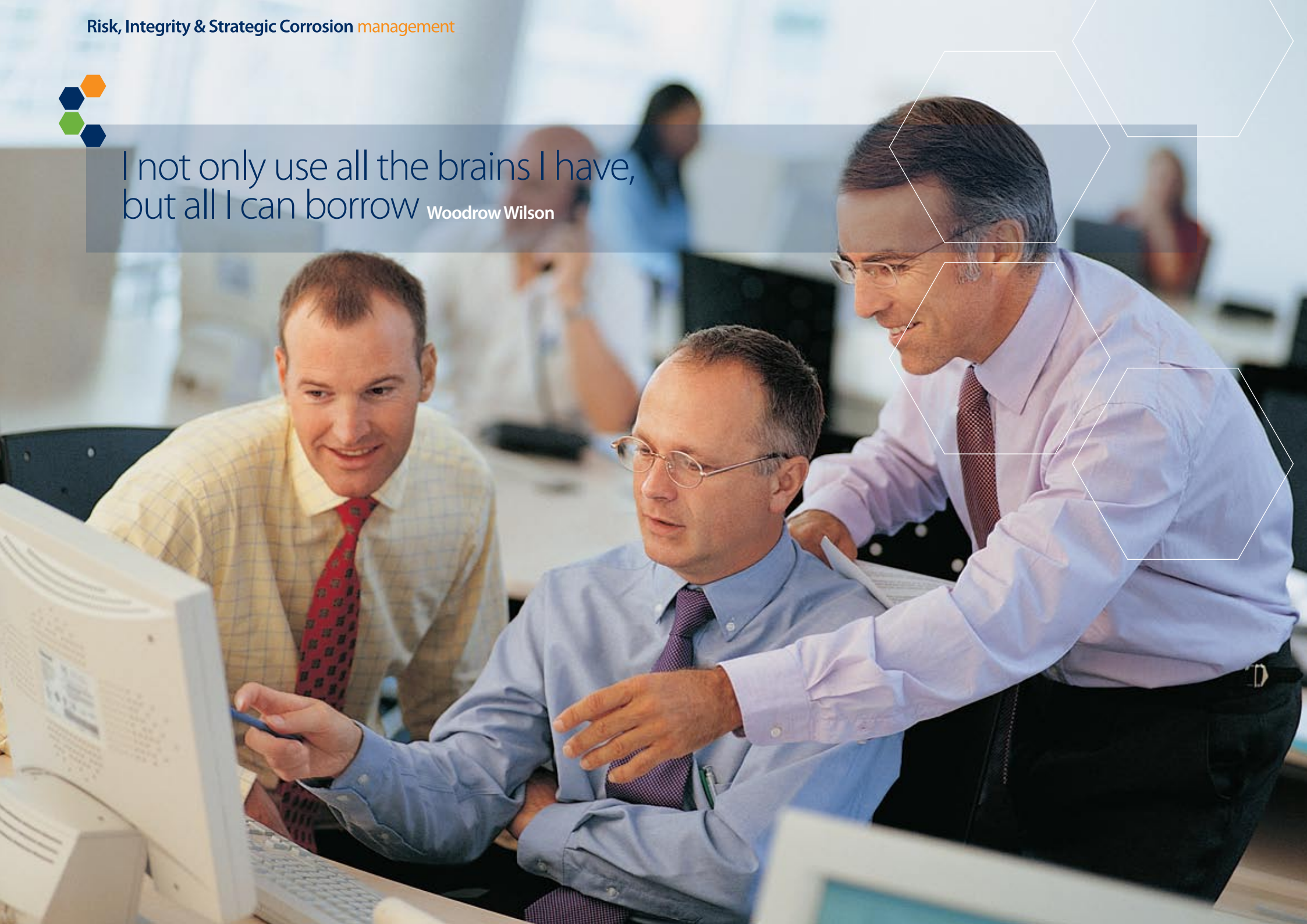
Because you know you can't afford to ignore any financial, safety or productivity benefit to maximise your profitability!

This style of Management is of huge value when inspection resources are stretched or plant availability is low, at which point RISCm™ can be used to determine where best to deploy resources most efficiently. A contemporary use for RISCm™ is in 'Near Miss Analysis' – where failures on other facilities may be modelled to determine similar risks on current plant.

Tying together 'Component, Corrosion and Fabric Maintenance Management' as RISCm™ does, we get the most attractive and effective means to implement a 'Corrosion Management Strategy' – whatever that might be. There are few (if any) corrosion threats that cannot be modelled in RISCm™ yet it requires a much reduced operator skill set than necessary for any other system, allowing personnel to quickly become familiar with it, whilst still ensuring consistency across the database and promoting confidence in the system outputs.



