



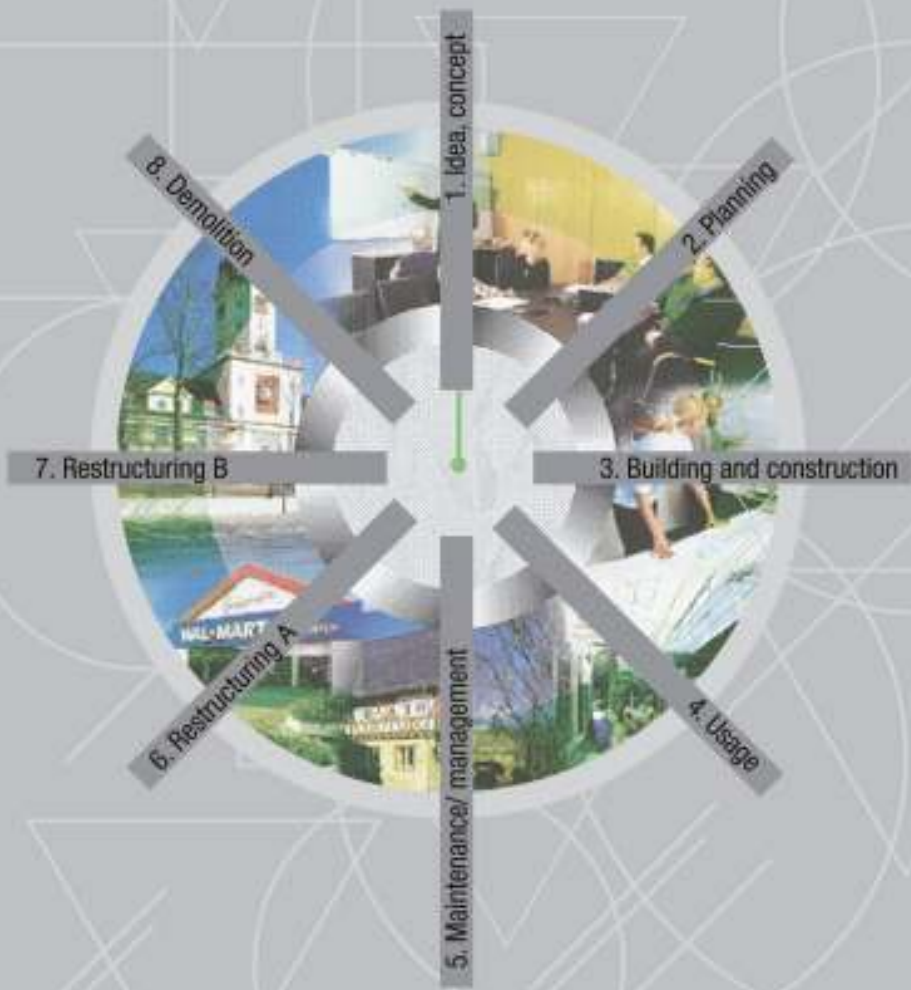
N E W T H I N K I N G

F A C I L I T Y M A N A G E M E N T

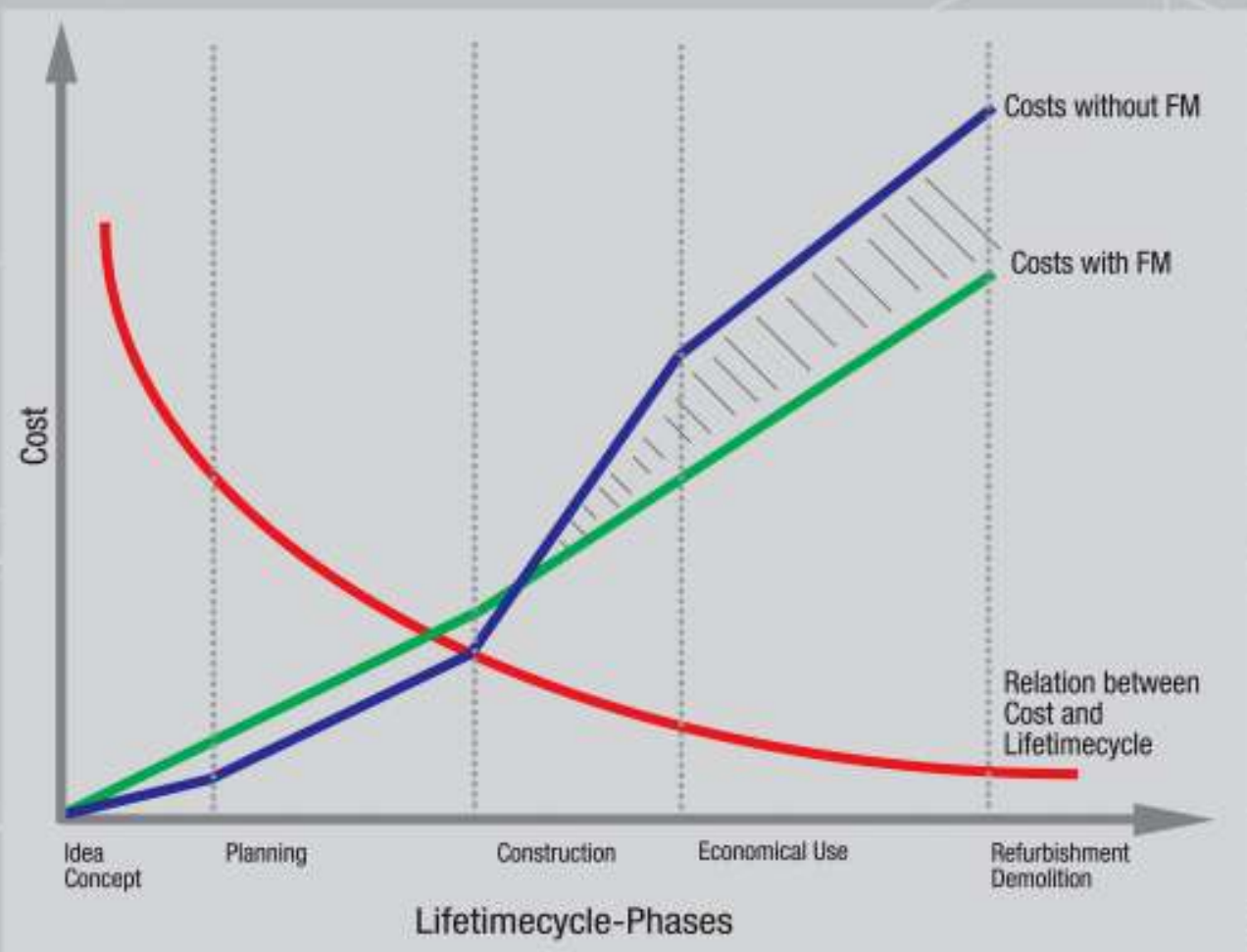


FACILITY MANAGEMENT

When using and maintaining the economic facilities the companies apply the so-called "management of facilities" (ensuring of their good condition). The methods of the management of buildings and facilities or the so-called **Facility Management** are applied. The purpose of the Facility Management is economic optimization and cost reduction in the process of creation, construction and usage of any given building throughout its whole life cycle of approximately 25 years:



Based on the fact that the share of the technical installations in any administrative building, hospital, etc. is between 20 and 50 %, and the consequent expenses (operational expenses) have an increasing trend, then without applying the Facility Management for their optimization, these operational expenses shall increase up to intolerable amounts. According to the Facility Management Manual (FM) of the State Building and Construction Management of Niedersachsen, the expenses for the management and the maintenance of the buildings (the expenses for cleaning, electricity and maintenance) represent the biggest share in the expenses for their usage. The usage expenses for any building already exceed the expenses for its building and construction only after 7-10 years (8,5 years on average). Or, in other words, during the lifecycle of the building the expenses for its building and construction have to be produced **4 times**. This means **1 time for its construction and 3 times – for its management (usage)**.



With the help of the Facility Management durable results can be achieved, if the latter is applied and exercised from the very beginning – the planning phase and throughout the whole lifecycle of the building. The illustration on page 1 shows the eight phases of the life cycle of any given building – from **1. Idea/ concept to 8. Demolition**.

The following drawing (page 2) shows the cost effectiveness in the cases of early application of the Facility Management.

The question on how could any given building be used, both economically and functionally, emerges before any facility user. The basic idea of that is the planned maintaining of the good condition by means of Facility Management application. In accordance with DIN 32736 Facility Management has the following objectives:

1. ensuring the functional quality and defined productivity of the installed equipment;
2. high availability;
3. long exploitation life and maintenance of the price;
4. low electricity costs;
5. employee and material profitableness;
6. documentation, control and elimination of the weak points;
7. preservation of the environment (environmentally-friendly materials, low emissions, separate waste collection).

