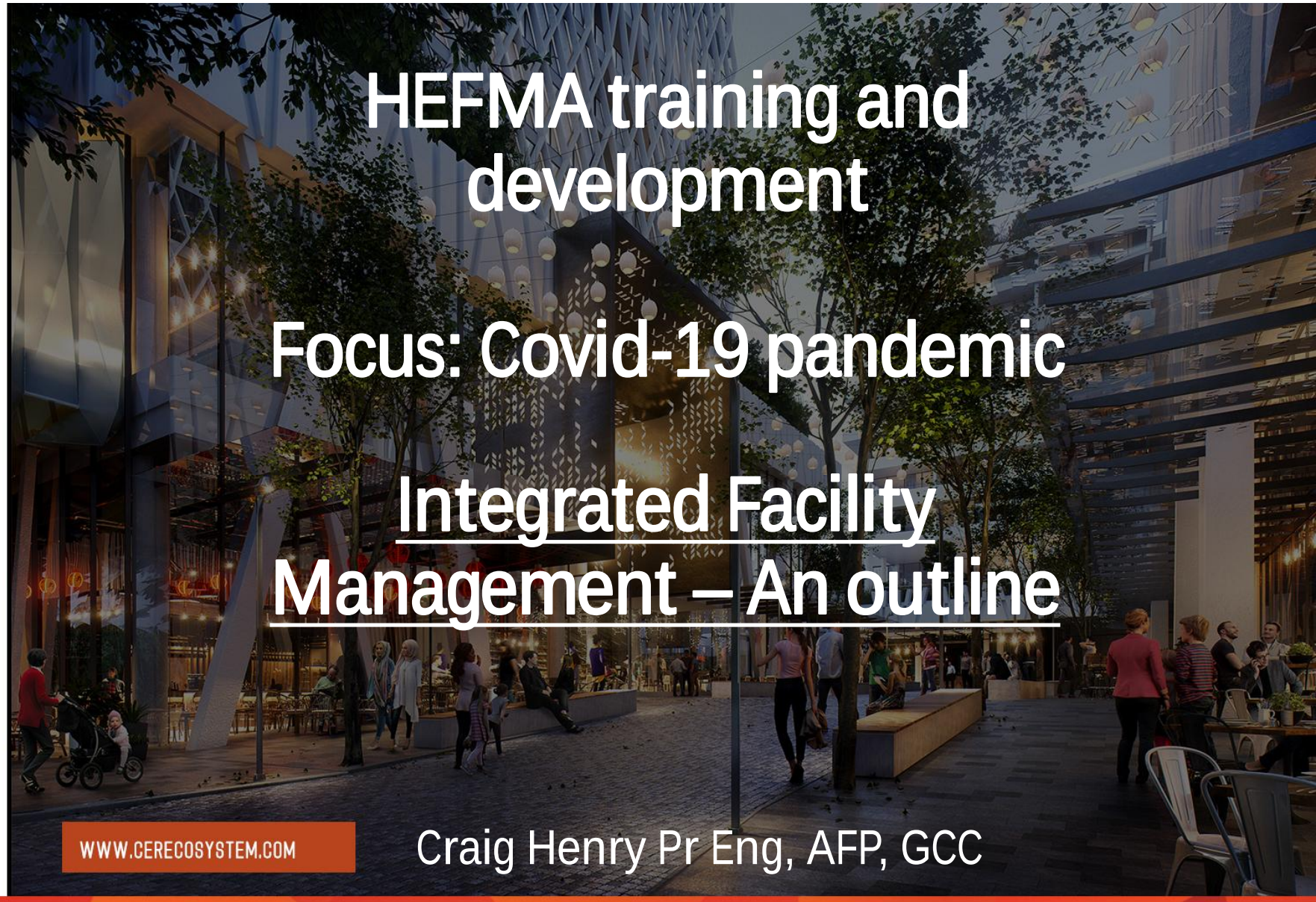
HEFMA

southern africa



HEFMA training and development

Focus: Covid-19 pandemic

Integrated Facility Management – An outline

CER

Facility and Property Management

WWW.CERECOSYSTEM.COM

Craig Henry Pr Eng, AFP, GCC

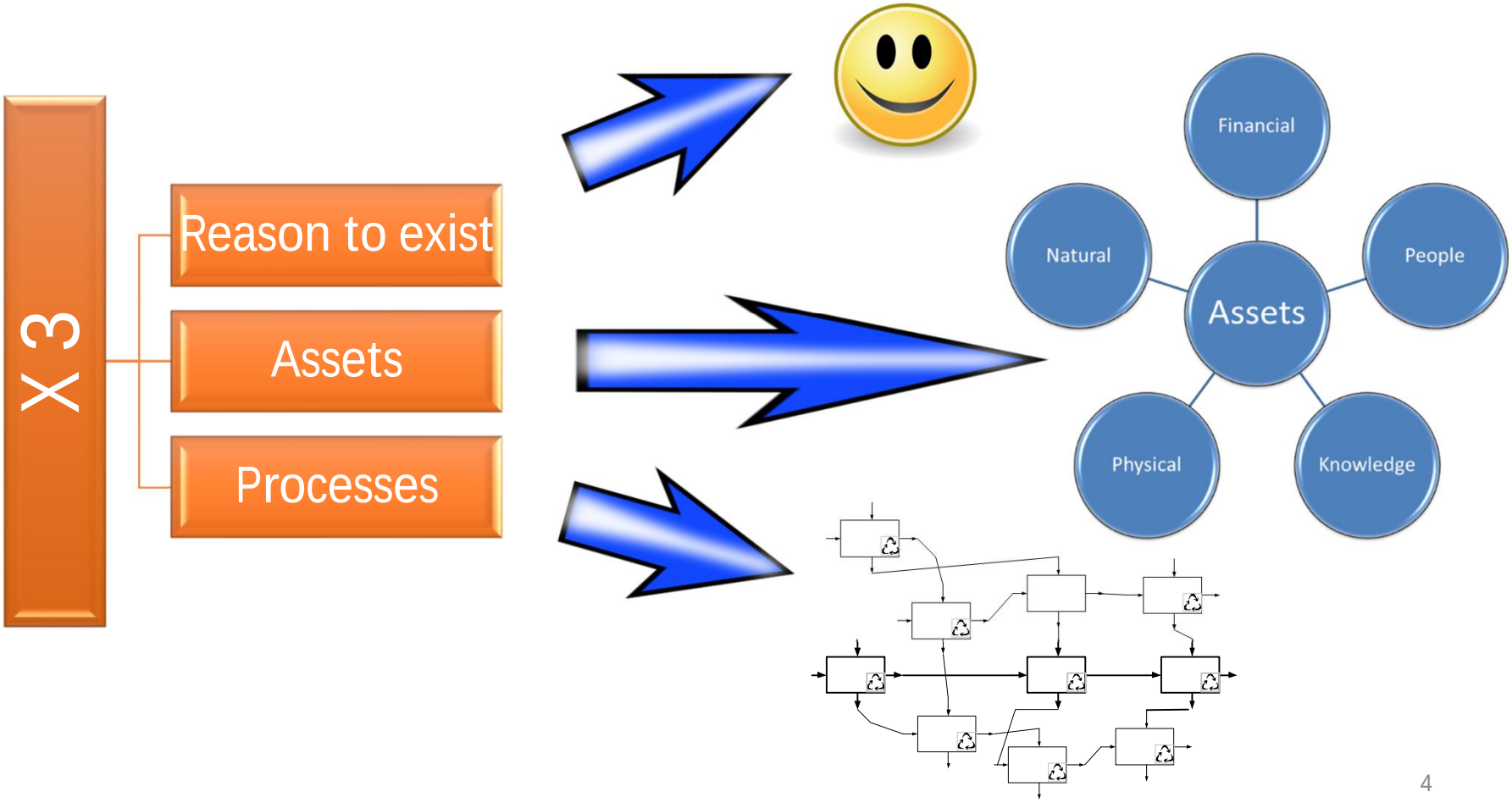
FUNDAMENTALS OF INTEGRATED FACILITY MANAGEMENT (IFM) - OUTLINE

- Contextualising IFM
  - o Organisation management
  - o Role of FM in organisation management
  - o What is FM? - Defining the scope of FM with reference to industry standards
  - o Why is FM so prominent and a growing profession and industry
- IFM - Management System

CONTEXTUALISING IFM:

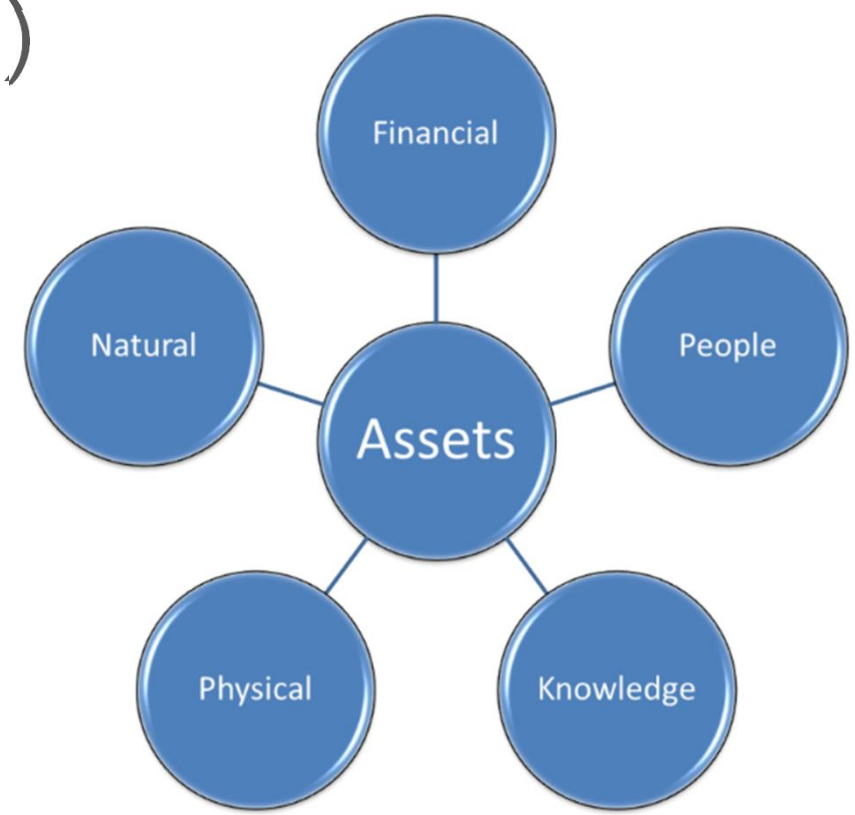
MANAGEMENT OF ORGANISATIONS

GENERIC ORGANISATIONAL IMPERATIVES



ORGANISATION ASSETS (RESOURCES/CAPITAL)

- People
- Financial
- Physical
- Knowledge
- Natural/Biological/Living



ORGANISATION ASSETS - PEOPLE

Management

- Strategic – Directors, Executives, General Managers
- Tactical – Senior Mangers and Managers
- Supervisors and Team leaders

Execution

- Professional Tasks – Engineers, Accountants, Lawyers
- Technical tasks – Artisans, Administrators,
- Basic tasks – Cleaning, Security

ORGANISATION ASSETS - FINANCIAL

Capital (Capex)

- Acquisition of tangible and intangible assets - physical, knowledge and natural/biological assets
- Acquisition of other business

Working capital (Opex)

- Purchase of materials and services for the production of the organisation's products
- Remuneration of employees
- Purchase of materials and services for the maintenance of the organisation's assets
- Materials and services for the management and support processes

ORGANISATION ASSETS - KNOWLEDGE

Know-how

- Subject knowledge
- Process knowledge

Research and Development

- Basic and applied research
- New product and services

Legal title

- Trademarks
- Patents
- Copywrite

ORGANISATION ASSETS – NATURAL ASSETS

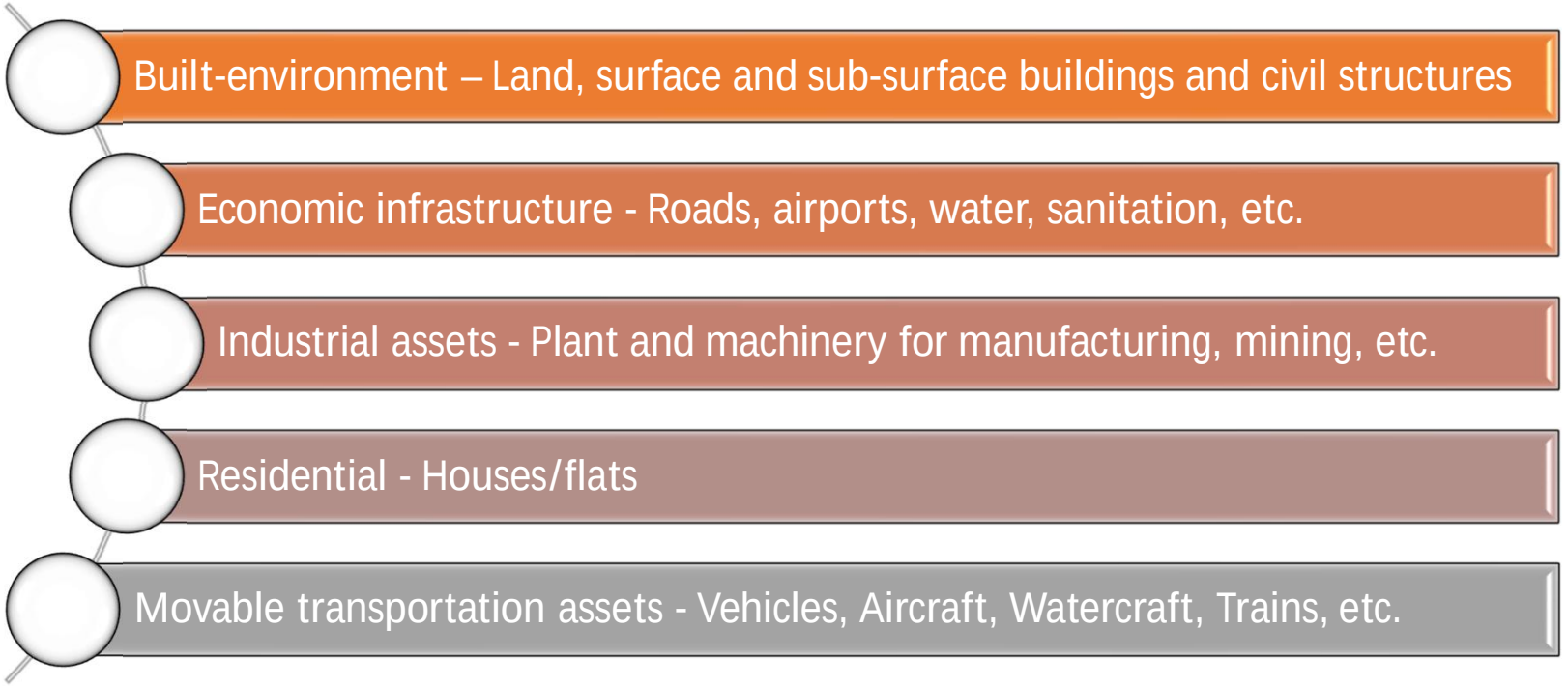
Animals (Fauna)

