



## THE ROLE OF ENGINEERS IN FACILITY MANAGEMENT



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- CEO Max-Migold Ltd.
- Host of the FM Master Class and FM Master Craft Programs
- Over 20 years FM Experience
- Certified IFMA Instructor for all Credentials
- Worked Internationally
- Architecture Graduate with honors Ambrose Alli University
- MSc. Nottingham Business School- Industrial and Business Process Engineering
- Certified Member of IFMA, Institute of Workplace and Facilities Management and Chartered RICS
- Experience with LDS Church, Shell, Halliburton, Nokia Africa, Schlumberger, Signalling Solutions UK, Alphamead.



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## Session Outline

- Definition of FM
- History of FM
- Engineering and Facilities Engineering
- Terotechnology
- Key Elements of FM
- FM Services Classification
- Levels of FM Practice
- Skills and Core Competencies of FM

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## Definition – Facilities Management

- Definition put forward by the US Congress:
  - *“To assist in meeting the objectives of the organization by the cost-effective provision and proactive management of space and services, within the law, in such a way as to enable the users to operate safely, effectively and efficiently”*

- Alternative UK definition:

*“The practice of co-ordinating the physical workspace with the people and work of an organisation, integrating the principles of business administration, architecture, and the behavioural and engineering sciences”*

(BIFM, 1996)

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## WHAT IS FACILITY MANAGEMENT?

### IFMA Definition

“Facility management is a profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process and technology” – *IFMA*

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### (ISO 41011: 2017)

FM is the organizational function which integrates people, place and process within the built environment with the purpose of improving the quality of life of people and the productivity of the core business.

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## History of Facility Management



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## History of Facility Management

- Military, Governments and Educational Institutions as Post-engineering, Plant Maintenance and Management, Public Works,
- FM Institute, Michigan USA 1979
- International Facility Management Association (IFMA) 1980
- BIFM- 1993
- RICS- 1792 Surveyors Club, 1868 Formally



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## Engineering

The term engineering is derived from the Latin ingenium, meaning "cleverness" and ingeniare, meaning "to contrive, devise".

Engineering is the use of scientific principles to design and build machines, structures, and other items, including bridges, tunnels, roads, vehicles, and buildings. ...

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## Terotechnology

- Terotechnology (from Greek 'tērein' "to care for" and technology) is the technology of installation, commissioning, maintenance, replacement and removal of plant machinery and equipment, of feed-back to operation and design there of, and to related subjects and practices.
- Terotechnology is the maintenance of assets in optimal manner. It is the combination of **management, financial, engineering**, and other practices applied to physical assets such as plant, machinery, equipment, buildings and structures in pursuit of economic life cycle costs.

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## Facilities Engineering

Facilities engineering evolved from "plant engineering" in the early 1990s because it more accurately reflected the **multidisciplinary** demands for specialized conditions in a wider variety of indoor environments, not merely manufacturing plants.

The Facilities Engineer typically has hands-on responsibility for the employer's Electrical engineering, maintenance, environmental, health, safety, energy, controls/instrumentation, civil engineering, and HVAC needs.

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## The changing nature of FM

- **Facilities Management is in transition**
- **Is currently evolving:**
  - from a largely *technical* discipline into a *business management* discipline
  - from a *reactive, operationally-focused* set of processes to a *pro-active and strategic* one
  - one which sees buildings as being *dynamic entities* and *assets* on the balance sheet, not as liabilities

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## KEY ELEMENTS OF FACILITY MANAGEMENT

### People

- People are very crucial in facility management
- Facility management;
  - Is about managing people
  - Is about people perception
  - Goes beyond technical skills
  - Is more of managerial skills



Key ingredients of Facility Management (FM);  
Courtesy: EuroFM

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## KEY ELEMENTS OF FACILITY MANAGEMENT

### Place

- One of the most critical factors determining the success of an organisation is creating an enabling environment for its employees
- FM works in the area of place, but with obligations to support the needs of the people and processes associated with those places
- FM focuses on delivering the right place for clients
- Successful FM leads to work places which better support the flow of productive processes while adding value and reducing costs



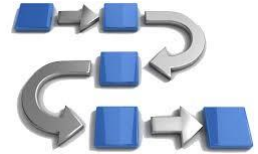
*“Overall objective of an organization is to satisfy and delight customers with its product and services. Therefore, for an organization it becomes important to have strategy formulated around its place”*

