

# How Thiesse Listens to Customer Assets to Improve Service and Cut Costs in Healthcare



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# BUSINESS OVERVIEW

**THIESS**



## CONSTRUCTION MINING SERVICES

**19,000**  
EMPLOYEES

OVER **30**  
SIGNIFICANT  
PROJECTS  
(>\$100M)

OPERATING IN  
**AUSTRALIA, INDONESIA,  
INDIA AND NEW ZEALAND**

FOUNDED  
**1934**

WORK IN HAND  
**\$22B**

**\$6.2B**  
FORECAST  
REVENUE 2013



# Services

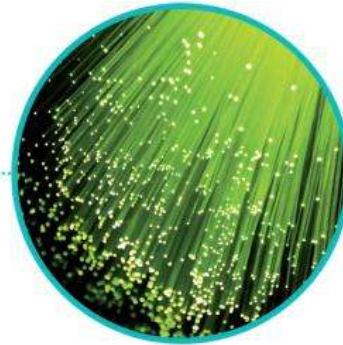
**THIESS**



**WATER**



**ENERGY**



**TELECOMMUNICATIONS**



**REMEDIATION**



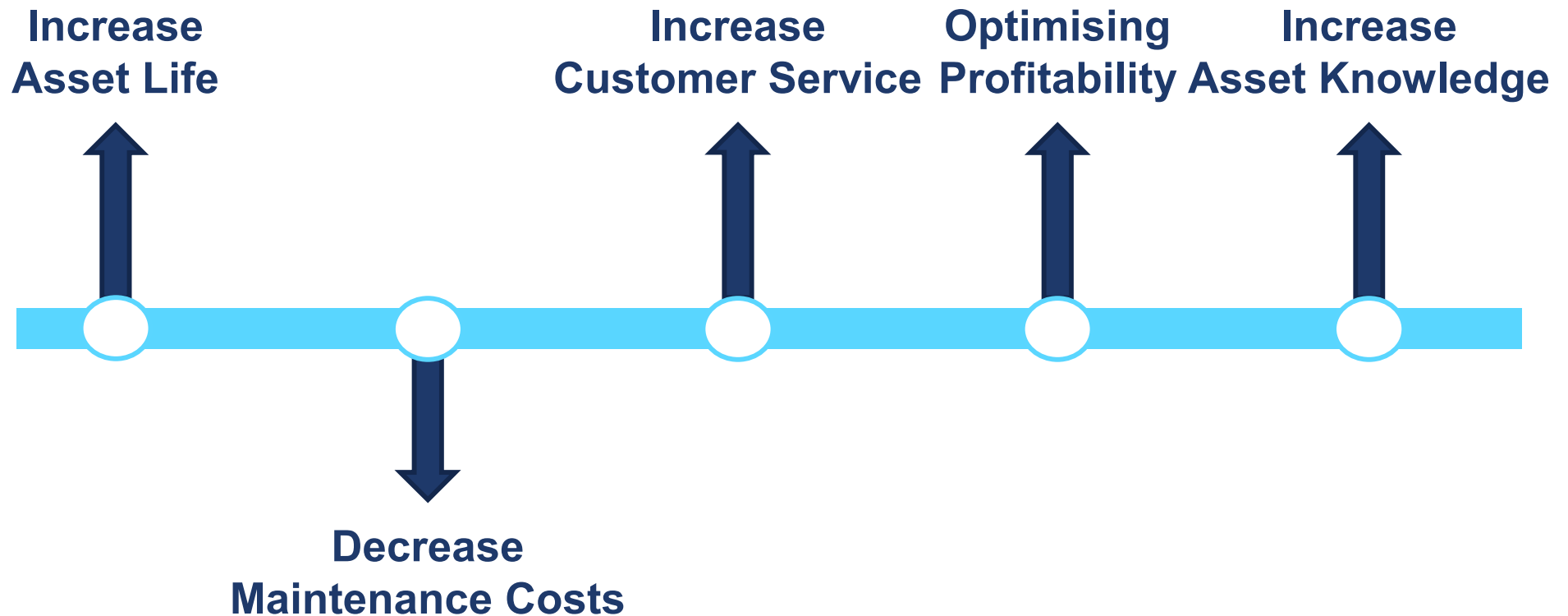
**INFRASTRUCTURE**

# Royal North Shore Hospital

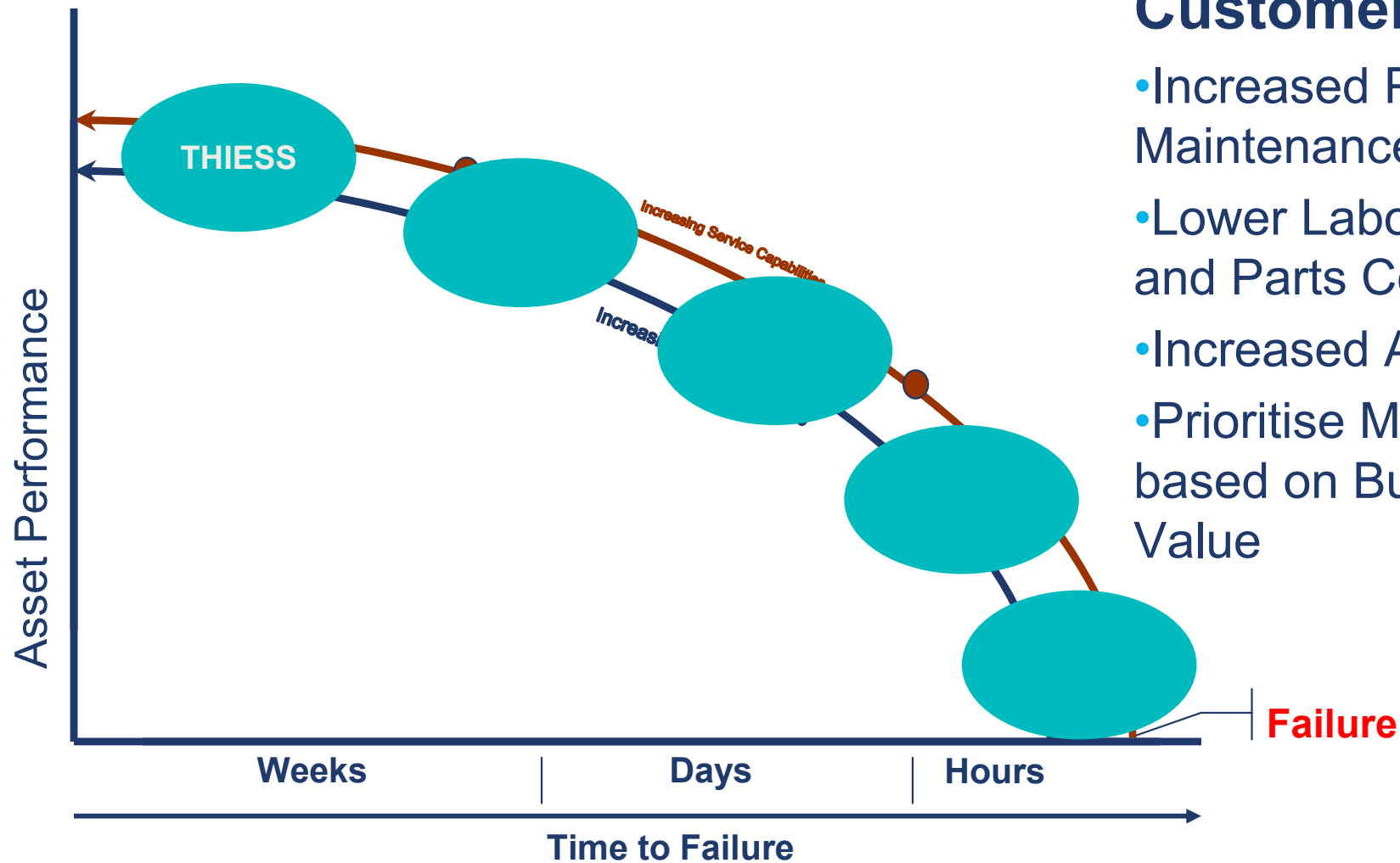
