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Leveraging Knowledge Management
in your Process Environment

Convergence 2005

iWareTM

Leveraging KM in your Process Environment



- Introduction to Knowledge Management
- A Day in the Life of a Plant Manager
- “Why is it so complicated?”
- Leveraging KM in your Process Environment
- The iWare™ Solution – Empowering People with Knowledge
- Questions and Answers

Empowering People with Knowledge



An introduction to Knowledge Management

- Today's industrial managers and employees need the right information, at the right time to make the correct business decisions.
- Knowledge Management - the ability to capture, create, manage, access, review, distribute, publish, store and preserve your business and plant information (structured and unstructured)

A Day in the Life of a Plant Manager



- You are the plant manager of a multi-unit chemical plant
- You are preparing quarterly reports for your Vice-President
- Your polymer unit manager informs you that product is not on spec
- Your largest customer calls you and tells you the last batch of product you shipped is off spec
- The Ministry of Environment arrives for an unexpected inspection and requests copies of emergency spill plans

A Day in the Life of a Plant Manager

Can you think of all the pieces of information you would reach for in that scenario?

- Start up logs
- Feedstock Quality Analyses
- Maintenance Records
- Quality Records
- Operator training records
- Production Schedules
- Shipping Schedules

A Day in the Life of a Plant Manager

The need for Knowledge Management can be seen daily from:

- People retention issues and high turnover rates
- Increasing average age of operations and maintenance professionals
- Pressure to do more with less
- Increased regulatory compliance