I not only use all the brains I have,
but all I can borrow Woodrow Wilson



The first 'truly' integrated Component, Corrosion and Fabric management system 'RISCM™' is the 'next generation' set of software tools to support Engineers in the minimisation of Plant Corrosion. The system comes as a direct evolution of the widely deployed 'TCI Project Paint' software, first installed on working plant in 1987. RISCM™ is completely integrated, linking Corrosion, Fabric Maintenance and **Objective-Evidence-of-Integrity** into one homogeneous toolset. In RISCM there is no divide between how we assess our plant integrity and the most cost effective way to undertake corrosion mitigation and fabric repairs.

RISCM™ delivers the ability to:

- Accurately define plant corrosion condition
- Manage plant integrity
- Plan and control the inspection and maintenance works cost-effectively
- Select the right people, techniques and materials for maintenance
- Maintain corrosion management traceability
- Implement, control and monitor the Corrosion Management Strategy
- Manage the Integrity/Cost model for targeted plant life

Additionally, in RISCM™ we ensure the Maintenance System/Programme is operable by any appropriately skilled team/individual. Such persons might include your employees, a maintenance contractor or a corrosion/management consultant.

Working closely with Industry and by incorporating the requirements of regulatory standards (API-580, API-581, API-579 and Ref PAS-55) RISCM™ has incorporated all of the day-to-day requirements of an operator or engineering contractor, to manage corrosion and corrosion prevention.

'RISCM™', a fully specified 'Risk, Integrity and Strategic Corrosion Management' system incorporates the following modules (available in combination):

- Component Manager
- Corrosion Manager
- Fabric Manager
- Threat Manager
- CUI Manager

Capitalise on previously developed systems and documentation.

Where you have already made an investment in the development of procedures, systems, specifications, databases, drawings, criticality assessments and other integrity tools, RISCM™ can incorporate and/or apply them, or data may be developed fresh from site and drawing surveys, or data mined from inspection records etc.

Use effective selection criteria to determine essential maintenance.

Selections can be based on all, or a range of: Corrosion Allowance, Minimum Thickness, Thickness Control Points, Corrosion Trend, Corrosion Protection Condition, Substrate Defects or, in fact, any other component or corrosion data held in the system, its totally flexible and can conform to your way of working.

RISCM is made up of a number of component parts, all of which can be deployed in a modular way making your implementation as targeted to your requirements as management systems allow. Below is a brief look at what each module does and some of its content...

COMPONENT MANAGER

The heart of RISCM™ is the Component Manager, where all of the elements that go to make-up a Plant/Facility will be recorded, together with basic attributes such as substrate, metallurgy, process conditions and all other relevant information.

Components include all metallic and non-metallic substrates on the plant.

CORROSION MANAGER

Corrosion challenges can be internal, external or a combination of both and consequently RISCM™ has 'integrated' tools to manage them with a high degree of specificity.

With the following tools we can easily monitor and control the containment challenges associated with high criticality lines, vessels, process systems and structural plant elements.

Tools in the Corrosion module include:

WALL THICKNESS MANAGEMENT

Adjustable settings for Wall Thickness Alarms are used to flag substrates which may become problematic in the future, used to target 'hot spots' and cost effectively plan Inspection programmes or maintenance attention.

Corrosion rates are graphed and trends can easily be shown and monitored, to be incorporated into KPI views or Threat Models.

CRITICALITY MANAGEMENT

The development and management of 'Qualitative/ Quantitative Criticalities' is an essential aspect of Corrosion Control, and RISCM™ has four separate modes of Criticality application, each is user selectable and dependant on the style of integrity management in place. They Include:

LIBRARY BASED CRITICALITY DEPLOYMENT

With this simple to set-up and rapid to deploy technique a library of criticalities is developed. This is often the most appropriate approach where another external tool has been used to develop the Criticalities and RISCM™ then simply applies them.

QUALITATIVE CRITICALITY DEVELOPMENT

Here each component is classified against a set of pre-defined criteria and the Criticality is automatically recalculated based on changing data.

An advantage of this method is that discrete components of the plant can be individually assessed.

QUANTITATIVE CRITICALITY ASSESSMENT

The Quantitative approach offers the most accurate picture of the Criticality of your plant, it's often based on a Knowledge Specification particular to your plant. RISCM™ can easily datamine these assessment results to build useful inspection and maintenance plans and model potential threats.

Obviously Internal and External corrosion can be separately managed and all corrosion 'degradation' and 'mitigation' factors considered.

FULLY FLEXIBLE CRITICALITY DEVELOPMENT

In this process 'any-and-every' element in the database can be utilised in the development of Criticalities.

Using this approach a set of complex rules and current best-practice can be defined to indicate where corrosion challenges may be discovered on current plant – and even future new plant additions, and applied over the life of the facility.