**THIESS**



# Project Objectives



# Performance to Failure Curve

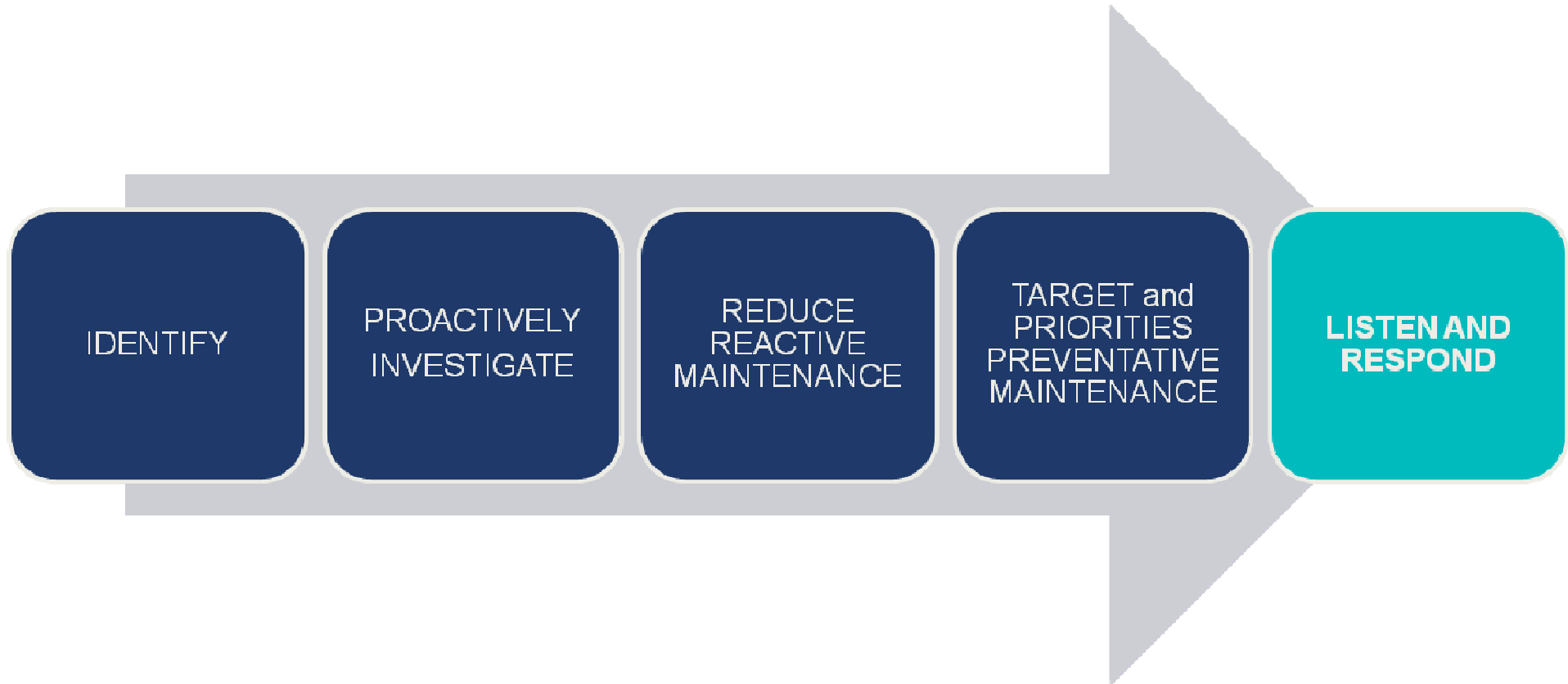


## Customer Value

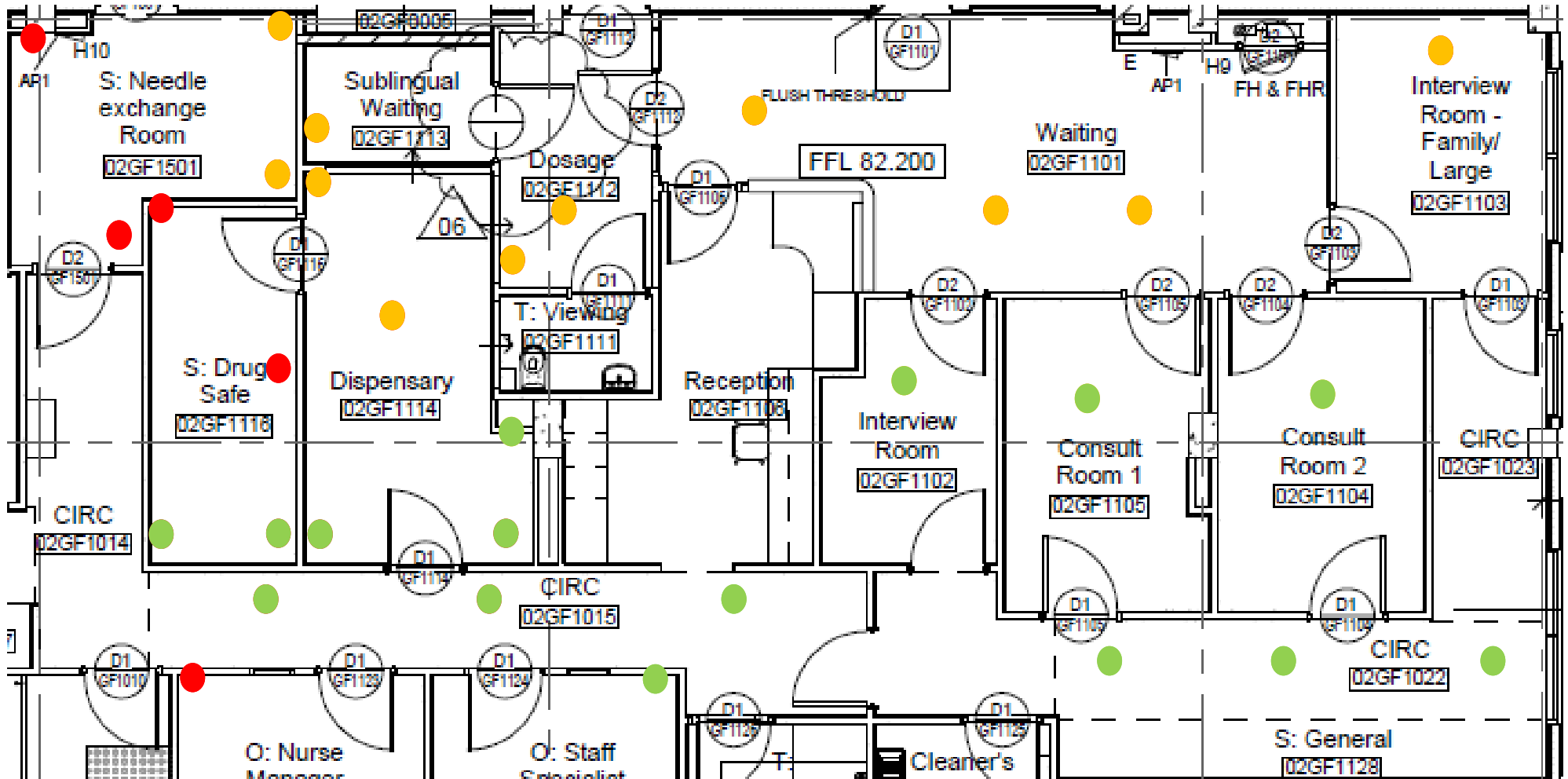
- Increased Planned Maintenance
- Lower Labour and Parts Cost
- Increased Availability
- Prioritise Maintenance based on Business Value