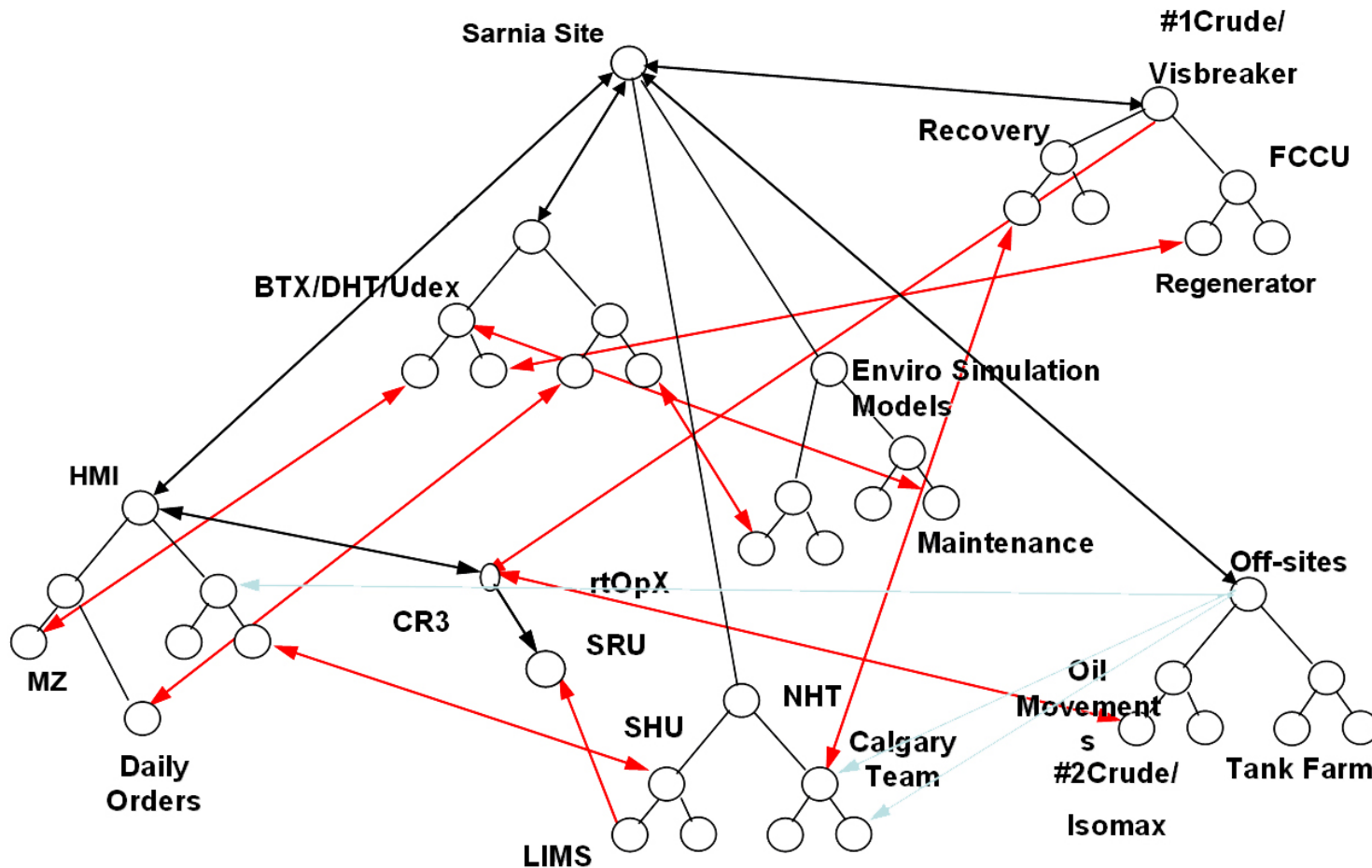


“Why is it so complicated?”



- Information you need is spread over a number of people, computers and applications throughout your organization.
- Information is not organized the way your business processes and plant are.
- Information is paper-based or in legacy systems that are not easily accessible.
- People use and access information in different ways.

“Why is it so complicated?”



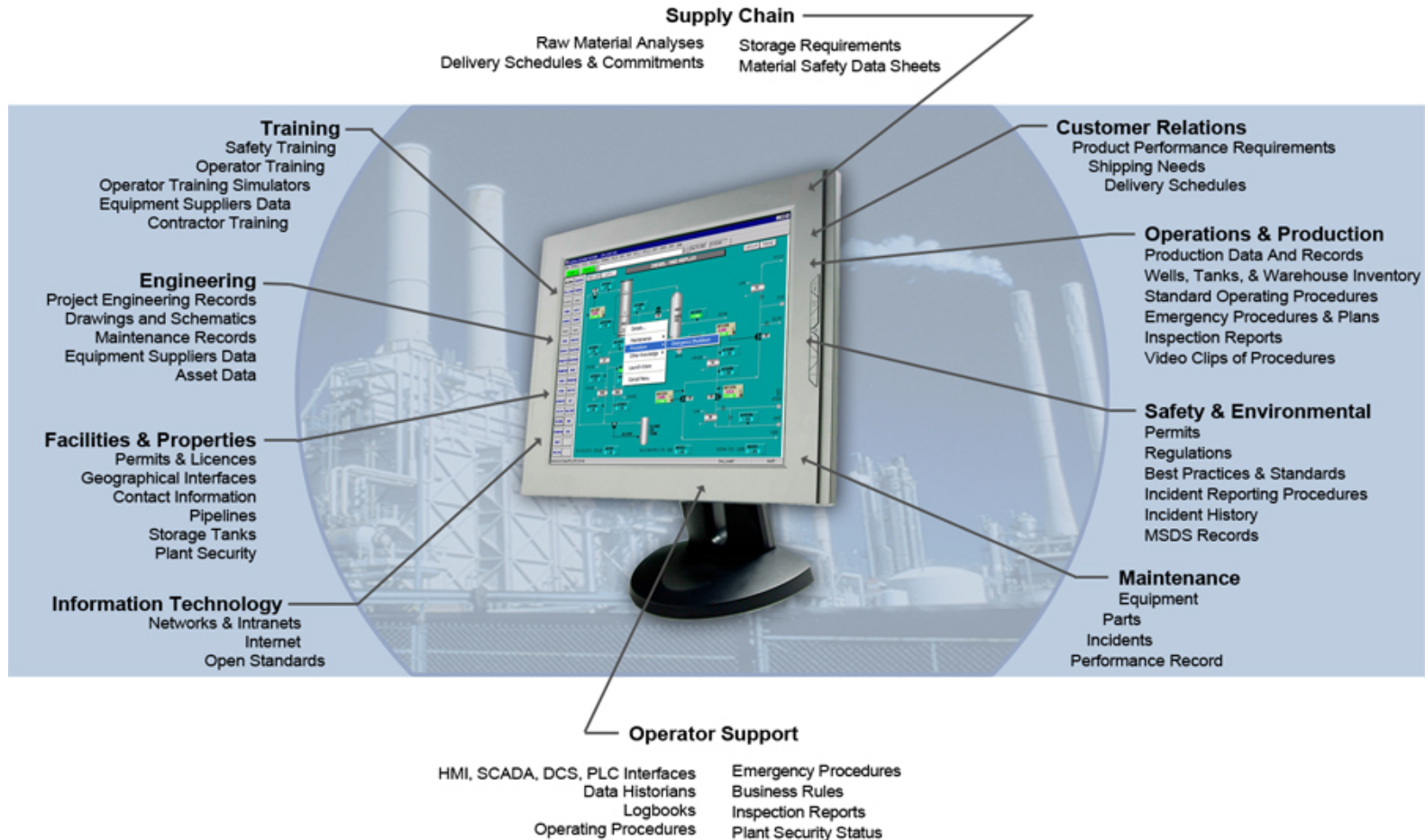
“Why is it so complicated?”