- Cattle, Sheep, Etc.
- Fish
- Game

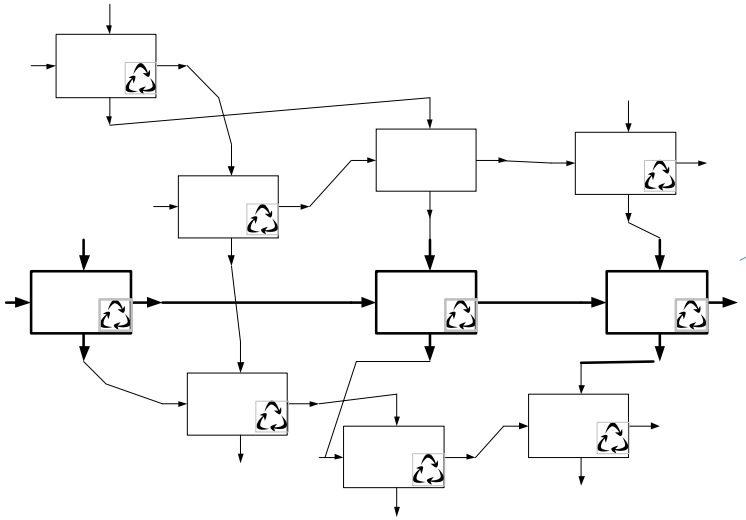
Plant (Flora)

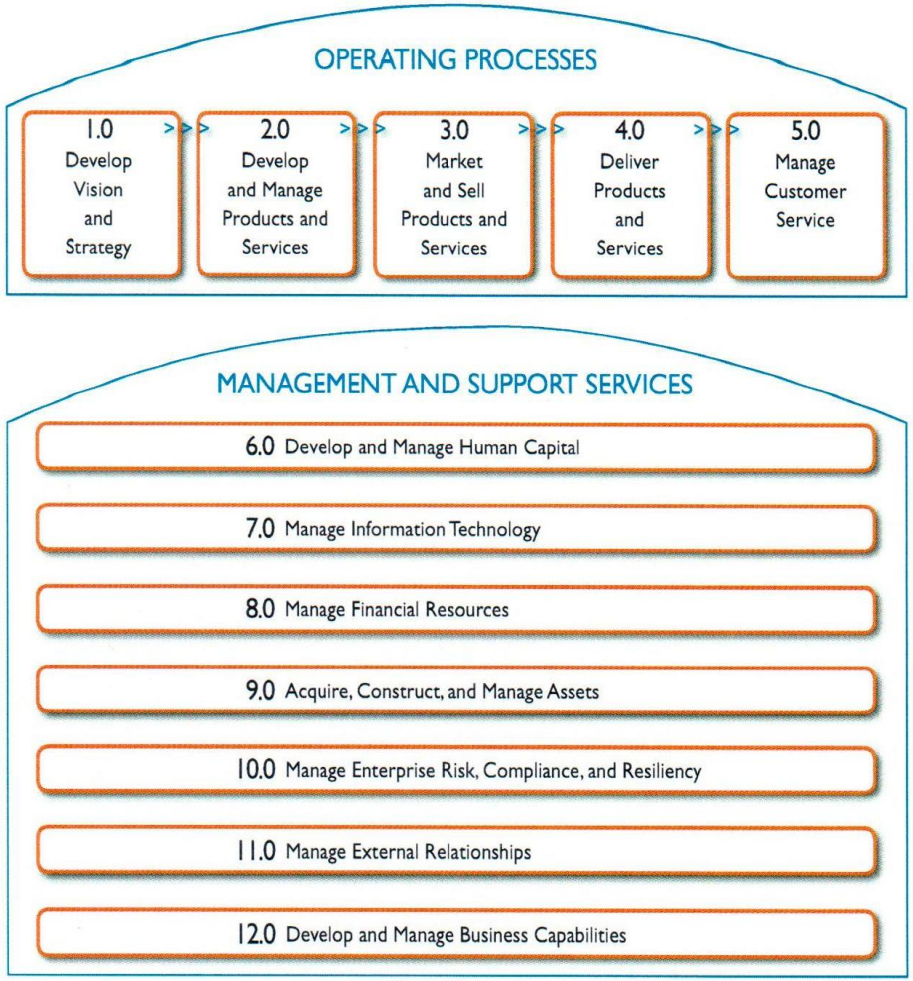
- Crops – Maize, Wheat, etc.
- Fruit
- Vegetables

ORGANISATION ASSETS – PHYSICAL ASSETS



ORGANISATION PROCESSES



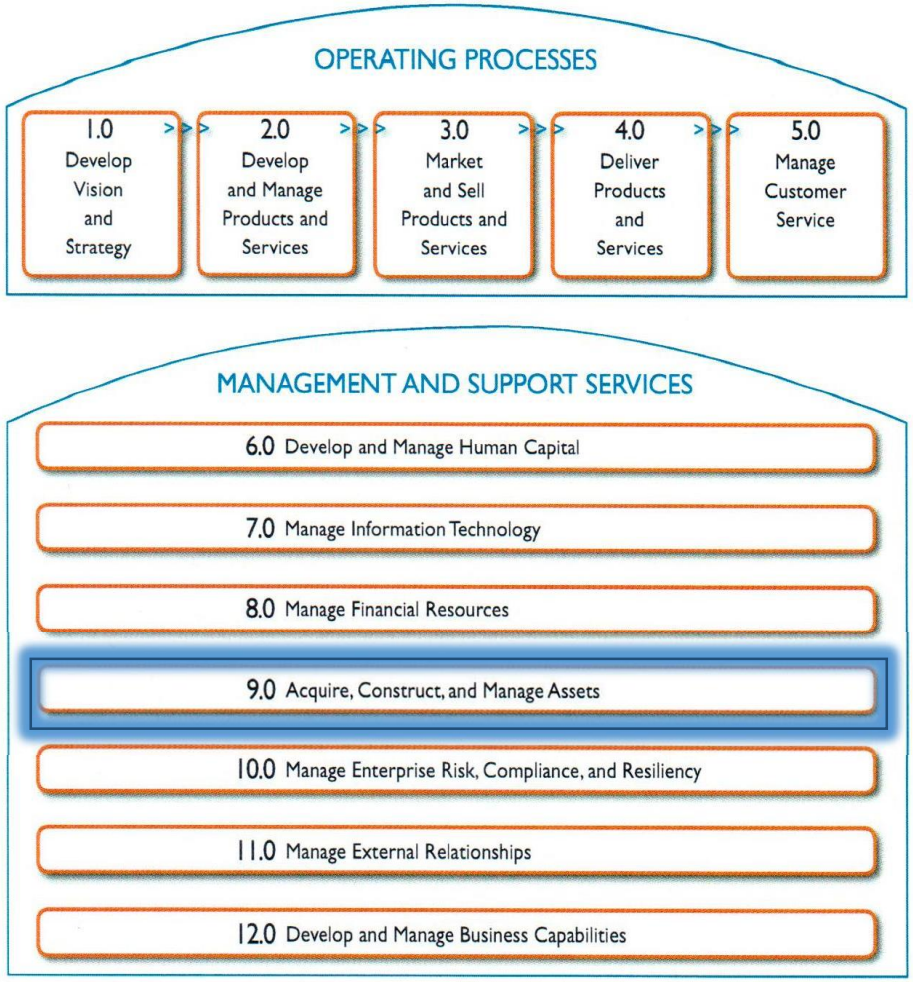


APQC - American Productivity and Quality Centre's Process Classification Framework

CONTEXTUALISING IFM:

ROLE OF IFM IN ORGANISATION MANAGEMENT

ORGANISATION PROCESSES



Facilities Management ← Built-environment assets ← 9.0 Acquire, Construct, and Manage Assets

APQC - American Productivity and Quality Centre's Process Classification Framework

PHYSICAL ASSET MANAGEMENT

ORGANISATION ASSETS – BUILT-ENVIRONMENT

Acquisition

- Property and development rights acquisition
- Property development and construction project management
- Moveable and other acquisitions

Operations

- Ownership or leasing
- Supply of energy, water and other utility services consequent to occupation and use
- Supply of logistical and other necessary support services
- Maintenance
- Legal, Health, Safety, Security and Environmental Risk management –

BUILT ENVIRONMENT - COMPLIANCES

SA Legislation and Standards

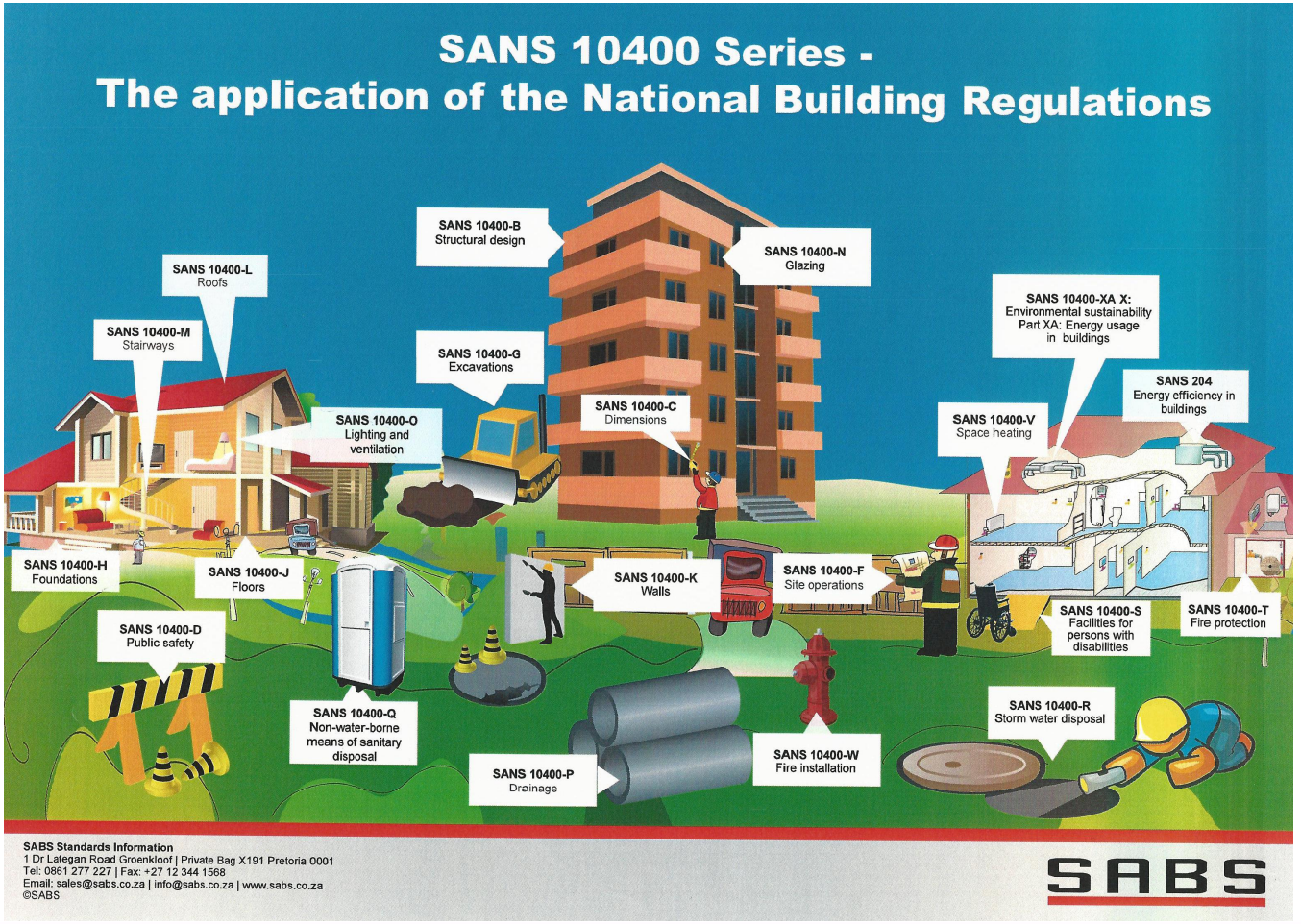
LEGISLATION GOVERNING BE
(not intended to be exhaustive)

- Occupational Health and Safety Act, 1993
- National Building Regulations and Building Standards Act, 1977
- Government Immovable Asset Management Act, 2007
- Construction Industry Development Board Act
- Council for Built Environment Act
- National Regulator for Compulsory Specifications Act
- Architectural, Engineering, Landscape Architectural, Property Valuers, Quantity Surveying, Project and Construction Management and Surveyors Profession Acts