# Achieving Our Objectives



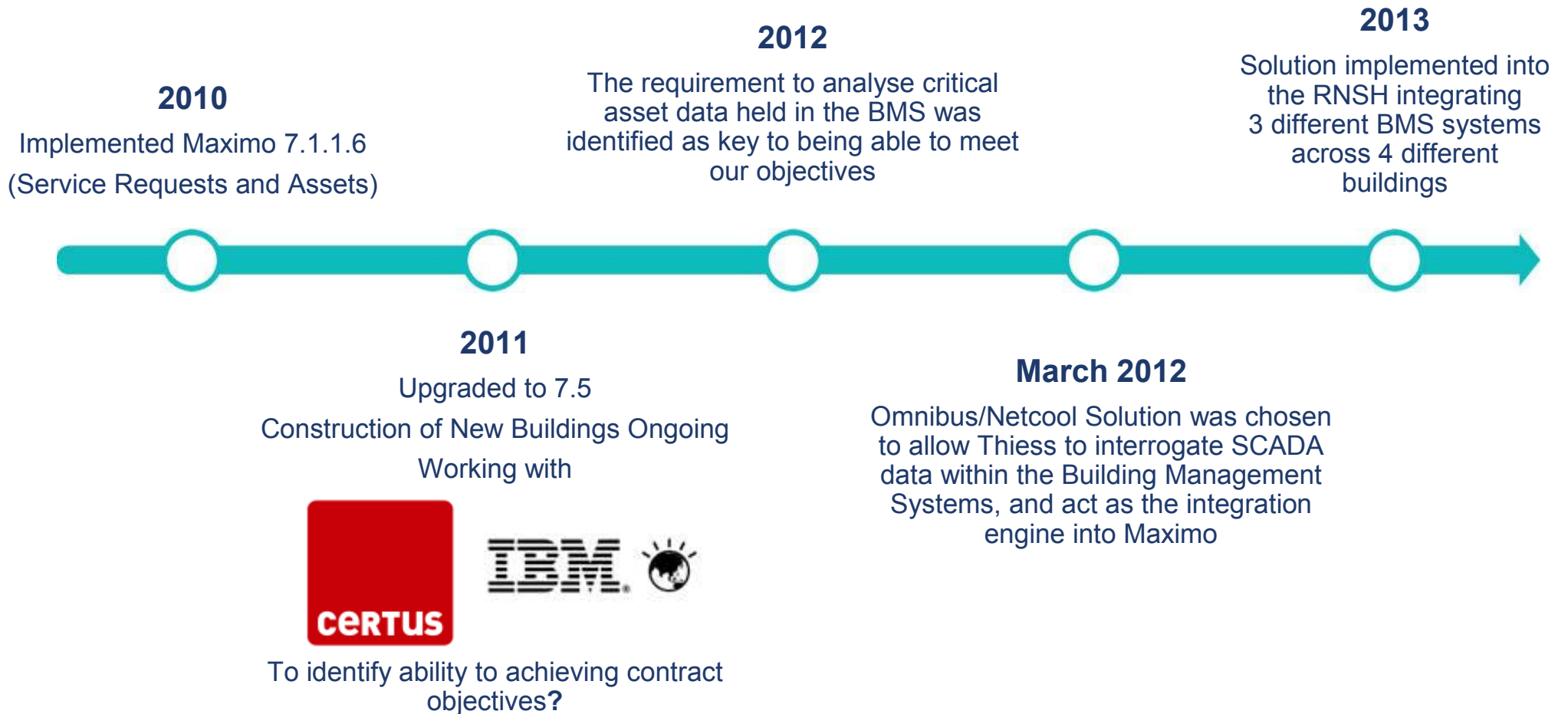
# Applying Business Rules Driven by KPI's



\$0 at Risk
  \$15,000 at Risk
  \$50,000 at Risk



# Solution Timeline



# Our Challenges

- Mix of old and new buildings
- 3 BMS systems
- Volumes of paperwork
- Thousands of alerts daily