What if

- Information was organized the way each user thinks
- Information could be shared across corporate boundaries and systems (business and plant information) without disturbing the source
- Operators could access key information with the click of a mouse button
- Reports and statistics could be quickly generated to make better decisions

The iWare Solution



iWare - Empowering People with Knowledge

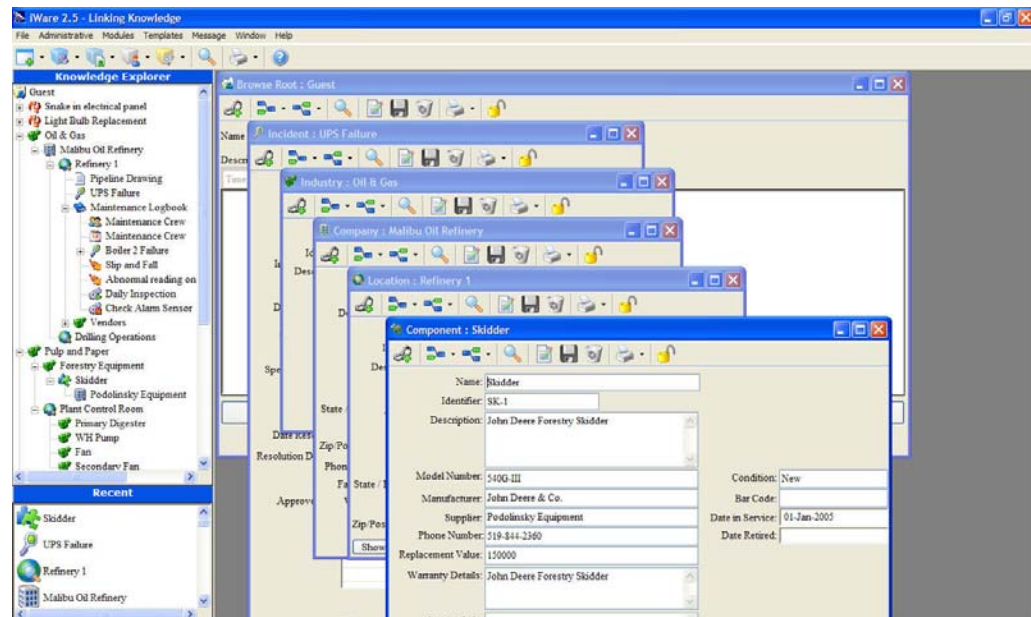
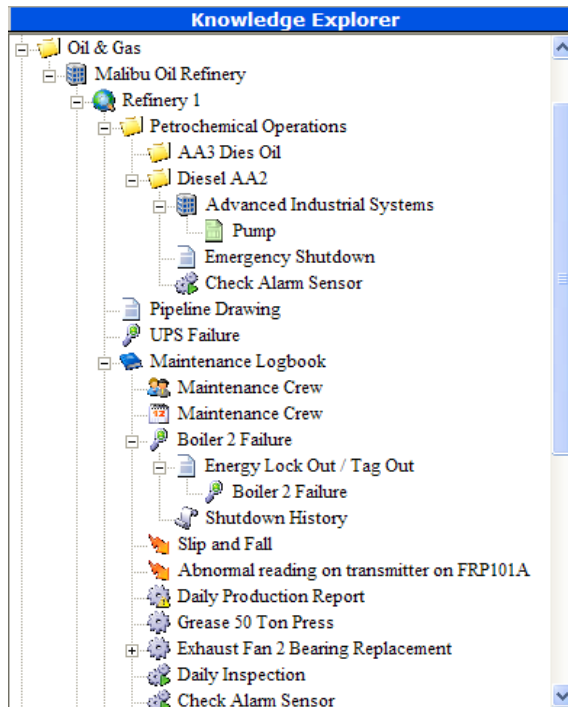