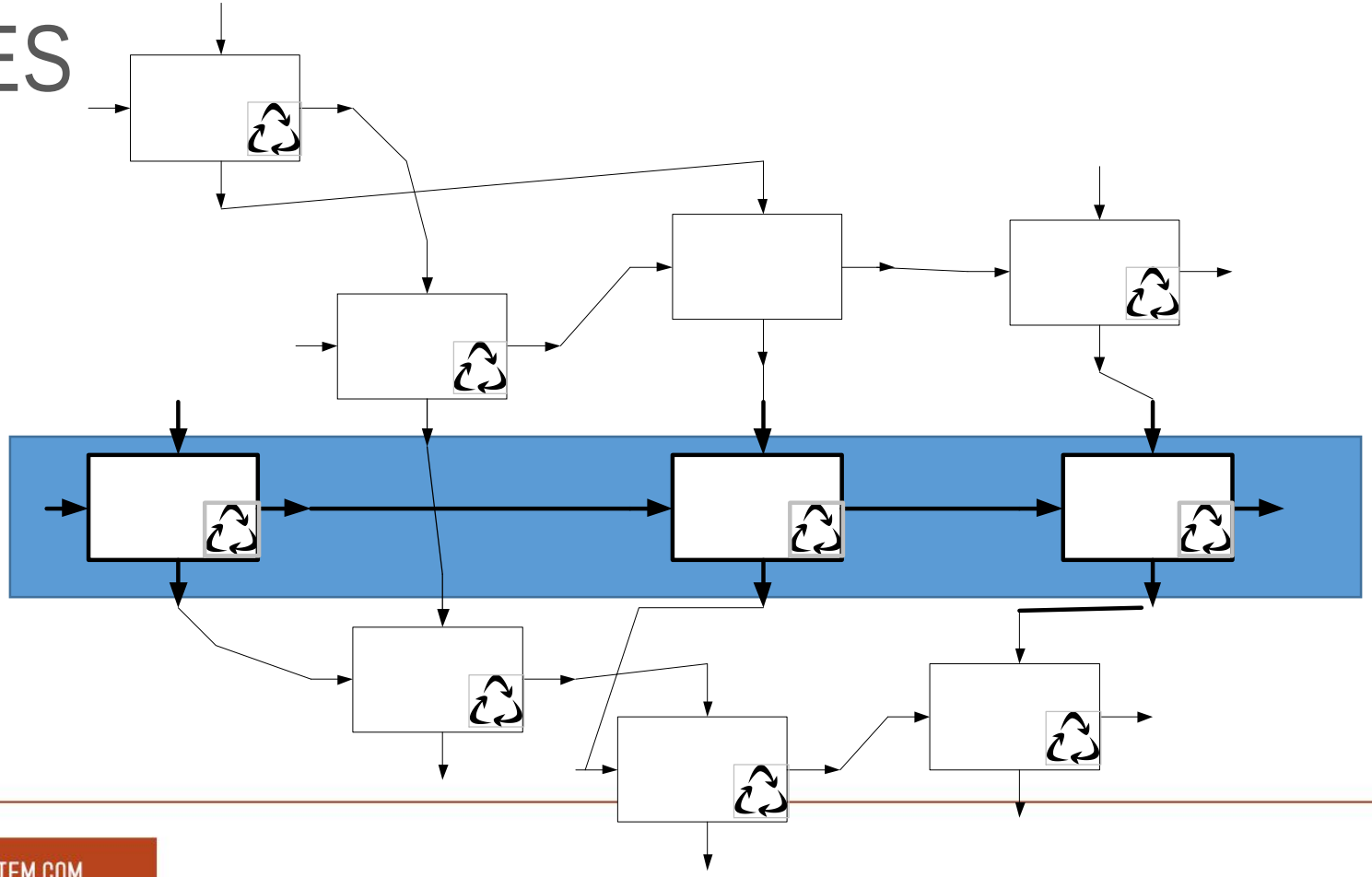
NATIONAL BUILDING REGULATIONS AND BUILDING STANDARDS ACT – SANS 10400

Part A: General principles and requirements.
Part B: Structural design.
Part C: Dimensions.
Part D: Public safety.
Part F: Site operations.
Part G: Excavations.
Part H: Foundations.
Part J: Floors.
Part K: Walls.
Part L: Roofs.
Part M: Stairways.
Part N: Glazing.
Part O: Lighting and ventilation.
Part P: Drainage.
Part Q: Non-water-borne means of sanitary disposal.
Part R: Stormwater disposal.
Part S: Facilities for persons with disabilities.
Part T: Fire protection.
Part V: Space heating.
Part W: Fire installation.
Part XA: Energy usage in Buildings

NATIONAL BUILDING REGULATIONS AND BUILDING STANDARDS ACT – SANS 10400

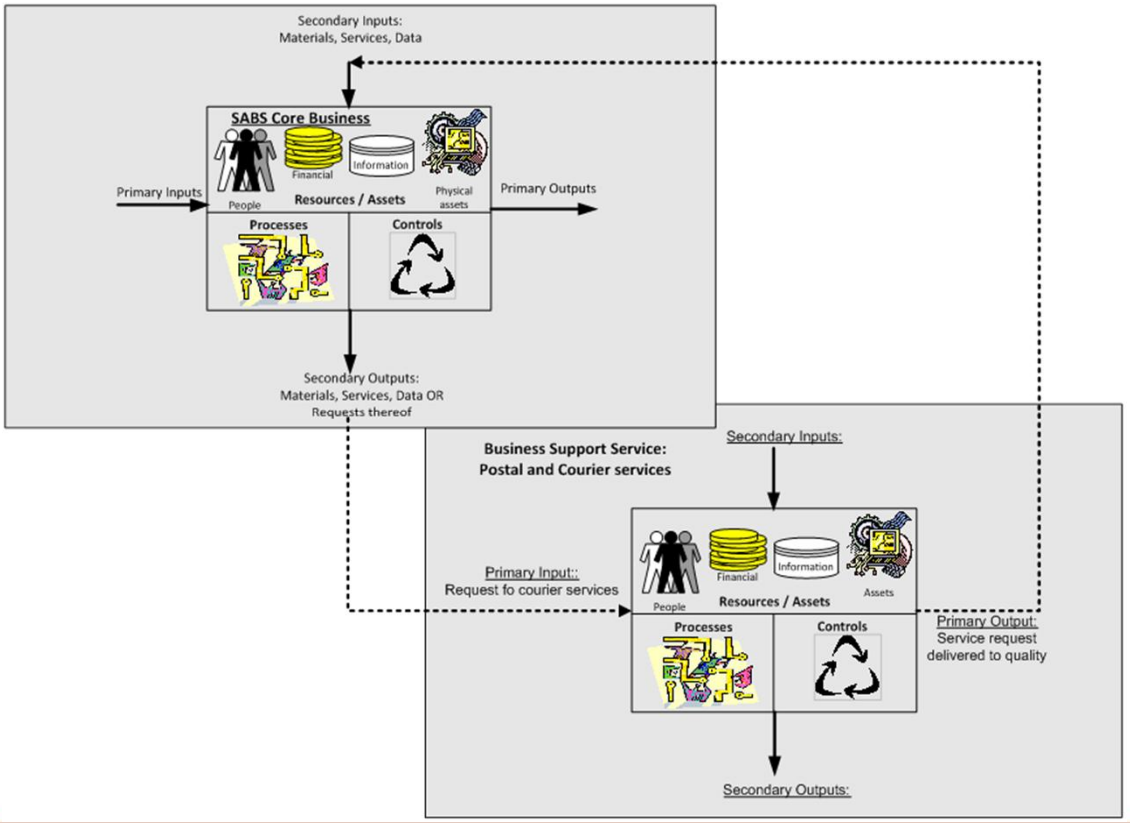


ENABLING ORGANISATION PROCESSES



ENABLING ORGANISATION PROCESSES

Illustrative example of a process triggering request for a facilities BSS:



CONTEXTUALISING IFM:

SCOPE OF IFM

WHAT IS A FACILITY?

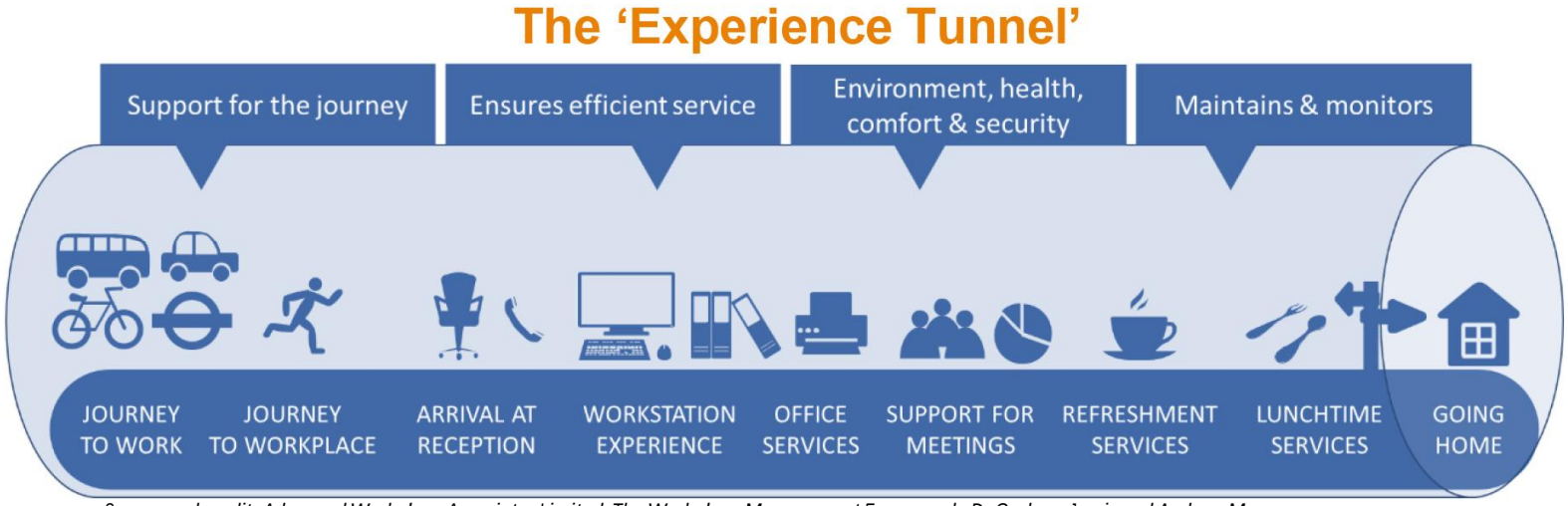
- A FACILITY is a Built-Environment for Work (BE_fW), for Living (BE_fL) and/or for Service (BE_fS):
  - BE_fL include our residence and varied other places for non-work purpose, e.g. recreation, vacation and fitness
  - BE_fW is typically the place where you perform responsibilities related to your profession, skill or trade
  - BE_fS include all places where a service is provided to people or other organisations
- A FACILITY can be a BE_fL, BE_fW and BE_fS in one. As example, a local fitness centre, is both a place of work to the fitness instructor, a place of Living to the exercising person, and a place of service where health and wellbeing is provided as a holistic service

WHAT IS FACILITY MANAGEMENT (FM)?

- The international definition of Facility Management per ISO 41011:2017,: "*Organisational 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".*
- FM includes the following:
  - Physical Asset Management (PAM)
  - Provision of several specialised Facility Services, also defined as logistical or business support services
  - The integrative management of activities related to PAM and Facility Services to create the desired Facility experience, being the totality of quantitative performance and qualitative experiences important to people

WHAT ARE FACILITY SERVICES?

- Individual services delivered with excellence, and all services managed to create a seamless experience:



Source and credit: Advanced Workplace Associates Limited, The Workplace Management Framework, Dr Graham Jervis and Andrew Mawson

WHAT ARE FACILITY SERVICES?