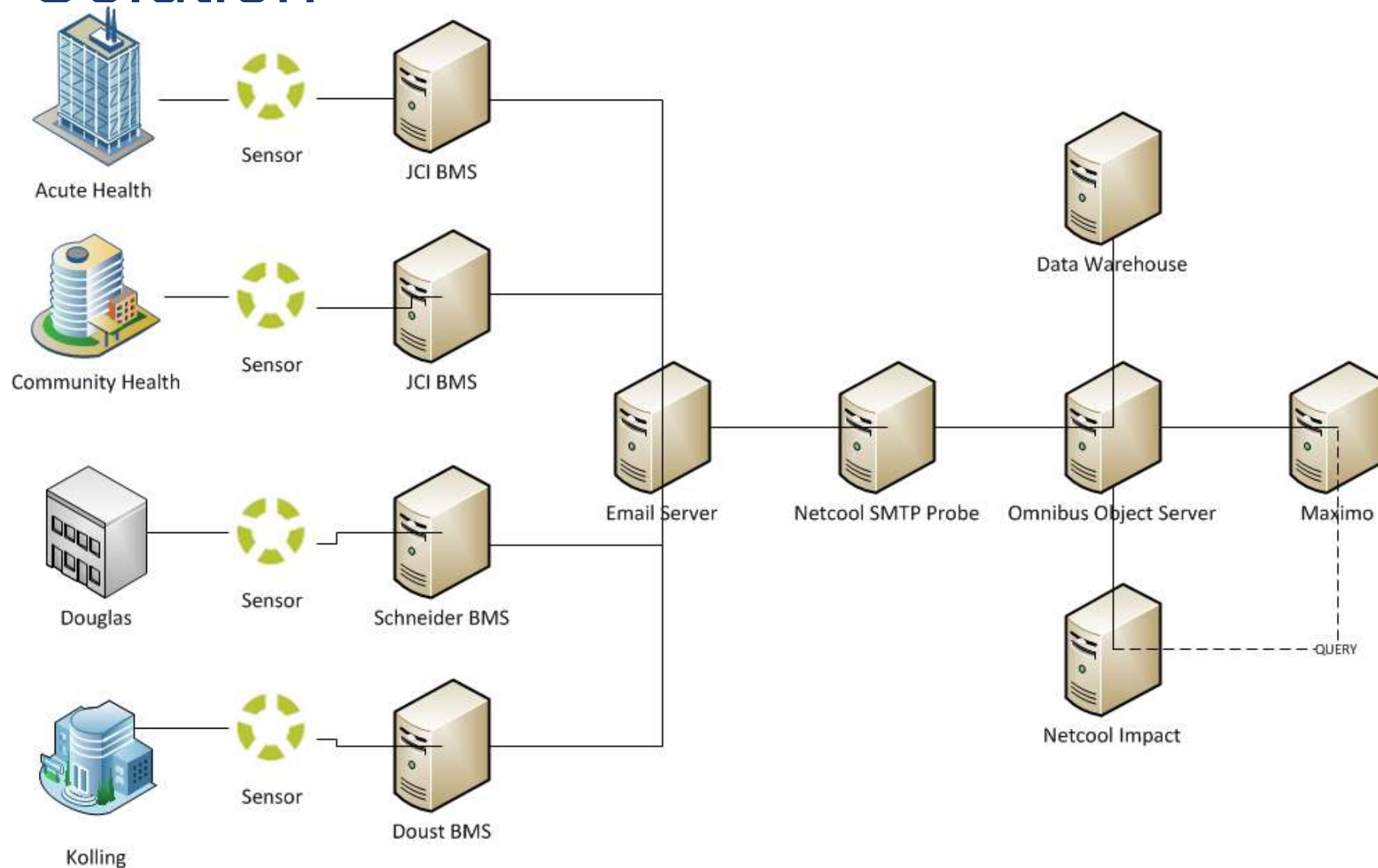


# Why not just use the BMS?

- 3 BMS Systems
- No integration
- Cannot apply business rules to generate work orders