- iWare enables our process industry customers to create **value through empowering their people.**
- Each person decides what information and knowledge is needed at each unique job.
- Each person has available at a few clicks all of the information related to their job, in or near real time without disturbing the source.
- People are empowered by having the right information at the right time.

iWareTM

Main iWare Features

- Knowledge Explorer
- Security and User Administration
- Reports
- Search Engine
- Data Import
- Object Linking
- Scheduler



iWare Modules



iComply



iAsset



iLogbook



Near Miss



iOnline



iMaintenance

iComply

- Compliance, procedure, and (HS&E) Health, Safety, and Environment system.

Editing New Decision (Template)

Name:

Identifier:

Description:

Completed By:

Date:

Decision:

Decision Made	Linked

Decisions: Decisions L:

Archive:

Editing New Approval (Template)

Name:

Identifier:

Description:

Approved: Yes No

Approved By:

Date: Time:

Archive:

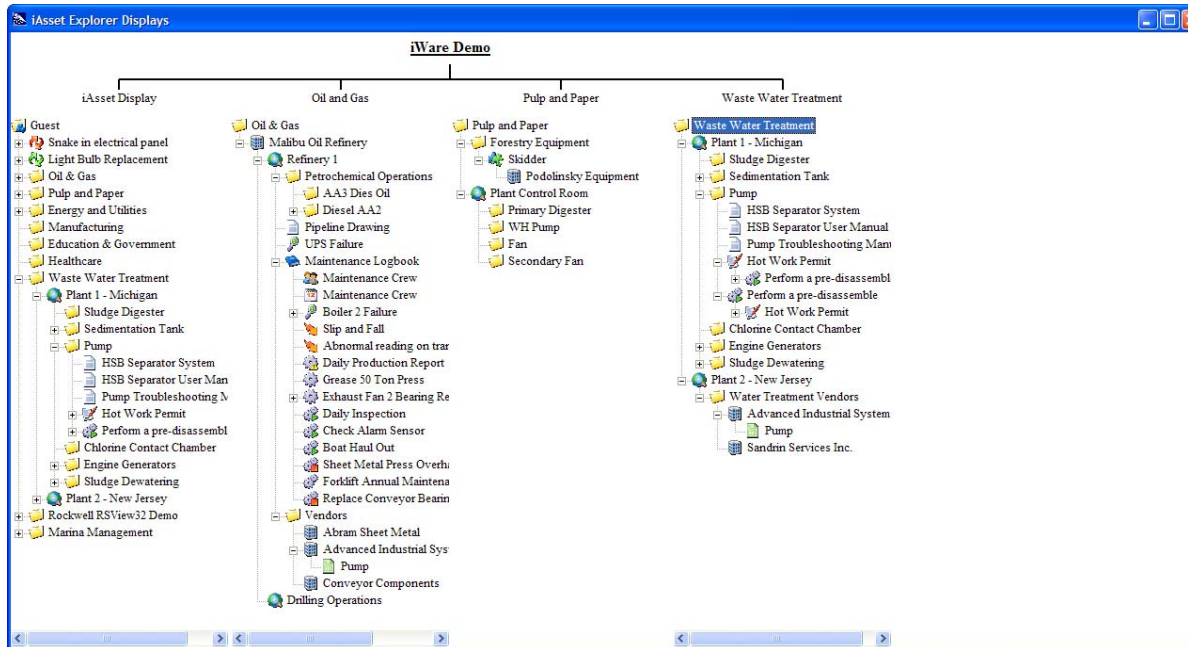
Create the links for Approved and Unapproved

Approved: Unapproved:

Link Not Set Link Not Set

iAsset

- Track, maintain and extend the useful life of your physical assets throughout their entire lifecycle - from purchase through disposal