- Assuring the health and safety of all facility users
- Securing the organisation's people and assets, services include:
  - Access control
  - Physical guarding
  - Intrusion detection and response
- Facilitating communications and information exchange, services include:
  - Visitor reception and facilitation
  - Telephonic contact facilitation
  - Meeting and conferencing facilitation
  - Reprographic services
  - Postal and courier services
  - Documentation storage, retrieval and disposal service
- Workplace productivity, services include:
  - Workplace design
  - Space planning and management
  - Provision of workplace furnishings and enablers
- Mobility enablement, services include:
  - Vehicle parking management
  - Vehicle fleet provision
  - Internal or inter office move or relocation management
  - Domestic and international travel and accommodation
- Workplace conveniences, services include:
  - Catering / food and beverage service;
  - Child-care services and
  - Personal care and medical services

ILLUSTRATION OF INTEGRATED FACILITY MANAGEMENT

CONTEXTUALISING IFM:

IMPORTANCE OF IFM

GROWING RECOGNITION OF IMPORTANCE OF FM – IMPACT OF WORKPLACE ON PEOPLE ENGAGEMENT AND HAPPINESS

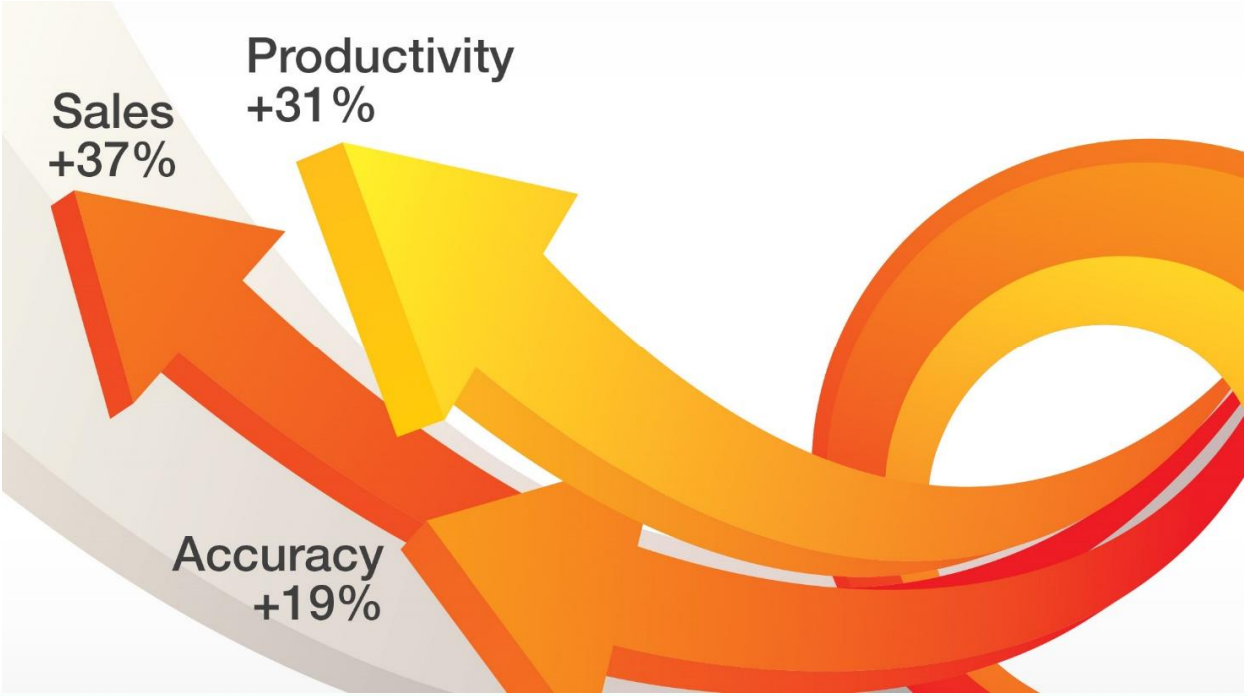
HAPPINESS + GOOD BUSINESS EXECUTION = EXCEPTIONAL RESULTS

- Stay twice as long in their jobs compared to their less happy colleagues
- Spend double their time at work focused on what they are paid to do
- Take ten times less sick leave
- Believe they are achieving their potential twice as much

Their global research tells us that happy employees are 180% more energised, 108% more engaged, 50% more motivated and 40% more confident than unhappy employees.

The Science of Happiness, Lian McGowan, Happy Monday, 2016 SAFMA Conference

HAPPINESS + GOOD BUSINESS EXECUTION = EXCEPTIONAL RESULTS



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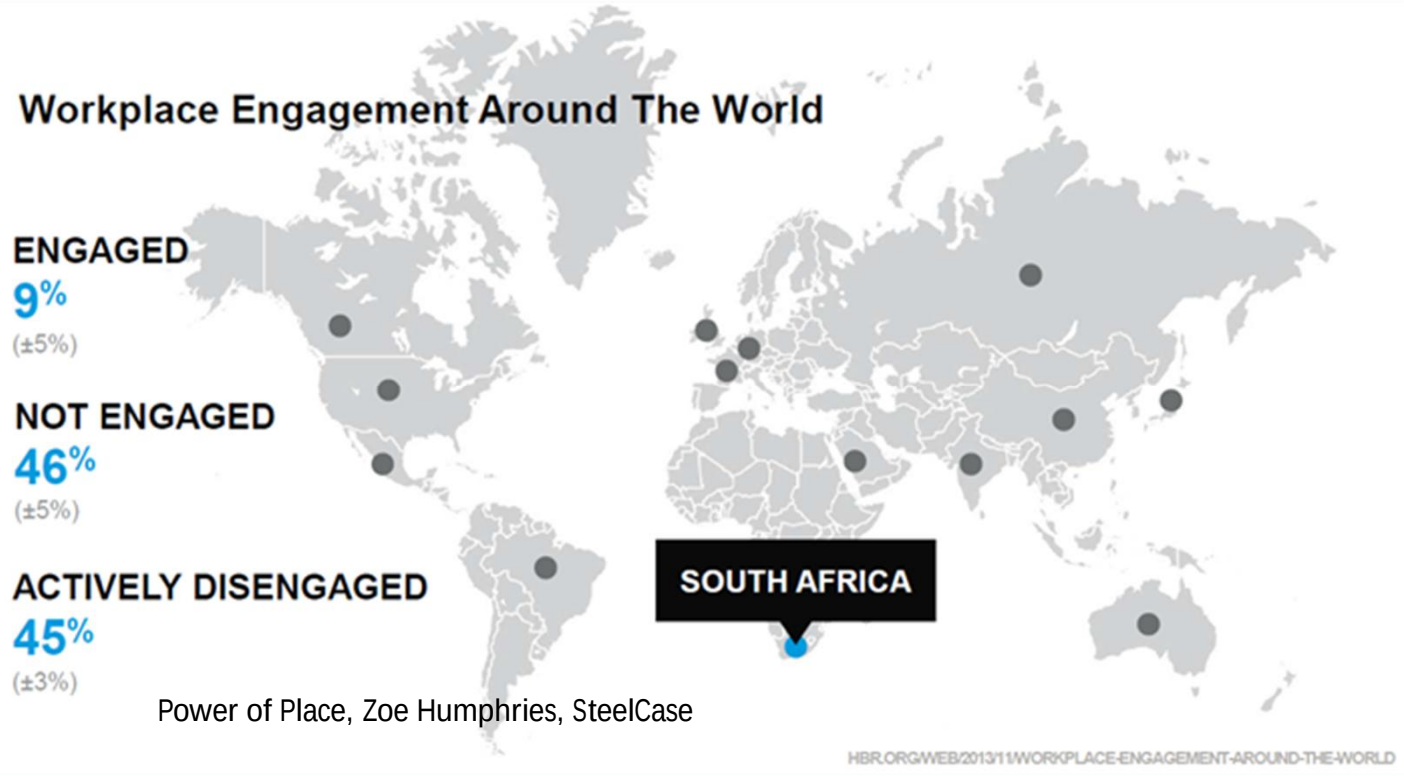
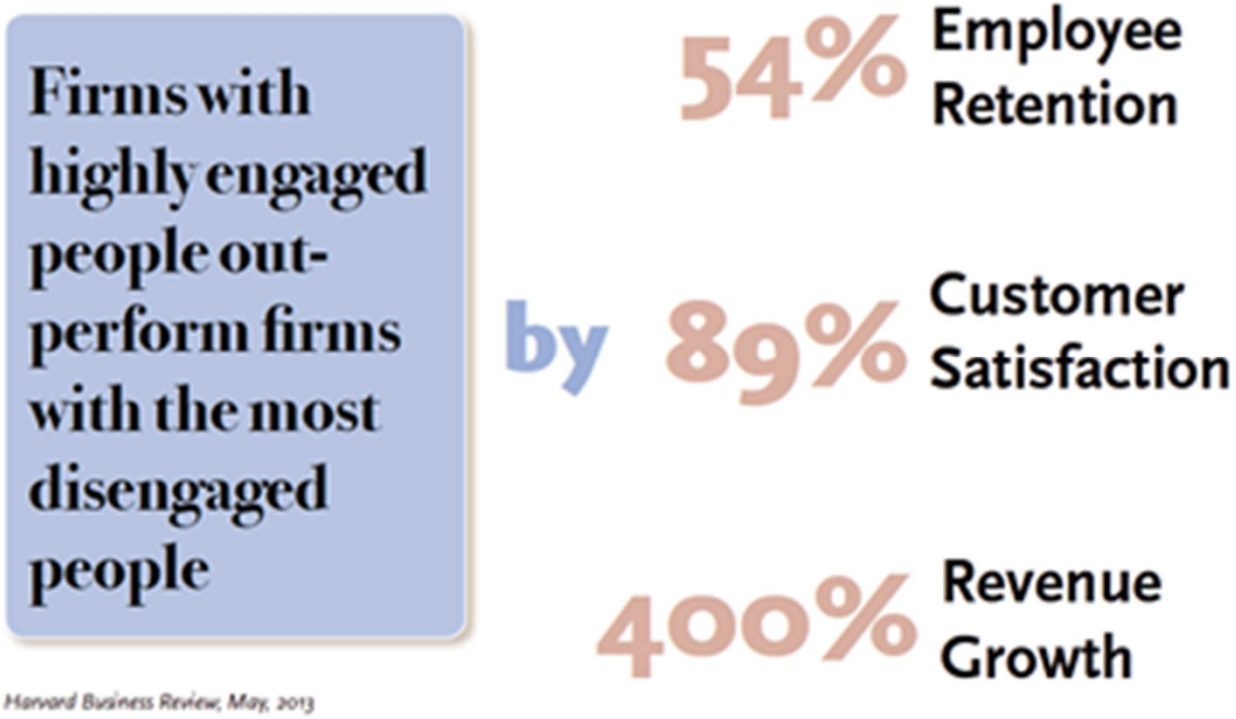
HAPPINESS + GOOD BUSINESS EXECUTION = EXCEPTIONAL RESULTS



Power of Place, Zoe Humphries, SteelCase

HAPPINESS+ GOOD BUSINESS EXECUTION = EXCEPTIONAL RESULTS HENRY

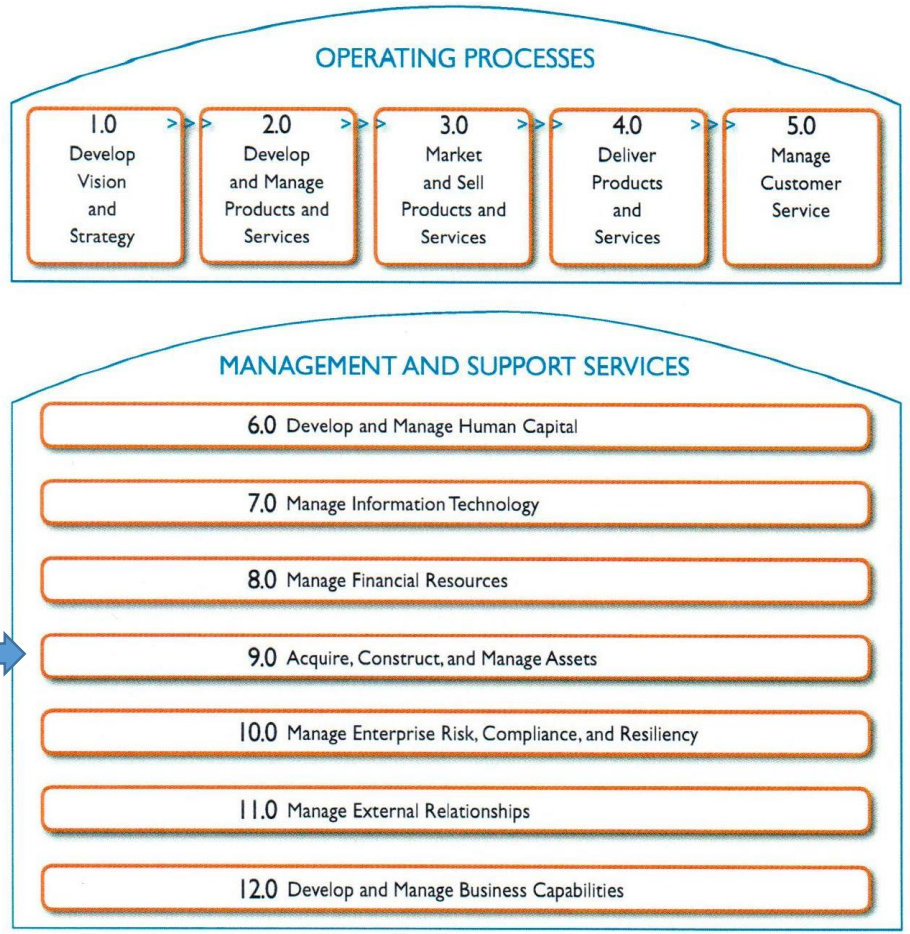


Lets put people first and buildings second, Peter Townshend, KnowMore

FM ELEVATION TO MAINSTREAM BUSINESS PROCESS

APQC'S BUSINESS PROCESS CLASSIFICATION FRAMEWORK

FM for the built-environment



APQC - American Productivity and Quality Centre's Process Classification Framework

DEFINING THE FM LANDSCAPE

FM STANDARDS

BRITISH (BSI) AND EUROPEAN UNION (EN) STANDARDS

Standard Reference	Standard title
BSI 8210:2012	Guide to Facilities Maintenance Management
BSI 8536:2010	Facility Management Briefing - Code of practice
EN 15221-1:2006	Facilities Management: terms and definitions
EN 15221-2:2006	Guidance on how to prepare facility management agreements
EN 15221-3:2011	Guidance on Quality in Facilities Management
EN 15221-4:2011	Taxonomy, Classification and Structures in Facilities Management
EN 15221-5:2011	Guidance on Facilities Management Processes
EN 15221-6	Area and Space Measurement in Facilities Management
EN 15221-7:2012	Guidelines for Performance Benchmarking in Facilities Management

INTERNATIONAL STANDARDS ORGANISATION (ISO) STANDARDS

Standard Reference	Standard title
ISO 41001:2018	Facility Management – Management System Standard
ISO 41011:2017	Facility Management – Vocabulary
ISO 41012:2017	Facility Management – Guidance on Strategic Sourcing and Development of Agreements
ISO 41013:2017	Facility Management – Key concepts, scope and benefits
ISO 41014:2020	Facility Management – Development of facility management strategy

SOUTH AFRICAN BUREAU OF STANDARDS (SABS) STANDARDS

Standard Reference	Standard title
SANS 1752	Strategic Facility Management Standard