FLANGES, BOLTING & SADDLES

Many mature facilities are now recognising severe corrosion challenges in the areas of Flange Bolting and Pipe Saddle contact spaces. RISCM™ has specific pages dedicated to managing these corrosion threats and offer timely maintenance advice.

DECK & BULKHEAD TRANSITS & PENETRATIONS

RISCM™ has developed a set of tools for Transits & Penetrations. Not only are these applicable to mature assets (where Transits are often in poor condition or not specifically monitored) but the system is also geared to offer advice on any newly fitted units or rehabilitation of aged units.

TEMPORARY MECHANICAL/ FABRIC REPAIRS

It's inevitable that there will be some deficiencies in mechanical systems, such as pipes, vessels, structure and other substrates that require rapid and safe rectification, and these repairs can't always be completed permanently immediately. Hence we have a situation where a temporary repair is necessary. Using this aspect of RISCM™ all 'Engineering Objective Evidence' of safe management is held in one place and can be demonstrated instantly.

INSPECTION

Inspection Planning and Reporting is an essential aspect of RISCM™, since this is one aspect of feedback that can hugely affect the handling of Corrosion Criteria. There are dedicated pages within RISCM™ for the recording of all inspection findings, with (where appropriate) automated processing of that data to re-refresh the Corrosion Alarms, Criticalities, Threats and Maintenance Schedules.

THREAT MANAGER

The Threat Manager supports the user in determining where threats and hazards to the plant may exist. It's a process of analysis of all data held in RISCM™, and demonstrates which items, areas and process' may be subject to specific threats. This module is particularly useful to target substrates where containment may be at risk from little-known or un-researched corrosion challenges.

CUI MANAGER

The CUI Management Module is dedicated to defining and controlling threats emanating from insulated surfaces. One of the great challenges is in understanding where CUI may emanate. Each plant appears to have a different experience on how and where CUI may appear and where it's less likely. RISCM™ is designed to minimise this confusion, and with continuous application the system will learn where threats are more or less likely, based on plant specific criteria. The CUI Module can model almost any CUI threat taking account of substrate, process, insulation type, format, location and configuration.

FABRIC MANAGER

This is a Project Management tool specifically designed around the needs and requirements of Coating, Passive Fire Protection and Insulation maintenance works, though,

unusually, its fully integrated with the Component and Corrosion condition to most accurately predict maintenance and fabric requirements. It is based upon some key drivers:

- Maintain only those surfaces where it is shown to be cost effective. Plan to ensure the best use is made of shared resources such as access equipment, personnel, plant and materials.
- Develop and apply techniques to arrest corrosion on areas of high criticality for sufficient period to allow cost effective maintenance of the local area.
- Consistently compare new and traditional techniques against current methods.
- Provide the Integrity Management team with sufficient and timely notification of potential threats identified by the Fabric Management Scheme.

By using the latest deployment technologies you may have the software deployed on your own servers or held securely on SCM servers and connected to your Desktop with zero installation requirements (and no IT or Firewall headaches).

MATURE ASSET END OF LIFE STRATEGY

On mature assets SCM determine, in consultation with your Integrity Authority, the field 'end of life criteria' in relation to wall thickness, structural integrity and current condition. This is in order to determine the level and degree of maintenance required through the twilight years of the asset, such that a minimum spend profile can be generated from the 'present time' through to 'end of life'.

RISCm™ can utilise any system criteria to develop a strategy for minimum spend maintenance, just 3 of these criteria are:

Asset Life Expectancy
Current Asset Condition
Rates of Asset Degradation

Applying these criteria RISCm™ can be used to determine the minimum number of maintenance cycles necessary to maintain the plant up to the end of planned useful life. Your own plant's 'Acceptable Risk Matrix' is developed within 'RISCm™' and demonstrates 'graphically' the Criticality/Current Corrosion Condition combinations beyond which further degradation is unacceptable.





The RISCm flavours

Functionality	RISCm (Lite)	RISCm (FM)	RISCm
Component Management	●●●●●	●●●●●	●●●●●
Corrosion Management	●●	●●●	●●●●●
Criticality Management	●●	●●●	●●●●●
Threat Management		●●	●●●●●
Fabric Management	●	●●●●●	●●●●●
Smart Filter		●●●●●	●●●●●
Tools	●●	●●●	●●●●●
Libraries	●●	●●●	●●●●●
Dashboards	●●	●●●	●●●●●
Data Import Tools	●	●●●●●	●●●●●
Data Export Tools	●	●●●●●	●●●●●
Data Sharing Tools		●●●●●	●●●●●

Number of ●s indicates level of functionality available for each version



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A decorative graphic on the right side of the page consists of several large, overlapping hexagons in dark blue, orange, and green, arranged in a staggered pattern.

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