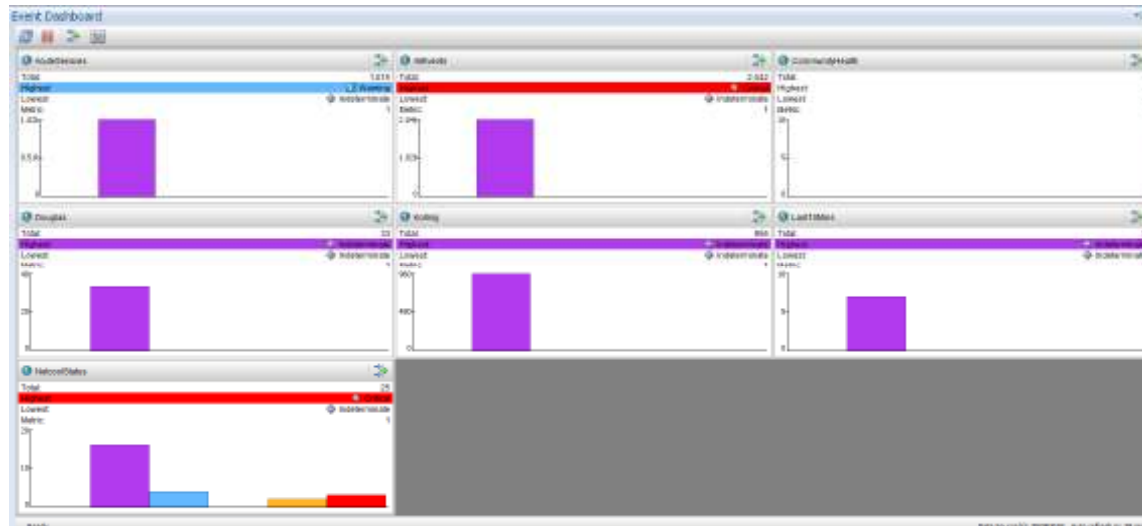


# Maximo – Netcool – Omnibus Solution





# Real Time Data



Desktop PC

Mobile



# BMS Extract

**9/1/2012 12:22:57 PM** ZN-T High Alarm 1  
AHU 1-13 VAV 1-05 Zone Temp out of limits Alarm (MH)  
Value 18.9 deg C  
Site Name ADS-01  
Item Description Zone Temperature  
Item Fully Qualified Reference **ADS-01:NCE-02/FCB.Local Application.CHLR 7-1 COM-A**

- Contains detailed alarm information
  - Reported Date
  - Alarm Level
  - Alarm description
  - Value
  - BMS Site information
  - Alarm Type
  - Alarm Reference
- Two key fields

# Omnibus Probe



- Probe monitors email/SNMP frequently
- Perform the following actions
  - Receive the BMS extract
  - Process accordingly
  - Store in the Omnibus Object Server
  - Archive once stored

# Store in Omnibus Object Server



The screenshot shows a SQL query interface with a toolbar at the top. The query entered is `select * from alerts.status`. Below the query, a history entry shows `update alerts.status set Summary = 'General Fault' where Serial = 7384`. The main area displays a table with columns: ErrorCode, TTNumber, TTState, TS\_Body\_1, TS\_Body\_2, TS\_Body\_3, TS\_Body\_4, TS\_Body\_5, TS\_Body\_6, TS\_Max\_Assetnum, TS\_Max\_Commodity, TS\_Max\_Description, TS\_Max\_Reporte..., and TS\_Max\_Thiess. The table contains several rows of data, including entries for TTNumber 6603, 6700, 6711, and 6749.

ErrorCode	TTNumber	TTState	TS_Body_1	TS_Body_2	TS_Body_3	TS_Body_4	TS_Body_5	TS_Body_6	TS_Max_Assetnum	TS_Max_Commodity	TS_Max_Description	TS_Max_Reporte...	TS_Max_Thiess
		1	1/29/2013 2:48:1...	Value ...	Site Name ...	Item Description ...	Item Fully Qualifi...					0	
		1	2/4/2013 5:52:56...	RM 01052013 Eq...	Value ...	Site Name ...	Item Description ...	Item Fully Qualifi...				0	
		1	2/6/2013 1:33:34...	Value ...	Site Name ...	Item Description ...	Item Fully Qualifi...					0	
	6603	1	9/1/2012 12:22:5...	AHU 1-13 VAV 1-...	Value ...	Site Name ...	Item Description ...	Item Fully Qualifi...	1042294	AIR CONDITIONING	Return Air Fan	6	B
		1										0	
		1	1/27/2013 3:52:1...	Value ...	Site Name ...	Item Description ...	Item Fully Qualifi...					0	
	6700	1	9/1/2012 12:22:5...	AHU 1-13 VAV 1-...	Value ...	Site Name ...	Item Description ...	Item Fully Qualifi...	1042333	PLUMBING	Dual Warm Water...	6	B
		1	1/29/2013 9:27:0...	Value ...	Site Name ...	Item Description ...	Item Fully Qualifi...					0	
	6711	1	9/1/2012 12:22:5...	AHU 1-13 VAV 1-...	Value ...	Site Name ...	Item Description ...	Item Fully Qualifi...	1042211	AIR CONDITIONING	FCU - Fan Coil Unit	6	B
		1	2/1/2013 9:00:27...	Fire Indicator Pan...	Value ...	Site Name ...	Item Description ...	Item Fully Qualifi...				0	
	6749	1	9/1/2012 12:22:5...	AHU 1-13 VAV 1-...	Value ...	Site Name ...	Item Description ...	Item Fully Qualifi...	1042185	AIR CONDITIONING	FCU - Fan Coil Unit	6	B
		1	2/1/2013 3:02:45...	General Fire Trip ...	Value ...	Site Name ...	Item Description ...	Item Fully Qualifi...				0	
		1	1/30/2013 7:56:0...	Value ...	Site Name ...	Item Description ...	Item Fully Qualifi...					0	

- Database handles large volume of transactions
- Stores active alarm information
- SQL used to insert/update



# Enrich with Maximo Information



- Netcool Impact policy performs
  - Runs at a specific interval
  - Identifies newly created alarms
  - Lookup Maximo for alarm details
  - Enrich the alarm information in Omnibus
  - Possible to create Service Request in Maximo