MANAGEMENT SYSTEM STANDARDS APPLICABLE TO FM

Management system standards	No of standards
QUALITY MANAGEMENT SYSTEMS	23
ENVIRONMENTAL MANAGEMENT SYSTEMS	22
INFORMATION TECHNOLOGY: INFORMATION SECURITY MANAGEMENT SYSTEMS	10
DOCUMENT AND RECORDS MANAGEMENT SYSTEMS	4
FOOD MANAGEMENT SYSTEMS	4
SECURITY MANAGEMENT SYSTEMS FOR SUPPLY CHAIN	4
RISK MANAGEMENT SYSTEMS	3
DISASTER MANAGEMENT SYSTEMS	3
ENERGY MANAGEMENT SYSTEMS	2
OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEMS	2
ASSET MANAGEMENT	2
CONSTRUCTION MANAGEMENT SYSTEMS	1
WASTE MANAGEMENT SYSTEMS	1
BUSINESS CONTINUITY MANAGEMENT SYSTEMS	1
LAUNDRY MANAGEMENT	1

FM PROFESSIONALISATION

PROFESSIONALISATION

- South African Facilities Management Association is a SAQA Recognised Professional Body

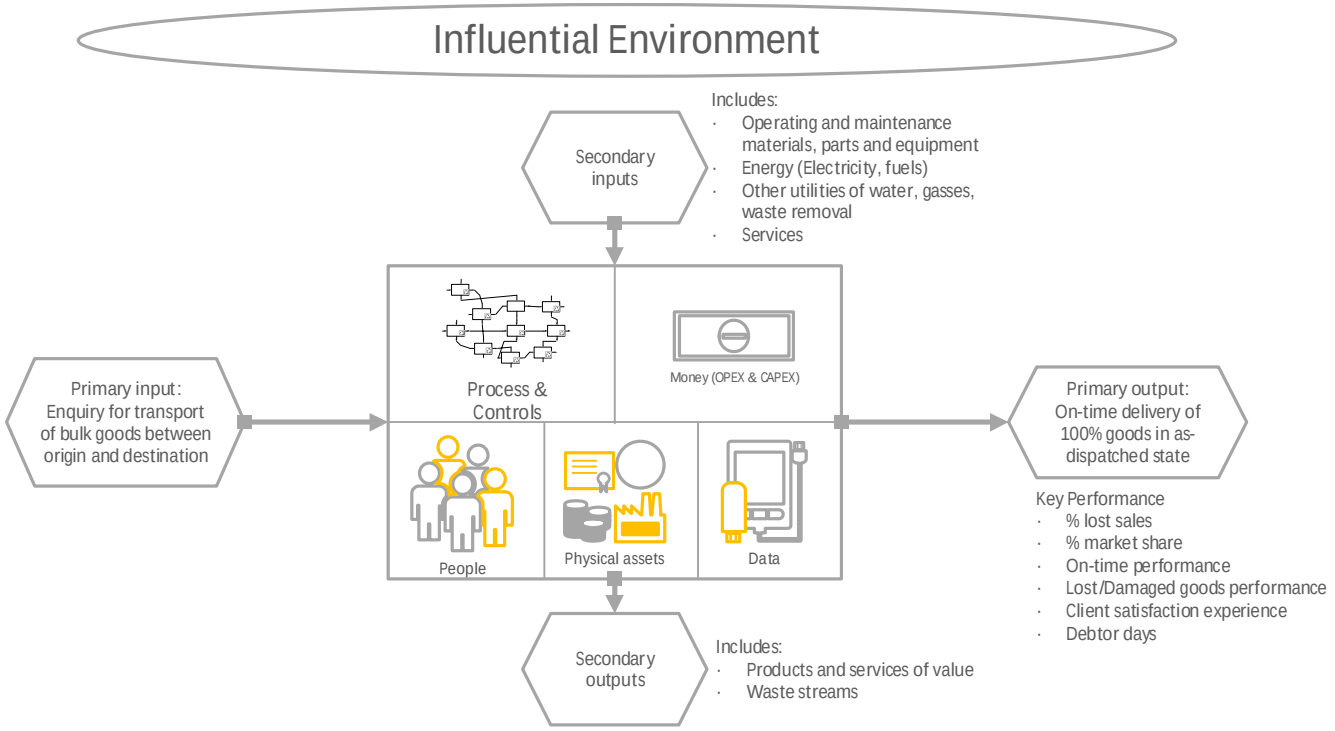
COMPREHENSIVE DEFINITION OF IFM

Hyperlink

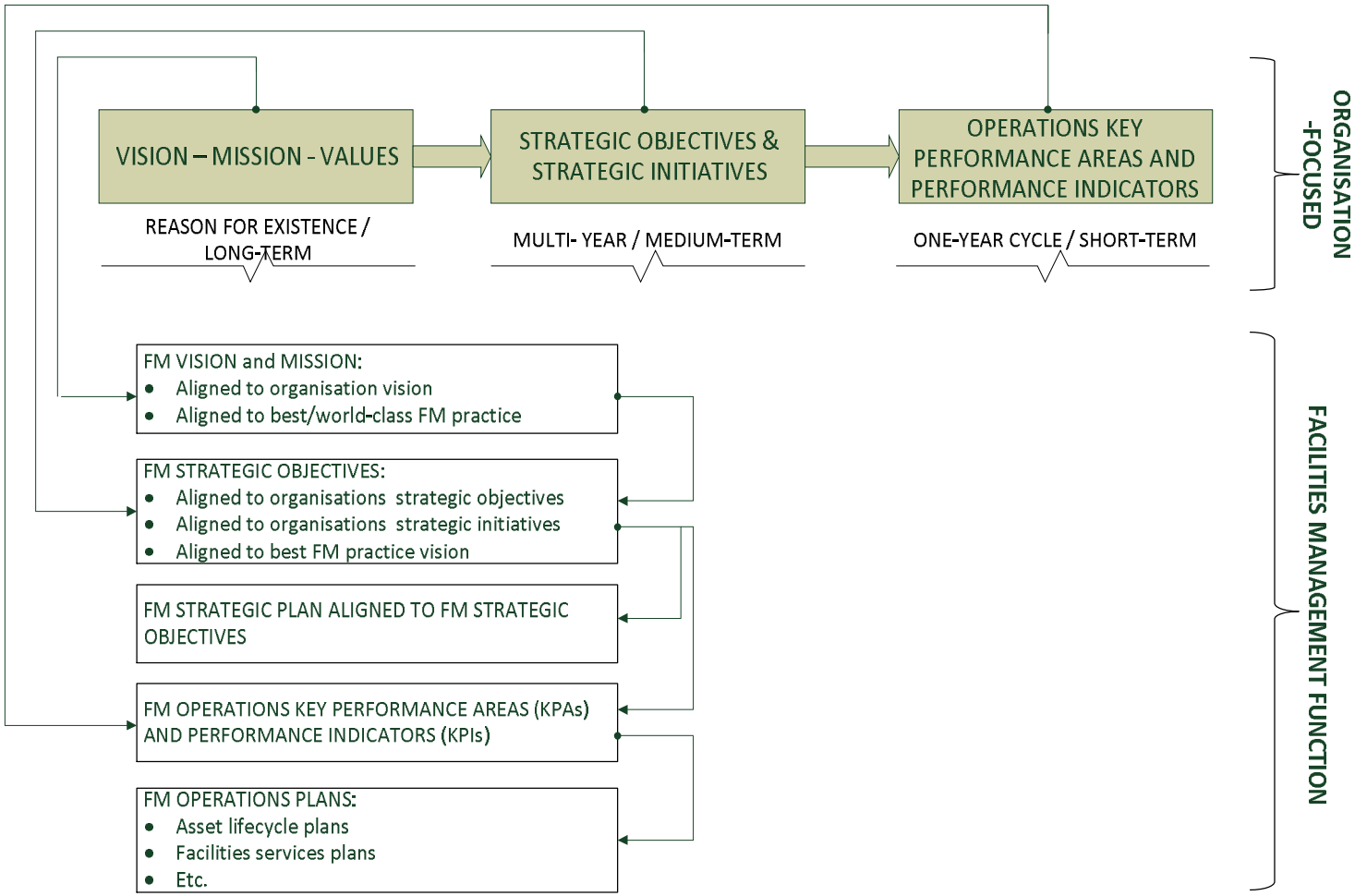
FACILITIES MANAGEMENT - MANAGEMENT SYSTEM

FACILITIES MANAGEMENT – MANAGEMENT SYSTEM (FM-MS)

FM-MS: FM STRATEGY – BASIC BUSINESS MODEL



FM-MS: FM STRATEGY



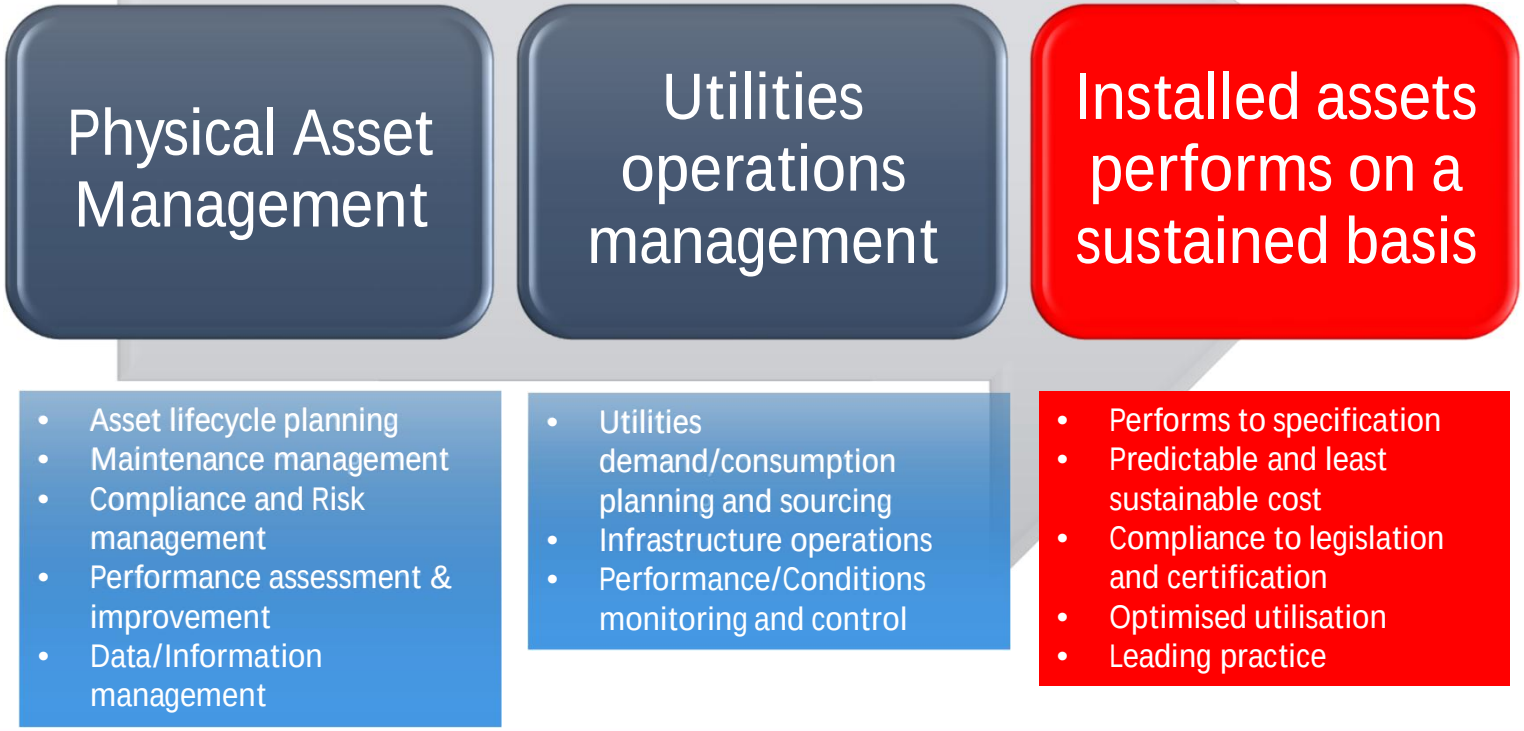
FACILITIES MANAGEMENT - MANAGEMENT SYSTEM