iLogbook

- Electronic Operator Logbook and Incident Management

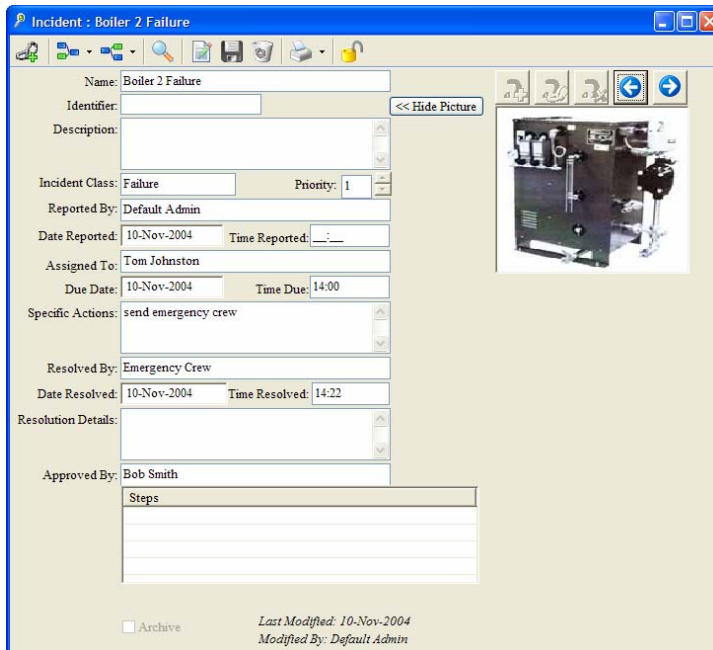
The screenshot displays the iLogbook Incident Management software interface. The main window is titled "iLogbook - Incident Management" and contains several panes:

- Knowledge Explorer:** A tree view on the left showing a hierarchy of items including "Central Site", "Morning Shift Crew", "Central Control Room", "Maintenance", "Coil Band Heater Failure", "Sludge Blockage in Tank 4", and "Boiler 2 Failure".
- Logbook Schedule and Log:** A central pane showing a logbook with a time axis from 12 am to 7 pm. A "Recent" list on the right shows items like "Central Site", "Boiler 2 Failure", "Maintenance", "Sludge Blockage in Tank 4", "Coil Band Heater Failure", and "ANother Test".
- Incident Management Table:** A table on the right with columns for "Event ID", "Name", "Date", "Time", and "Description". It contains three entries:

Event ID	Name	Date	Time	Description
OCL	Coil Band Heater Failure	11/10/2004	09:30	
MTCE	Sludge Blockage in Tank 4	11/10/2004	10:44	
PMT-001	Maintenance	11/10/2004	08:45	Check Overflow Alarm Sensor on Tank 25A2

Near-Miss Incident Management

- Near-misses describe incidents where no property was damaged or no personal injury occurred, but where, given a change in time or position, damage and/or injury easily could have occurred.
- Tracking near-misses will help you focus training where it is most required



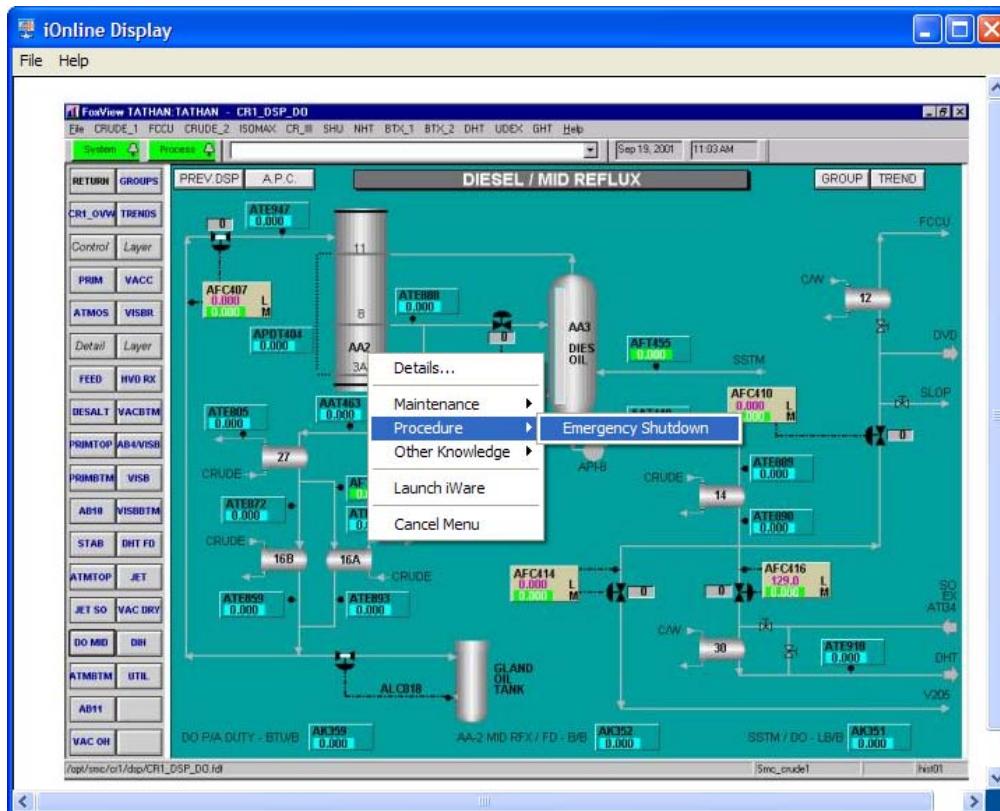
The screenshot shows a web-based incident management interface. The title bar reads "Incident : Boiler 2 Failure". The interface includes a toolbar with icons for search, print, and other functions. The main form contains the following fields:

- Name: Boiler 2 Failure
- Identifier: [Empty field]
- Description: [Empty text area]
- Incident Class: Failure (dropdown menu)
- Priority: 1 (dropdown menu)
- Reported By: Default Admin
- Date Reported: 10-Nov-2004
- Time Reported: [Empty field]
- Assigned To: Tom Johnston
- Due Date: 10-Nov-2004
- Time Due: 14:00
- Specific Actions: send emergency crew (dropdown menu)
- Resolved By: Emergency Crew
- Date Resolved: 10-Nov-2004
- Time Resolved: 14:22
- Resolution Details: [Empty text area]
- Approved By: Bob Smith
- Steps: [Table with 4 empty rows]

At the bottom left, there is an "Archive" checkbox. At the bottom right, it says "Last Modified: 10-Nov-2004" and "Modified By: Default Admin". A photograph of a boiler is visible on the right side of the form.

iOnline

- iOnline can be used to capture and share knowledge that has been accumulated over the years by operations personnel.



iMaintenance

- Maintenance and Work Order Management System

Name: _____
Identifier: _____
Description: _____
Equipment: _____ Cost Centre: _____
Equipment Description: _____
Funct. Location: _____

Notification | Work Order | **Completion** | Task List

Failure Type: _____
Failure Sub-Type: _____
Notes: _____

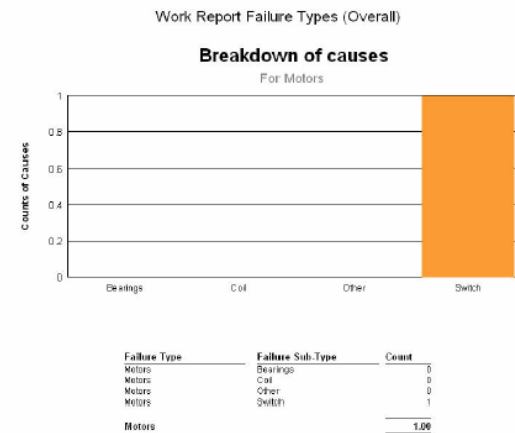
Employee Costs:
Offline: 0 _____
Staff: 0 _____ # of People: 0 _____
Contractor(s): 0 _____ # of People: 0 _____

Resolution:
 Repaired Replaced

Parts Costs:
Part Number | Description | Quantity | Price | E

Total Cost: _____

Completed On: _____ Emergency



Leveraging KM in your Process Environment

Integrated solutions that create value:

- The Power of Integration:
 - Geographical Interfaces (CAD, GIS, MMI)
 - Human Machine Interfaces (HMI)
 - Distributed Control Systems (DCS)
 - Operator Training Simulators (OTS)
 - Facilities Management
 - Other Business Systems
- Open Standards (XML / OPC / TCP/IP)



iWare – ROI

Business Area	Value Base	Your Value
Maintenance	5% Cost Reduction	\$
Process Unit	Add 1 Week Catalyst Life	\$
Engineering	Reduce search time – ½ hour/ day / engineer	\$
Environmental – Preventing a Discharge	No Fines	Reputation
Environmental – Compliance Issue	Know Status	Peace of mind
Operations	Avoid unplanned shutdown	\$
Operations – Safety Training	Know where to train	Avoid life threatening incident
Totals		\$

iWare - Empowering People with Knowledge

- Operator surveys and comments in a major refinery application include the following:
 - “Provides quick access to MSDS and Standard Operating Procedures”
 - “Saves time searching through other systems or paper files”
 - “Why didn’t we have this sooner?”



Thank You



- Questions and Answers

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