# Process in Maximo

The screenshot displays the Maximo Service Request form. At the top, there are tabs for 'List', 'Service Request', 'Related Records', 'Communication Log', and 'Specifications'. The 'Service Request' tab is active, showing a service request number of 6751, status 'NEW', and received via 'BMS'. Below this is the 'User Information' section, which includes fields for 'Affected Person' (MXINTADM), 'Name' (MXINTADM), 'Employer', 'Primary Phone', 'Phone', 'E-mail', and 'Affected Date' (14/02/2013 12:29:19). The 'Reported By' field is filled with 'NETCOOL', and the 'Reported Date' is 14/02/2013 12:29:19. The 'Service Request Details' section includes a summary of 'general fault', a detailed description of the fault (AHU 1-13 VAV 1-05 Zone Temp out of limits Alarm (MH)), and various priority and location settings. The 'Asset Number' is 1042244, 'Asset Tag' is VSD-CHWP-7.1, and 'Location' is 02072001. The 'Service Group' is SERVICES, 'Service' is AIR CONDITIO, and 'Customer' is NSW HEALTH.

- SR Automatically created
- Automatically creates necessary Work Orders

# Data warehouse

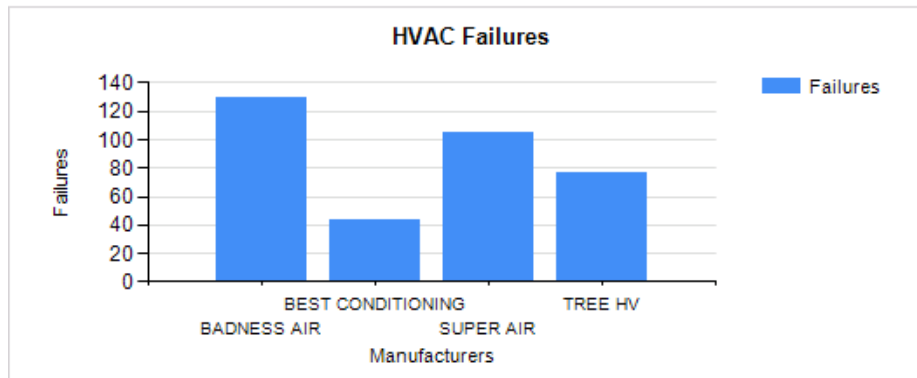
Tables

- System Tables
- dbo.REPORTER\_STATUS
- reporter.REP\_AUDIT\_ACK
- reporter.REP\_AUDIT\_LOGTICKET
- reporter.REP\_AUDIT\_OWNERGID
- reporter.REP\_AUDIT\_OWNERUID
- reporter.REP\_AUDIT\_SEVERITY
- reporter.REP\_AUDIT\_TICKETSTATUS
- reporter.REP\_SEVERITY\_TYPES
- reporter.REP\_TIME\_PERIODS
- reporter.REPORTER\_CLASSES
- reporter.REPORTER\_CONVERSIONS
- reporter.REPORTER\_DETAILS
- reporter.REPORTER\_GROUPS
- reporter.REPORTER\_JOURNAL
- reporter.REPORTER\_MEMBERS
- reporter.REPORTER\_NAMES
- reporter.REPORTER\_STATUS

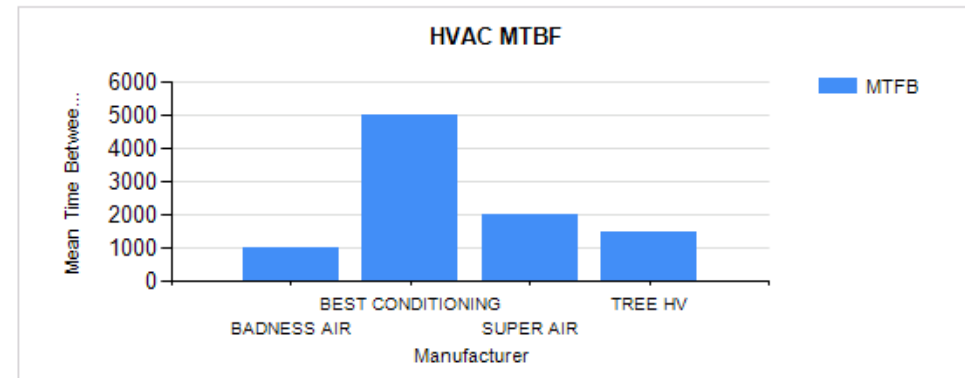
TTNumber	TTState	TS_Body_1	TS_Body_2	TS_Body_3
272	1	2/2/2013 12:39:26 AM DIALYSIS - CHLORINE ALARM N...	Value Normal	Site Name ADS-01
273	1	1/31/2013 6:34:14 PM RM 01077033 CLEAN UTIL FRG-A...	Value Normal	Site Name ADS-01
274 6757	1	2/1/2013 1:20:17 PM RM01048008 OT-06 ANAES FRG1-...	RM 01048008 Operating Theater 6 Anaesthetic Fridg...	Value Alarm
275	1			
276	1			
277	1			
278	1			
279	1			
280	1	2/1/2013 1:20:17 PM RM01048008 OT-06 ANAES FRG1-...	RM 01048008 Operating Theater 6 Anaesthetic Fridg...	Value Alarm
281	1	2/1/2013 1:20:17 PM RM01048008 OT-06 ANAES FRG1-...	RM 01048008 Operating Theater 6 Anaesthetic Fridg...	Value Alarm
282	1			
283	1			
284	1	2/4/2013 1:07:43 PM HW GEN 1-1-A Alarm 1	Hot Water Generator 1-1 Fault (MH)	Value Alarm
285 6758	1	2/1/2013 1:20:17 PM RM01048008 OT-06 ANAES FRG1-...	RM 01048008 Operating Theater 6 Anaesthetic Fridg...	Value Alarm
286 6759	1	2/1/2013 1:20:17 PM RM01048008 OT-06 ANAES FRG1-...	RM 01048008 Operating Theater 6 Anaesthetic Fridg...	Value Alarm
287 6760	1	2/1/2013 1:20:17 PM RM01048008 OT-06 ANAES FRG1-...	RM 01048008 Operating Theater 6 Anaesthetic Fridg...	Value Alarm