KEY PERFORMANCE AREAS AND ENABLING FACILITY SERVICES AND FACILITY MANAGEMENT SERVICES

KEY PERFORMANCE AREAS & ENABLING PROCESSES

KEY PERFORMANCE AREAS & ENABLING PROCESSES

KEY PERFORMANCE AREAS & ENABLING PROCESSES



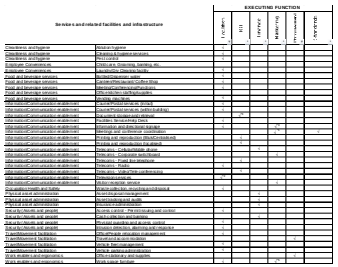
FM-MS: FM STRATEGY

High-performance Facilities services

Health, Safety, Security & Environment

Integrative FM

Desirable place to work and be serviced



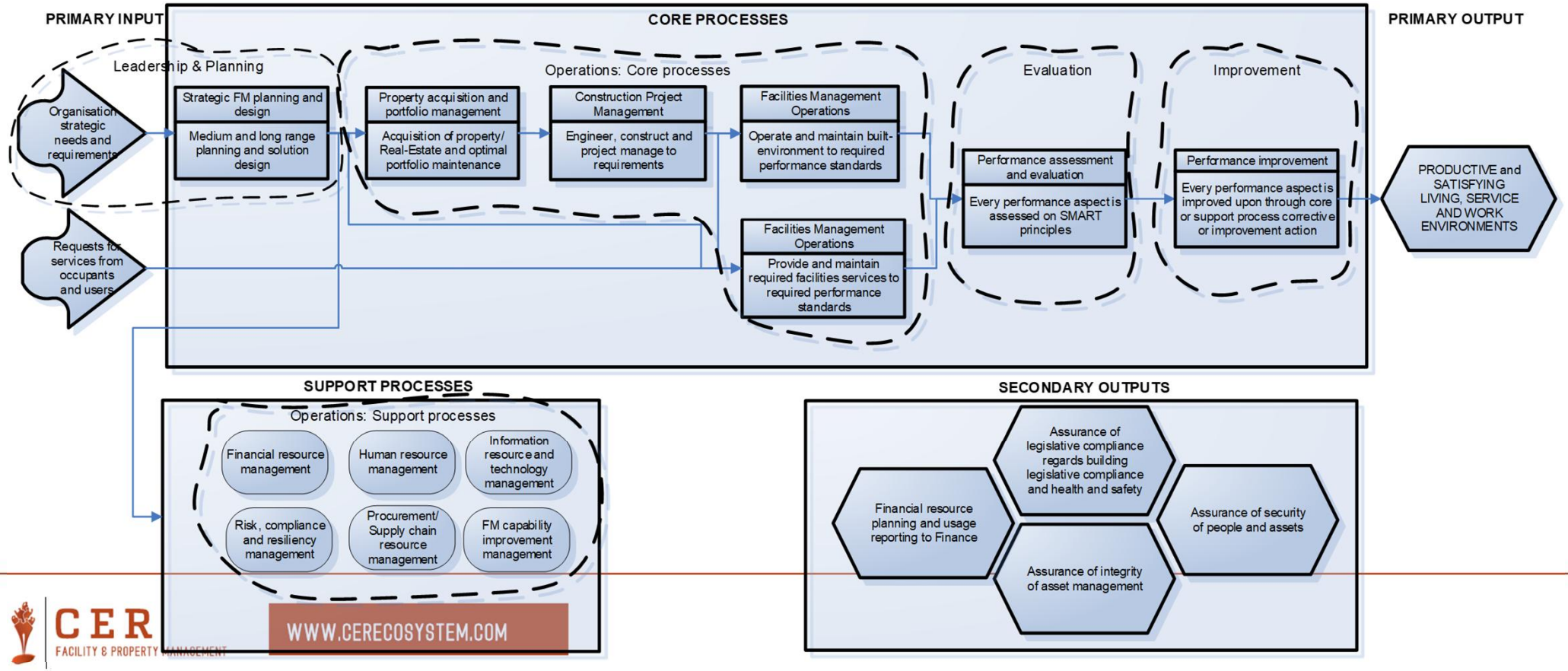
- Occupational safety
- Occupational Health
- Security
- Environmental Management
- Emergency response management

- Operations planning and coordination
- Contact, monitoring & response centre
- Continuous improvement

Desirable regards:

- Enables productive work
- Safe
- Secure
- Supports personal health and wellbeing
- Leading edge environment

KEY PERFORMANCE AREAS & ENABLING PROCESSES



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FACILITY & PROPERTY MANAGEMENT

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FACILITIES MANAGEMENT - MANAGEMENT SYSTEM

KEY PERFORMANCE AREAS AND ENABLING FACILITY SERVICES AND FACILITY MANAGEMENT SERVICES

HYPERLINK TO MAINTENANCE MANAGEMENT PROCESS

FACILITIES MANAGEMENT - MANAGEMENT SYSTEM

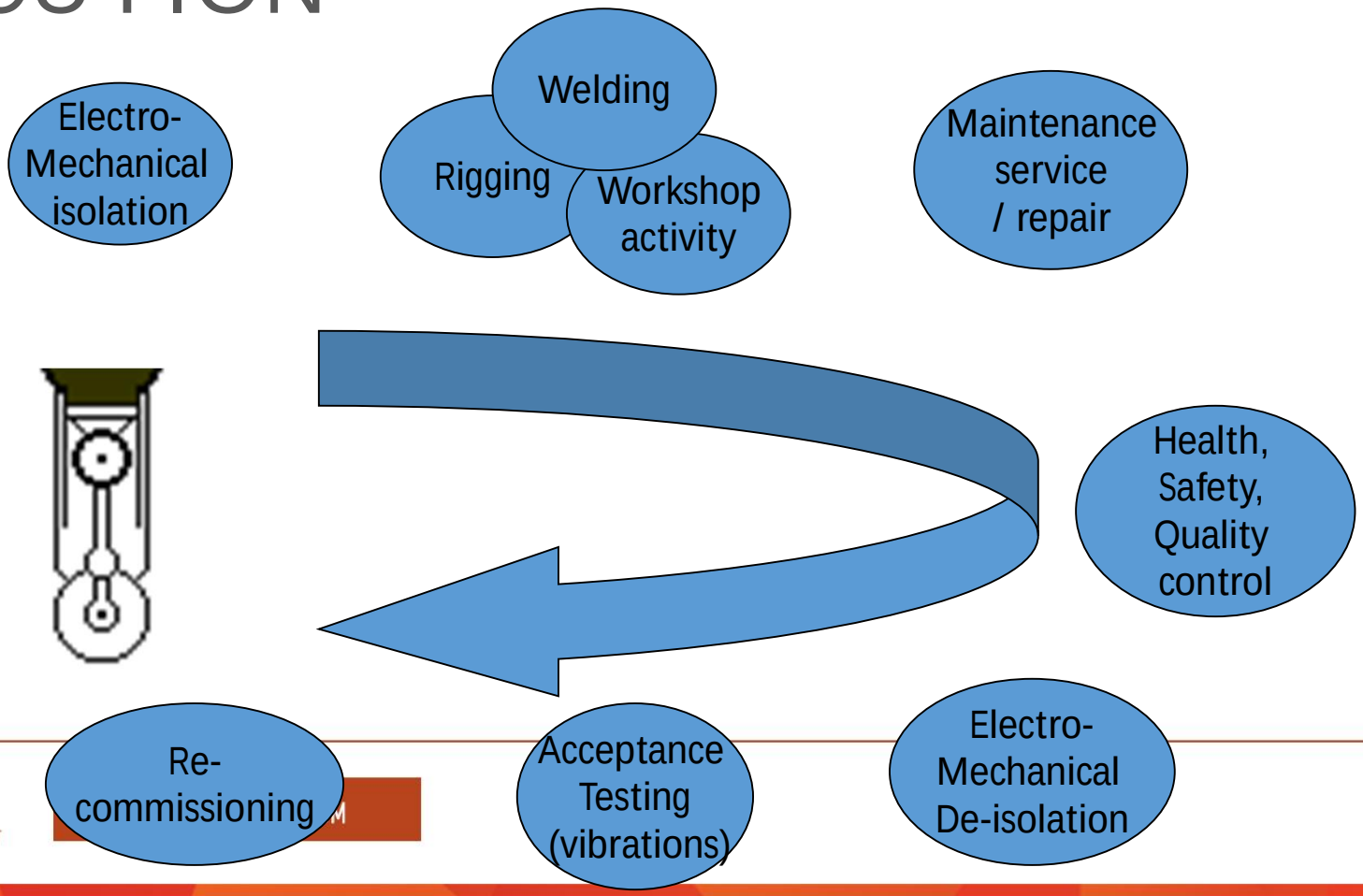
SOURCING STRATEGY –

INSOURCING / OUTSOURCING OF FM SERVICES

SOURCING STRATEGY - PREFERENCE SCORING

Criteria Exp	Weight (%)	Score			
		1	3	6	10
Risk to service continuity when outsourced	25%	Low	Moderate	High	Very high
Competitive market related service quality when in-sourced	25%	Poor	Moderate	Good	Very Good
Effort and investment to establish the capability to in-source	20%	Very High	High	Moderate	Low
Regularity of service	10%	Infrequent	Regular Routine	Daily	-
Labour and supervisory resource intense	10%	Very High	High	Moderate	Low
Cost benefit when outsourced	10%	Very High	High	Moderate	Low

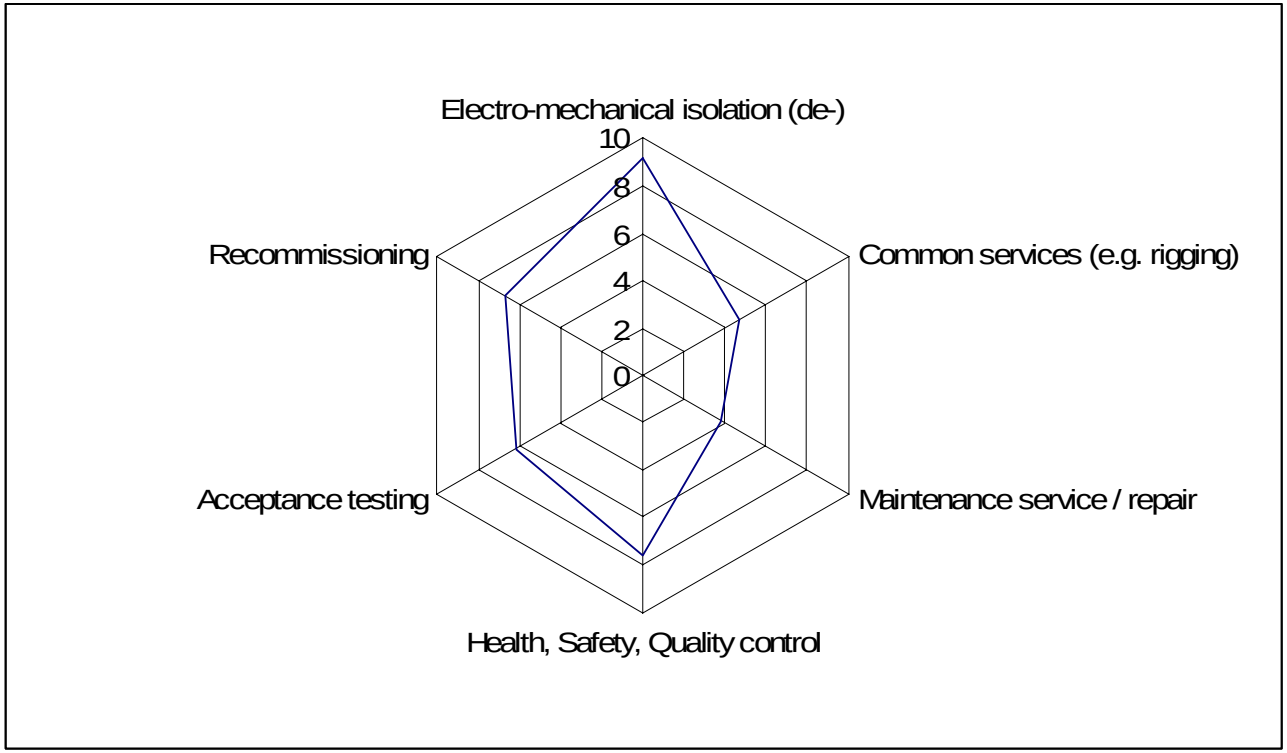
CLASSICAL MAINTENANCE ACTIVITY EXECUTION



SOURCING STRATEGY – CLASSICAL MAINTENANCE EXECUTION

	IN-SOURCE / OUTSOURCE PREFERENCE SCORING						
	Risk to service continuity when outsourced	Competitive market related service quality when in-sourced	Effort and investment to establish the capability to in-source	Regularity of service	Labour and supervisory resource intense	Cost benefit when outsourced	Overall score
Electro-mechanical isolation (de-)	9	10	9	10	6	10	9
Common services (e.g. rigging)	7	3	2	10	3	5	5
Maintenance service / repair	5	3	2	10	1	3	4
Health, Safety, Quality control	9	9	9	10	2	1	8
Acceptance testing	7	3	10	10	3	4	6
Recommissioning	9	3	10	10	3	4	7

SOURCING STRATEGY – CLASSICAL MAINTENANCE EXECUTION

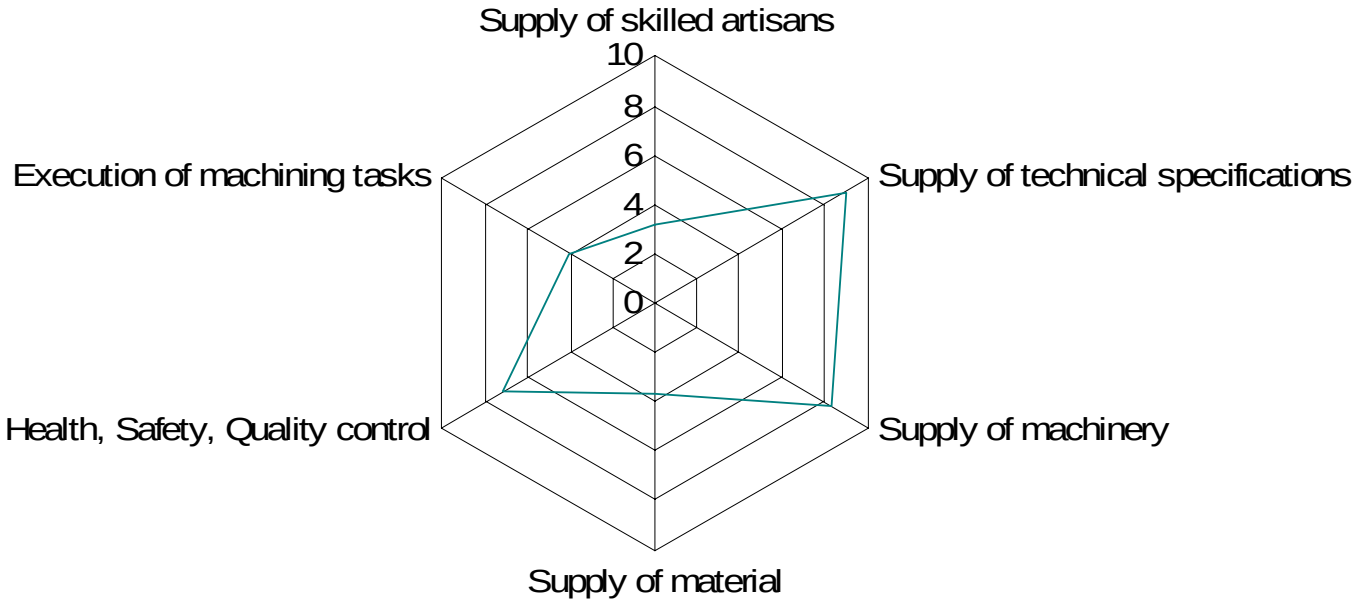


1 – 4, Outsource	5 – 7, Combination	8-10, In-source

SOURCING STRATEGY – CLASSICAL MAINTENANCE EXECUTION – WORKSHOP MACHINING

	IN-SOURCE / OUTSOURCE PREFERENCE SCORING						
	Risk to service continuity when outsourced	Competitive market related service quality when in-sourced	Effort and investment to establish the capability to in-source	Regularity of service	Labour and supervisory resource intense	Cost benefit when outsourced	Overall score
Supply of skilled artisans	3	3	2	3	6	4	3
Supply of technical specifications	8	10	10	4	10	10	9
Supply of machinery	10	10	1	10	10	10	8
Supply of material	3	3	2	10	4	4	4
Health, Safety, Quality control	6	10	9	10	2	1	7
Execution of machining tasks	3	3	4	10	3	4	4