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## KEY ELEMENTS OF FACILITY MANAGEMENT

### Process

- Success on a large scale is all about the process!
- The process starts at the conception stage
- Then it moves the company along through the hiring of employees, marketing, accounting, expansion, etc.)
- Facility Management requires applying the right process



*“If defining a business’s process is a difficult concept to understand, think of all the information that’s required for a business plan – **That’s the process**”*

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## KEY ELEMENTS OF FACILITY MANAGEMENT

### Technology

- While people and process are critical to an organization’s success, advanced collaboration technology can be truly transformational
- After people are aligned and the process developed and clarified;
  - Technology can be applied;
    - ❖ To ensure consistency in application of the process
    - ❖ To provide the thin guiding rails to keep the process on track
    - ❖ To make it easier to follow the process than not to do so



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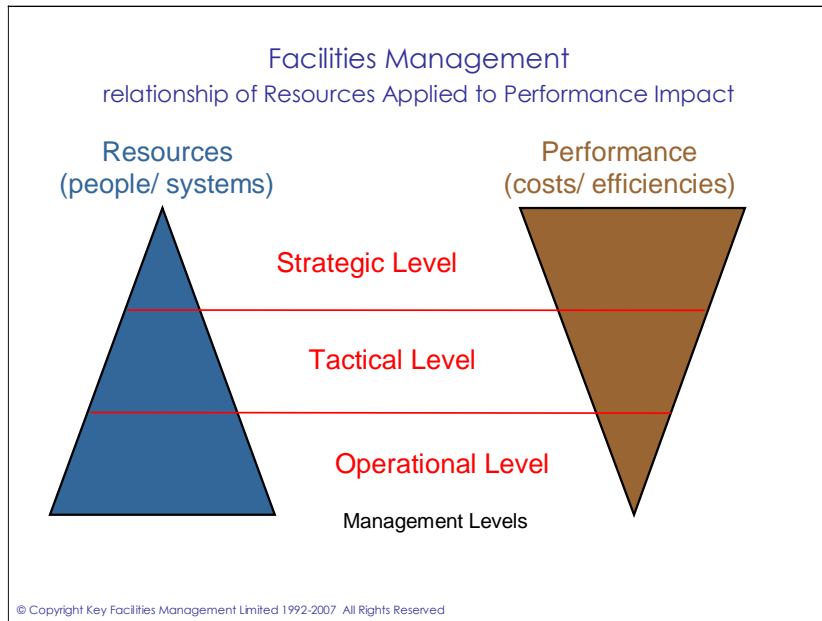
# Scope of Facilities Management

- Facilities management is a multi-faceted discipline.
- A simple yet focused definition of FM can be put forward as:  
*"the management of non-core organizational activities to facilitate, promote and enhance the performance of core functions"*
- This multifaceted approach looks at:

- The asset
- The people
- The organization
  - In addition:
    - Cost
    - Function
    - Safety
    - The bottom line



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## Services Classification in FM

Hard Services	Soft Services
<ul style="list-style-type: none"> <li>• Building and fabric maintenance both planned and reactive</li> <li>• Energy and water management</li> <li>• Building management systems</li> <li>• HVAC</li> <li>• Mechanical maintenance</li> <li>• Electrical maintenance</li> <li>• Reactive maintenance</li> <li>• Electrical testing</li> <li>• Fire alarm maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• Cleaning including (routine and specialised)</li> <li>• Caretaking and Portering</li> <li>• Grounds maintenance</li> <li>• Waste disposal and recycling</li> <li>• Security</li> <li>• Catering</li> <li>• Pest control</li> <li>• Health and Safety services</li> <li>• Space management</li> <li>• Furniture and Equipment</li> </ul>

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## Critical FM Skills and Competencies

- Interpersonal Relationships
- Procurement and negotiation
- Time management
- Project management
- Research
- Writing
- Team working
- Leadership
- Innovative approach
- Decision-making
- IT savvy
- Numerical know-how
- Emergency reflexes
- Positive attitude

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## IFMA FM Core Competencies

1. Communication
2. Emergency Preparedness and Business Continuity
3. Environmental Stewardship and Sustainability
4. Finance and Business
5. Human Factors
6. Leadership and Strategy
7. Operations and Maintenance
8. Project Management
9. Quality
10. Real Estate and Property Management
11. Technology

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