- All Object Server inserts/updates stored
- Data used to provide fault analytics

## HVAC Analysis



Manufacturer	January	February	March	April	May	Total
BADNESS AIR	30	50	10	5	35	130
BEST CONDITIONING	20	10	5	5	4	44
SUPER AIR	5	10	15	25	50	105
TREE HV	15	14	17	13	18	77
<b>Total</b>	<b>70</b>	<b>84</b>	<b>47</b>	<b>48</b>	<b>107</b>	<b>356</b>



Manufacturer	MTBF
BADNESS AIR	1,000.00
BEST CONDITIONING	5,000.00
SUPER AIR	2,000.00
TREE HV	1,500.00



# Demonstration

# Tangible Business Value



**BEFORE**

Revenue Exposure  
\$200k + per month

**NOW**

Revenue Exposure  
Reduced to < \$50k per  
month

**BEFORE**

3-4 FTE Admin Data  
Entry

**NOW**

2 FTE Monitoring and  
Reporting Trends

# Tangible Business Value

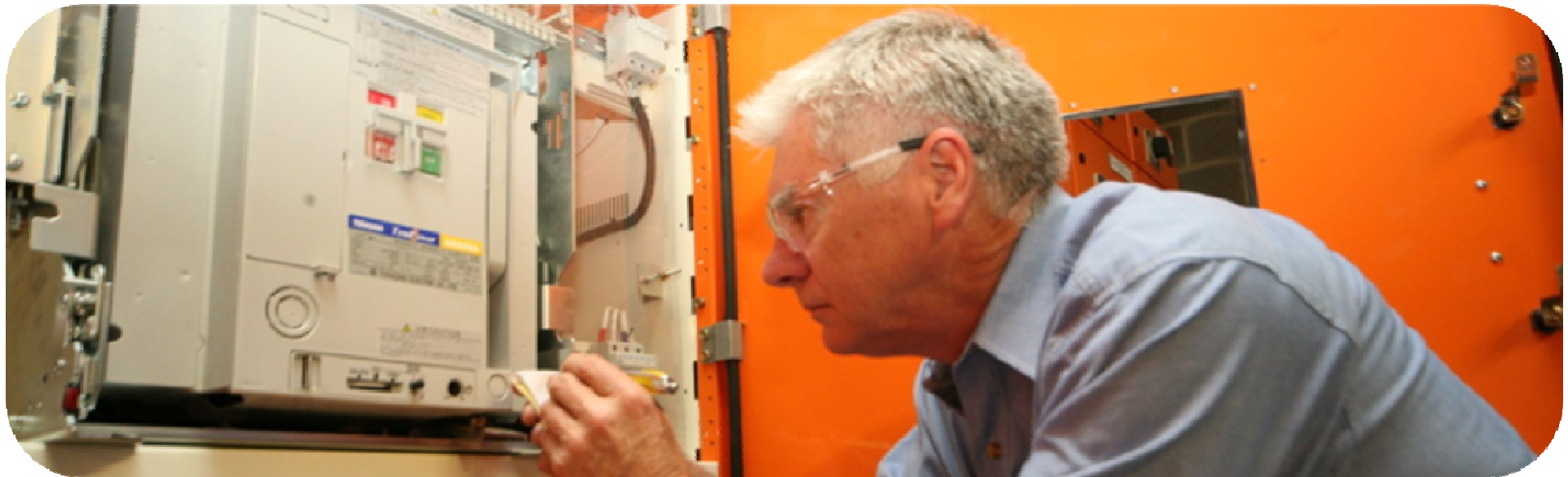
**THIESS**

**BEFORE**

25% of Operating  
Maintenance Cost  
(unplanned and paid at  
premium)

**NOW**

17% cost unplanned  
and paid at premium  
(trending downwards)



# Intangible Business Value

- Knowledge Bank of Asset Performance Data
- Maintenance Value Chain
- Increased Workforce Morale
- Customer Satisfied





# Lessons Learned



- Identify Critical Assets and Business Impact
- What do you want to listen to?
- Collaborate with asset owners
- \$\$\$ in BMS reconfigurations

# Moving Forward

**THIESS**





# Project Summary



**QUESTIONS?**