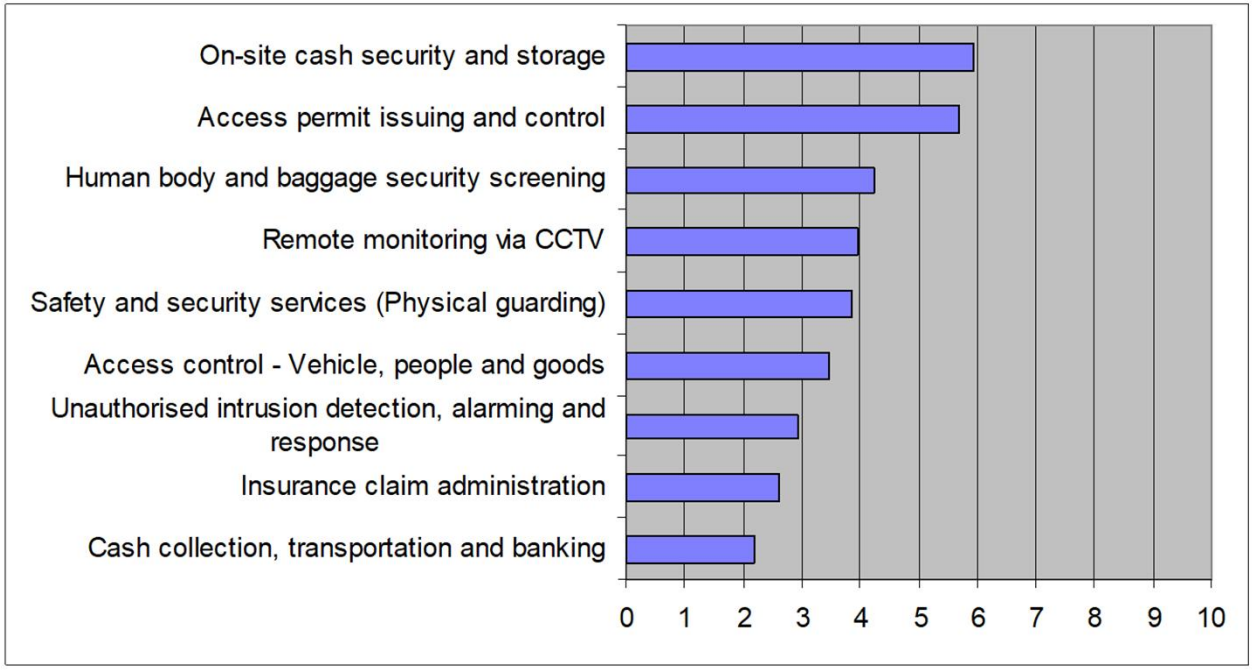
SOURCING STRATEGY – CLASSICAL MAINTENANCE EXECUTION – WORKSHOP MACHINING



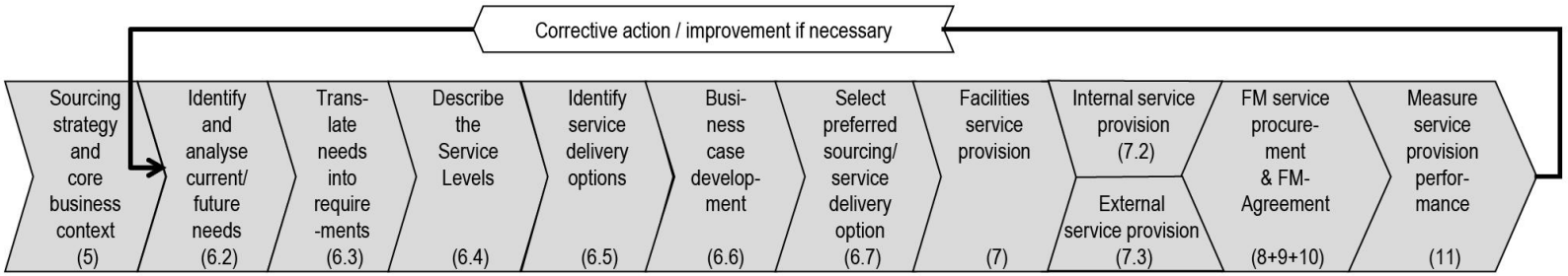
1 – 4, Outsource	5 – 7, Combination	8-10, In-source

SOURCING STRATEGY DECISION

Sourcing strategy – Safety and security services



SOURCING AND CONTRACT MANAGEMENT



Understand business context and strategies

Align service strategies to business strategy including environ-mental, social responsi-bilities, legal, economic, and political issues

Identify current and future facility needs and expect-ations of the demand organi-zation

Determine what needs to be delivered, where and how often

Define strategic goals to be achieved (cost, quality, etc)

Specify criteria and parameters

Identify expected measurable output (quality levels)

Define perfor-mance indicators and targets for each service

Market research

Determine cost and risk baseline

Establish business case

Financial issues

Define Investment strategy

Estimate costs

Pricing strategy

Risk analysis

Organi-zation needs

Select and recommend preferred sourcing alternative

Implement recommendation

a) inhouse (define required competence level, allocate resources, organise)

b) outsource (negotiate, sign agreement)

Develop service level agreement (SLA)

Develop overall FM service provision agreements

Incorporate required contract clauses

Document performance criteria

Execute FM agreement

Follow-up, monitor and verify service provider deliveries

Data collection and report on facility services to buyer organization

Compare delivery to service requirements

Identify and implement corrective actions

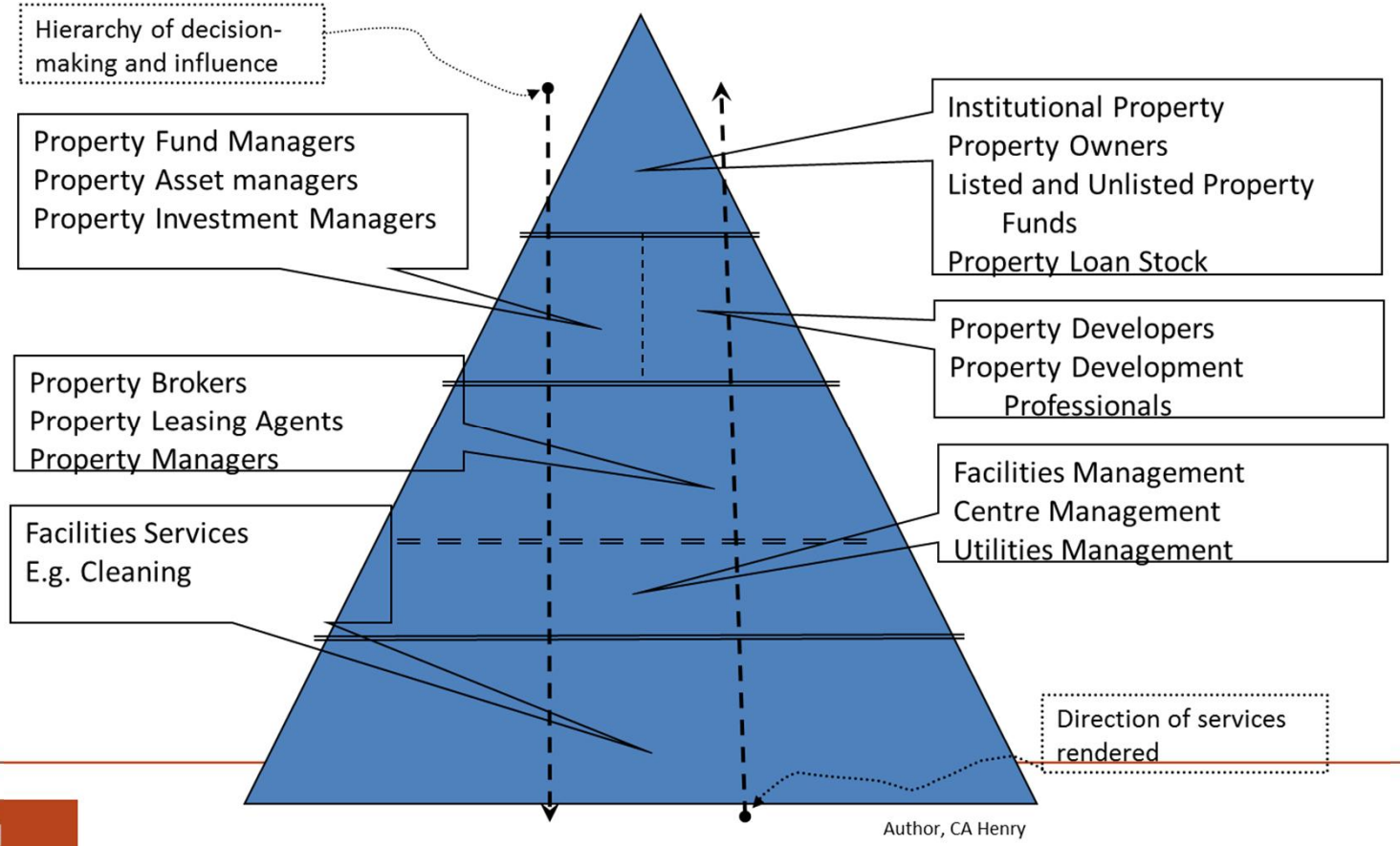
(ISO 41012:2017)

FACILITIES MANAGEMENT - MANAGEMENT SYSTEM

ORGANISATION AND RESOURCING

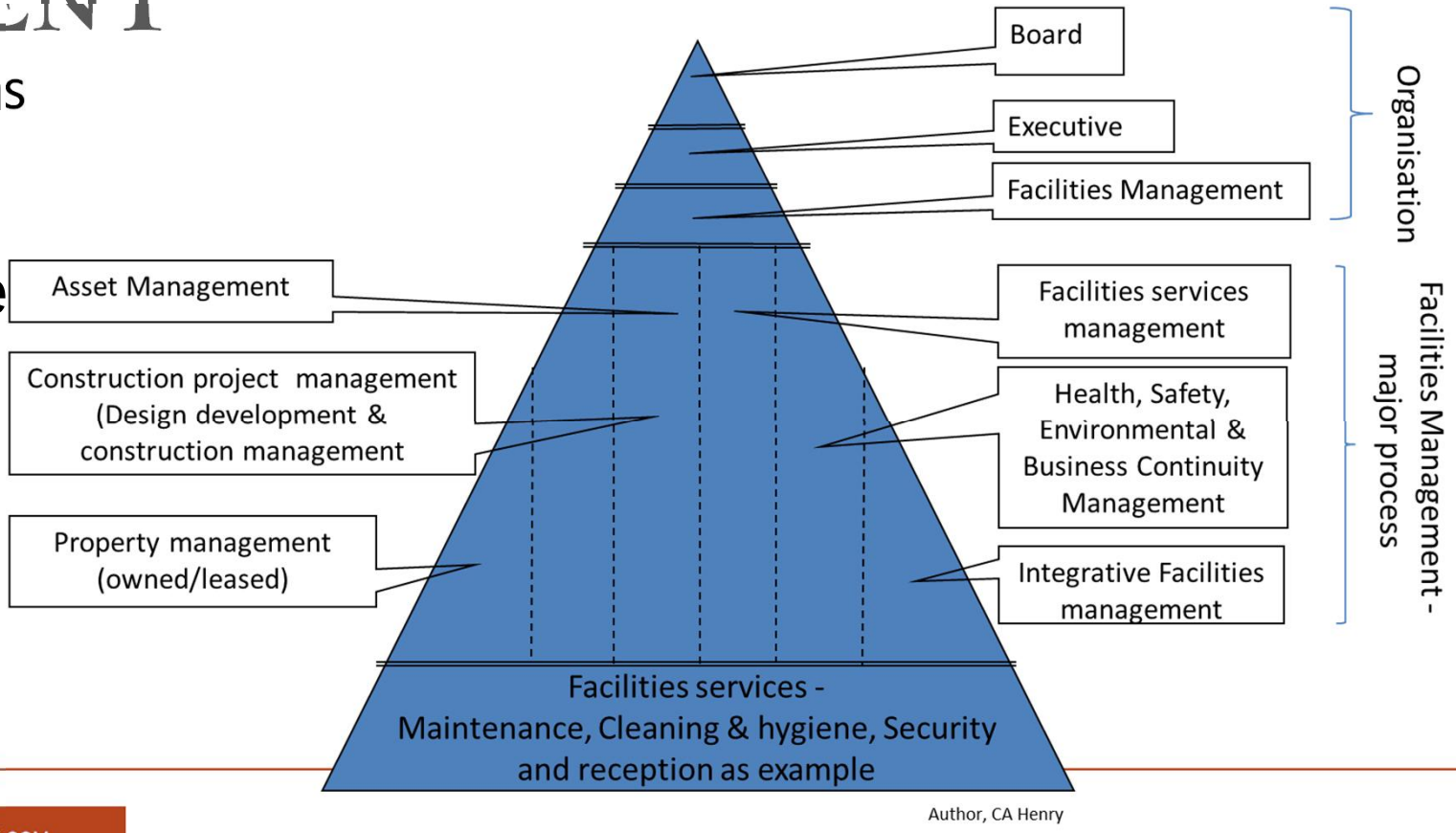
PERSPECTIVE: B-E FOR PROFIT

- Where organisations acquires Built-Environment (B-E) assets as a means to generating profits and investment returns as the primary reason, then property management, development and construction, facilities management are typically organised under separate units

