Embracing Technology in FM
A necessity not a luxury

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Group Strategy Director of Europa Group & Europa International
Deputy Chair of Global FM
Immediate Past Chair & Board Member of British Institute of Facilities Management
Board member of Asset Skills Scotland and Chair of the FM Employers Forum
Founder and Owner of www.connectwithfm.com the Social Network for FM’s globally
Built Environment Life Cycle

- Design & Construction
- Operation
- Demolish

Opening Day

Closing Day

Building Life Cycle
FM Fields

- **Place** (physical world)
- **Process** (virtual world)
- **People** (mental world)
FM Goals

• Support the core business
• Maintain building performance
• Manage operational costs
• Simplify and automate processes
• Manage self delivered services
• Manage outsourced services
FM Values

- Customer Satisfaction
- Owner Yield
- Government Regulation Abidance
- Environmentally Sustainable
Computer Aided FM (CAFM)

- The Support of Facilities Management through Information Technology
- CAFM is a combination of CAD and relational database software with specific abilities for facilities management
- The CAFM system will help the Facilities Manager ensure the organisation’s assets are fully utilised at the lowest efficient cost
- The usage of CAFM systems aims to support the operational and strategic facilities management
Award winning CAFM integration case study
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1. Select your name
2. Select type of job
3. Select type of stock
4. Select quantity
5. Tap Add Items
Maintenance Strategy

- Asset management and tracking through PDA’s and CAFM system
- Intelligent connection between PPM and reactive works
- Asset tracking and reporting including trend analysis as standard
- A commitment to enabling whole life decision making including economic and environmental assessment as standard
- Management of PPM to minimise environmental impact
- Intelligent journey planning
- Sustainable material choices
- Carbon impact monitoring
Installed in Al Rahba Hospital
Proactive Asset Management
History of asset management
Barriers to proactive maintenance
Continuous lifecycle improvement
Rapid deployment architecture
Industry solutions
What can it do for you?
Asset Management Utopia

100% overall equipment effectiveness OEE

- 100% visibility of all business critical assets
- Knowledge of the condition of the asset 100% of the time
- Advance warning to pinpoint component failure within asset
- Having the right spares in the right place at the right time
- Minimum inventory
- Optimise Asset Life cycle
- A system that supports Continuous Improvement
Typical Asset Management issues

- No accurate asset register
- Lack of process measuring tools
- Poor spares availability and delivery time
- Equipment reliability
- Integration of FM with the wider business needs
- No condition monitoring programme
- Poor data collection
- Lack of life cycle information for capital planning
- High and unpredictable whole life costs
Remote Monitoring Technology

- Provides baseline failure measurement and analysis
- Wireless solutions are low cost
- Provides early warning of potential failure with RAG visual dashboard
- No additional infrastructure – uses GPRS and internet technology
- Delivers sustainable, measureable performance with agile cost effective maintenance
Remote Monitoring Technology

- Total assurance that critical assets will not catastrophically fail
- Remote monitoring from any web based device
- Real time asset viability and health condition early warning
- 24/7/365 monitoring with rending data reporting
- Real-time data to make real-time decisions with
Life Cycle continuous improvement – PAS 55

- Define
  - Asset Register
  - Current State Map
  - KPIs

- Measure
  - Develop Asset Signatures
  - Measuring the Output

- Analyse
  - Data Collection
  - Establish Action Plan
  - FMEA's
  - Prioritise Critical Assets

- Improve
  - Establish New KPI’s
  - Review Spares Holding Policy
  - FMEA, Pareto, Fishbone
  - SW, Workplace Organisation

- Control
  - Design Performance
  - Standards
  - Inventory
  - Energy
  - CRC
  - Lifecycle
  - KPI Control

- Continuous Improvement

PAS 55
Technology Model & Solution Architecture

ISO 13374
- AG – Advisory Generation
- PA – Prognostic Assessment
- HA – Health Assessment
- SD – State Detection
- DM – Data Manipulation
- DA – Data Acquisition

Global Sense Implementation
- Operator Interface
  - Browser delivery
  - Alerts to service providers
- Data Storage
  - “Cloud” based SQL Server
  - Secure redundant environment
- Logger
  - Two way data transmission
  - Wireless GPRS to Data Storage
- Sensor
  - One way data transmission
  - Hardwired or Wireless to Logger
150 GPRS systems installed in BAA Heathrow
Web based interface
Energy Management Detail

GLOBAL SENSE
GLOBAL MONITORING SYSTEM

Energy Savings

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Lakeside Shopping Centre Odour monitoring

Messages

Lakeside Level 1:
Odour North High Level

Effluent Plant:
Air Quality 1 ppm High High Level
Air Quality 2 ppm High Level
Air Quality 3 ppm High High Level

Waste Plant:
General Waste High Level

Car Parking:
Car Park 1, Stairwell 3 Odour High Alarm

Stats
People Count: 261
Revenue: £4344.11
Footfall: £17.81 pp
Dashboard interface – multiple inputs

Building Overview

Messages
- Building: Main Doors Not Closed Low Alarm
- Effluent Plant: Vessel 2 High Level, Air Quality 1 ppm High Level, Transfer Pump Motor Winding High Temp
- Waste Plant: General Waste High Level
- HVAC and Extraction Plant: Filter Blocked High High Alarm, Bearing Temperature High Alarm, Belt Tension Low Alarm

People Tracking

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Power

HVAC and Extraction

Chiller Plant

Water Heating

Lifts

Occupancy 1686

Effluent

Waste

Eco Parking
Example - Lifts

- Major cause of call-outs and stoppages
  - Measure changes in motor current, time to operate and limit proximities
  - Can determine when doors are bent or damaged
Example – Escalator Chain Tension

• Chains are one of the most problematic escalator components
  – Need to sense that the tension is good and chain not dragging
  – Also detect lubrication levels
Integration to CAFM

- No I/O Cards & No hard wiring to PSE for BMS status signals
- All live PSE data is read by BMS directly from SQL data base – including CBM alarms if required
- All live and historic data is stored in SQL Web Server in a standard open format
- HTPM-RAMS tools remain for CBM and Energy Optimisation etc
Applications -

- Plant & Equipment
- Critical Assets
- Lifts & Escalators
- Energy Usage
- Ticketing Machines & Barriers
- People Counting & Security
- Remote Locations
- Real-time survey data collection
Social Media for FM
Social Media for FM

• Niche Networks provide a number of opportunities
  – Creates an online community which can be open or closed to members
  – Allows for download of blogs, announcements, news, video, pictures, documents
  – Allows members to interact with each other and exchange views, ideas and solutions
  – Creates an instant Customer Service Portal
  – Can be used for non-voice instant Helpdesk interactions
  – Allows you to monitor and manage your company’s reputation
  – Can be the central hub for links to other parts and functions of the business
Thank you

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