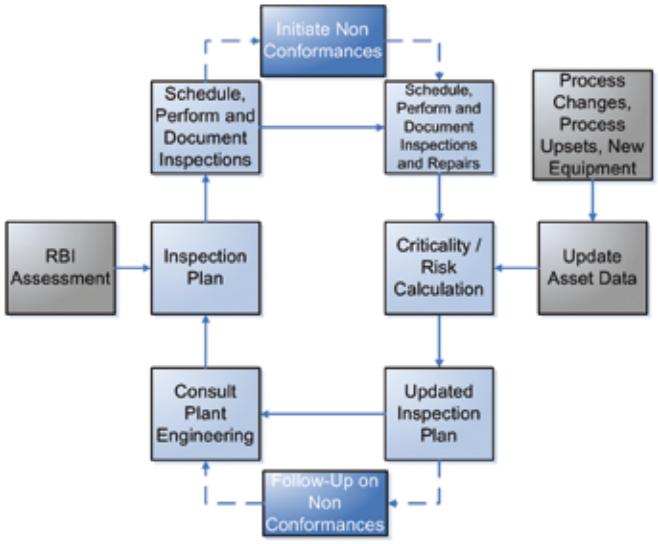
RELIABILITY CONSULTING AND SOLUTIONS

Risk-Based Inspection Management Software KBIS

The Risk-Based Inspection Methodology

Every industry is under pressure to reduce production expenses including operation, inspection, and maintenance costs.

Bayer Technology Services' new Risk-Based Inspection (RBI) technology and tools empower owners and other users to manage risk associated with operating equipment, thus assuring maximum return on investment and optimal use of resources. This is accomplished by considering the likelihood of an undesirable event as well as the potential consequences.



RBI Implementation Work Processes

RBI represents the high-end side of modern development of maintenance methodologies and in consequence our development of a Risk-Based Asset Integrity Management. Risk-Based Asset Integrity Management is a consequent development of traditional maintenance strategies and belongs to the knowledge based methodologies. It focuses on safety and plant availability on demand by increasing on-stream time due to less turnaround time and a consequent reduction of unexpected failures due to our world wide acknowledged corrosion expertise.

Systems Solutions for Risk-Based Inspection

A globally accepted standard software for RBI finds its basis in the API 581 specification. Practical, valuable features are built into the technology, which is based on recognized and generally accepted good engineering practices. This software implements the following purposes of RBI:

- Screen operating units to identify areas of high risk
- Estimate a risk value associated with the operation of each equipment item based on a consistent methodology
- Prioritize the equipment based on the measured risk
- Design a highly effective inspection program
- Systematically manage the risks associated with equipment failures

Definition of an Equipment Item

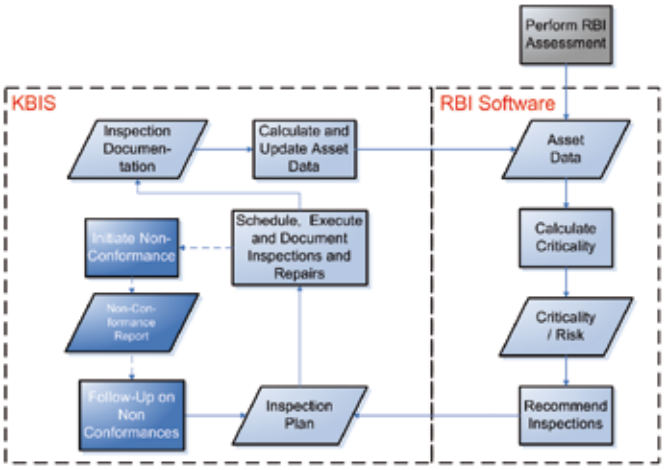
Bayer Technology Services

Powering Your Performance

API industry standard RBI software is complemented by our new Knowledge Based Inspection System (KBIS). This serves as an easy to apply front-end to a fully integrated inspection management system. KBIS provides features and functions to utilize the system within a Risk-Based Asset Integrity Management program targeting an evergreening plant operation, and its use on a broad plant and enterprise wide basis.

Streamlined RBI by the use of the KBIS Software

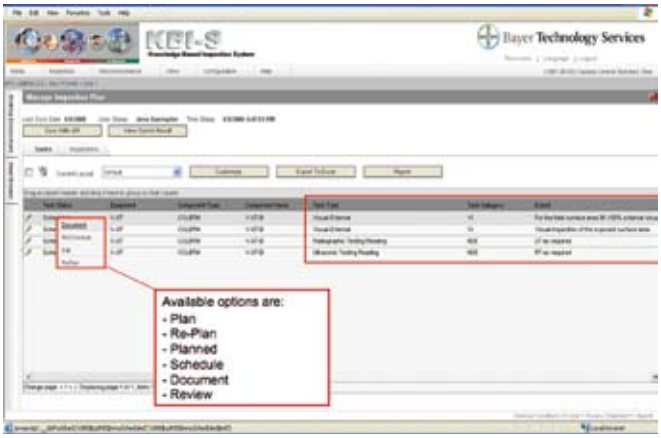
KBIS closes the gap between Risk-Based Inspection and day-to-day Inspection Management to provide a complete solution for Asset Integrity Management.



RBI Process Loop with RBI Software and KBIS

KBIS streamlines day-to-day inspection business by providing a variety of additional features to RBI software:

- Unit-wide inspection planning and scheduling
- Easy-to-use web-based access to RBI information for plant and unit personnel
- Data capturing for inspections through mobile devices for visual inspections and ultrasonic NDE-testing of wall thicknesses, etc.
- Integration with Enterprise Asset Management/Computerized Maintenance Management systems for exchange of inspection and non-conformance repair tasks
- Multi-language with international character sets for implementations available in German, English, Chinese, and other languages as needed
- Powerful reporting engine with reports available for audit trails, inspections and non-conformance tracking



Inspection Planning in KBIS

Providing Excellence Requires Knowledge

KBIS has been developed by an integral technology company of the process industry. The close integration into the Bayer Group and the high degree of know-how and experience in materials engineering, corrosion engineering, process engineering, inspection management, optmal maintenance workflows, and strong expertise in information technology establishes the link between an idea and its application.

Our Risk-Based Asset Integrity Management approach has proven its excellence and usability for years in day-to-day business in the Bayer group and for our customers, serving owners and operators of plants and plant assets. The wide experience of Bayer Technology Services is at your disposal. In conjunction with BayOpX® – our Operational Excellence approach – you get access to our full portfolio of services targeting optimum plant reliability and efficiency.

Our consultants have a high level of experience with software systems implemented and utilized in Risk-Based Integrity Management programs. Based on this experience, we deliver individual and group training programs (training on the job) for the benefit of your projects and employees.

Our technology and service concepts support you in the realization of your corporate objectives. We provide consulting services for both RBI and corresponding software use from the very beginning of your projects. Our advanced system architecture and software technology, and the alignment and integration of our development with the standard RBI software ensures a prompt and reliable implementation of ideas and requirements.

Let Bayer Technology Services show you how KBIS and an effective Risk-Based Asset Integrity Management program will improve your plant's and company's bottom line.

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