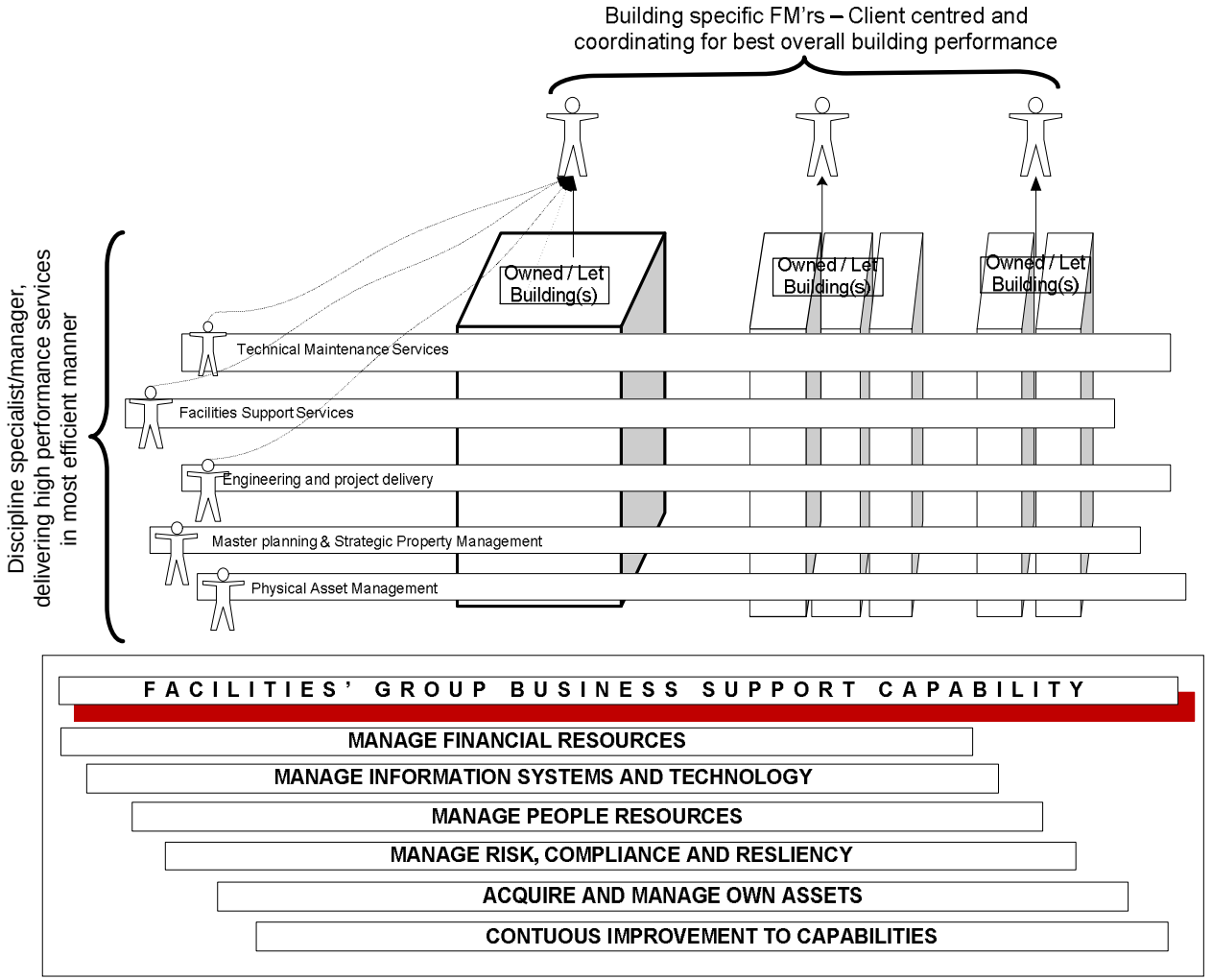


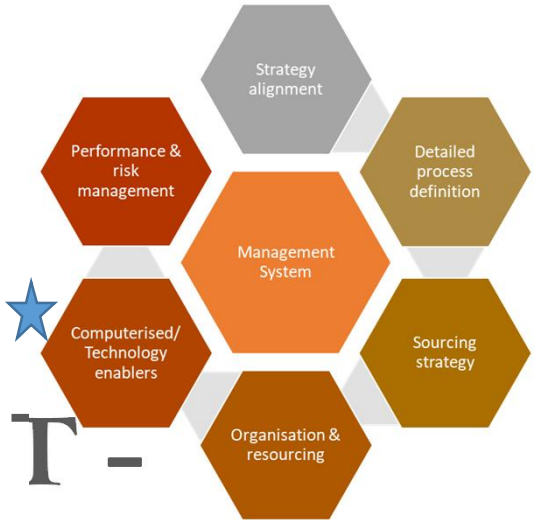
PERSPECTIVE: B-E FOR BUSINESS ENABLEMENT

- Where organisations acquires Built-Environment (B-E) assets as a resource to enable the organisation's primary business, then FM is typically viewed in the most comprehensive manner



ORGANISATION AND PEOPLE





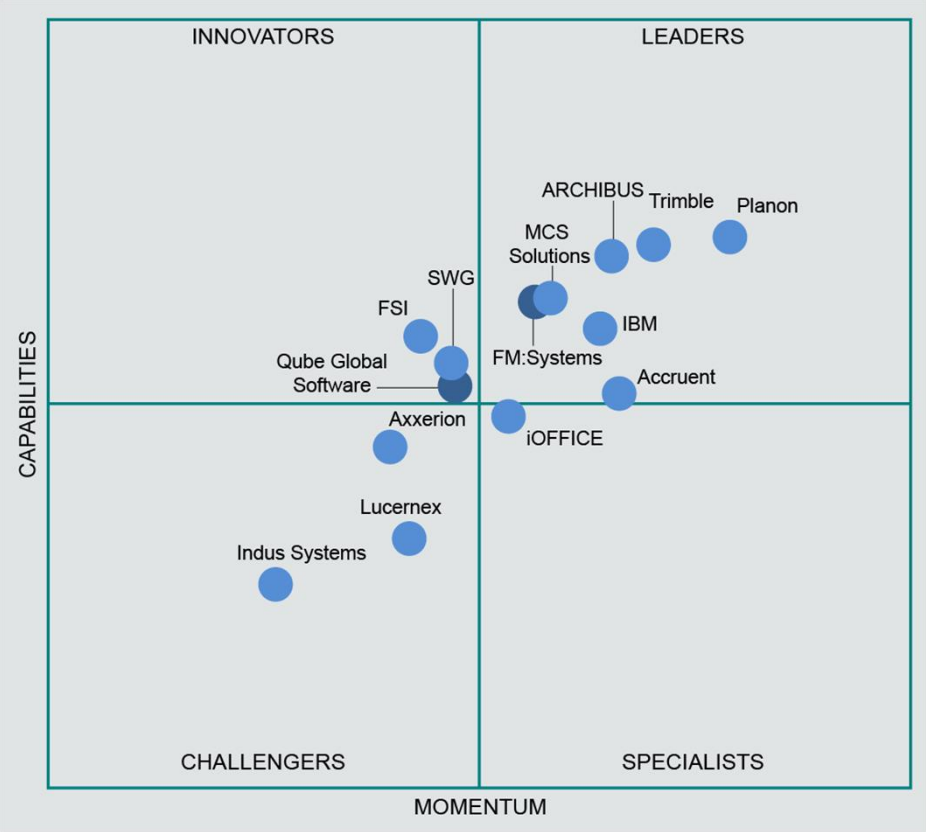
FACILITIES MANAGEMENT - MANAGEMENT SYSTEM

TECHNOLOGY ENABLERS

OVERVIEW OF TECHNOLOGIES

Technology	Integrated facility Management Processes						
	Planning	Design and construction	Legal and other compliance	Facility operating performance	Facility Maintenance	Facility services delivery	Performance analytics and decision-support
Computerised Facility Management System (CAFM)	X	X	X	X	X	X	X
Computer-Aided Design (CAD)		X					
Building Information Modelling (BIM)		X			X	X	
Geographic Information Systems (GIS)	X	X		X	X	X	X
Building Automation & Control Systems (BMS)				X	X	X	
Workflow Automation Systems			X	X	X	X	
Radio Frequency Identification & Detection (RFID)						X	X
Security access control and other risk control systems						X	

COMPUTERISED IFM SYSTEMS

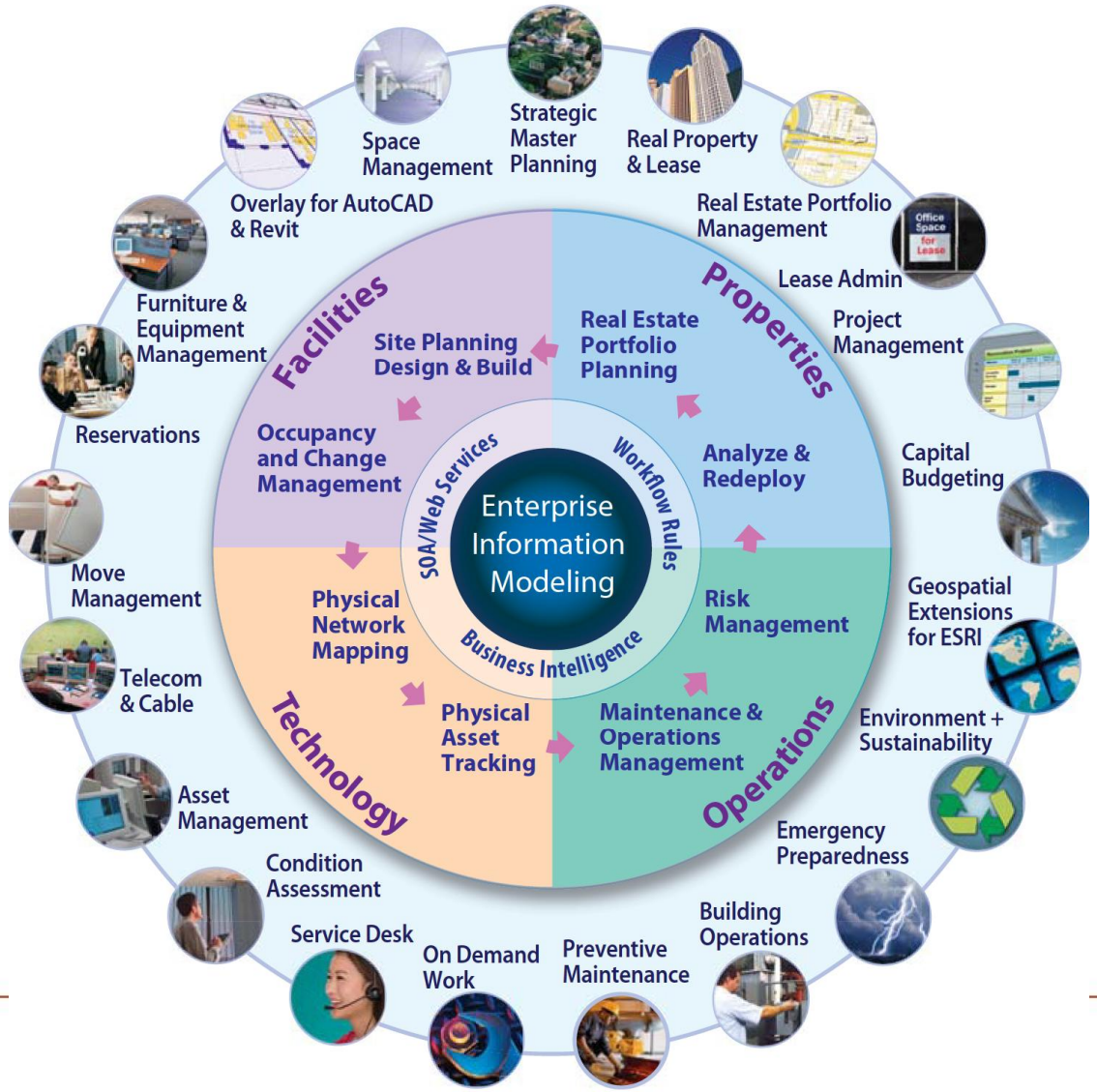


Source: Verdantix Green Quadrant IWMS Solutions 2017

ARCHIBUS deployment in SA Tertiary Education

	ARCHIBUS MODULES IN-USE										
Education entity	Asset portal	AutoCAD Overlay	Capital Budgeting	Preventive Management	On Demand Work and Service Desk	Project Management	Property Portfolio	Space Management	Strategic Master Planning	Fleet management	Higher Education Management Information
Cape Peninsula University of Technology								X			
Central University of Technology				X	X			X			
Rhodes University	X	X	X	X	X	X		X		X	
Department of Basic Education									X		
UNISA				X	X			X		X	
University of Cape Town		X						X			X
University of Johannesburg	X		X	X	X	X		X		X	
University of Kwazulu-Natal			X	X	X	X		X			
University of Mpumalanga	X	X	X	X	X	X		X		X	X
University of the Free State		X					X	X			X
University of Witwatersrand	X			X	X			X			
Organisations using the module	36%	36%	36%	64%	64%	36%	9%	91%	9%	36%	27%

ARCHIBUS MAPPING APPLICATIONS / MODULES



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