An inseparable part of the steps towards the achievement of these objectives is the planned maintenance of the facility equipment.



DIN 32736 defines the Facility Management (FM) in the following way:

| Facility Management | | |
|--|--|--|
| Technical Management | Commercial Management | Infrastructural Management |
| <ul style="list-style-type: none"> - Building Management - Operation of Facilities - Repair of Building Facilities and Equipment: Inspection, Maintenance, Repair - Warranty Management - Commissioning Equipment - Installing Equipment - Operating Equipment - Emergency Service - On-call 24 hour Service - Energy Optimization - Optimizing Equipment - Documenting Maintenance Actions - Modernization and Conversion - Renovation & Overhaul - Alterations & Reconstruction - Utility Services - Waste Disposal | <ul style="list-style-type: none"> - Project/Object Management - Managing Incidental - Building Costs - Real Estate Advice - Budget Preparation and Management - Bookkeeping - Rental Management and Collection - Leasing of Facilities - Communication / Liaison with Tenants and owners - Cost Planning & Control - Space Utilization / Management - Management of Subcontractors - Logistics and Procurement Support | <ul style="list-style-type: none"> - Cleaning Services - Security Services - Gardening Services & Plant Care - Custodial Services - Data Processing Services - Internal Post Services - Copying & printing - Parking Facility Management - Moving & Renovation - Commodities & Logistics - Winter Services - Central Telecommunication Services - Catering - Logistic Services - Other Services |

Details of the different services are stated in DIN 32736.

In the three columns under Facility Management (page 3) the different services are presented and described in detail on 8 pages, in DIN 32736:

1. Technical Facility Management

2. Infrastructural Facility Management

3. Commercial Facility Management



Upon the acceptance of any given Facility Management program the necessary maintenance services may be chosen for each building (project). From the point of view of the technical management it is desirable that all the necessary and suitable services for the respective building are carried out **"from one hand"** i.e. by one contractor or sub-contractor. As the Facility Management is developed as a system of construction cubes, it may be managed very flexibly and the different parties – developer/ investor and FM executive, may freely decide on which of the services each of them might or wishes to take up. For this purpose, however, the cross points between the services that are carried out by the other party need to be defined and documented. Generally, all kinds of combinations are possible.

Strictly defined are terms as lists of spare parts; maintenance; operation of the machines that constitute the basics of the Facility Management of the equipment. These terms are defined in accordance with DIN STANDARDS of the **Federal Republic of Germany** and/ or the **EUROPEAN UNION**.

Below are the determinant NORMS:

DIN 24 420 List of spare parts

DIN 31 051 Basics of the maintenance of the good condition

DIN 31 052 Maintenance of the good condition.

Contents and arrangement of the maintenance manuals

DIN ENV 13 269 Maintenance of the good condition.

Instructions for preparation of maintenance contracts.

DIN EN 13 306 Maintenance concepts (Version in three languages)

DIN EN 13 460 Maintenance documents

These are the determinant basics of the facility management.

The basics of the maintenance in accordance with DIN 31 051 may be presented in the following way:



Facility maintenance in accordance with the requirements for the quality of the management of facilities DIN 31051

Maintenance 4.1.1

A combination of all technical and administrative measures as well as management measures during the lifecycle of each unit, necessary for the preservation of its functional condition or for the restoration of the latter, so that it will be fit to serve its required function.

Maintenance 4.1.2

Measures for slowing down the amortization.

Inspection 4.1.3

Measures for assessment and evaluation of the current condition of the unit considered.

Setting in a good working condition 4.1.4

Measures for the restoration of any unit in a condition fit for work, excluding any improvements (4.1.5.)

Improvement 4.1.5

A combination of all technical and administrative managerial measures aiming to improve the functional safety of one unit, without changing the desired function.

Repairs

Physical measures which are applied with the object of restoration of the required function of any defective unit.

In accordance with DIN 31 051 in its current version, the maintenance consists of three basic measures: "maintenance", "inspection" and "setting in a good working condition". The new edition has added the "improvement" as a fourth basic measure. I.e. we already have at hand not only German standard, but also European harmonization.

The term maintenance under DIN EN 13 306 shows us that this standard has already been accepted and published in three European languages. This is the European way and this is the way we have to follow. It may be said that the norms of the German standard represent the "recognized rules of the techniques". This is how the basic terms of the Facility Management are explained.

The intensity with which the maintenance is carried out depends on what requirements are set concerning the technique as well as on their complication level. The basic construction elements of the planned maintenance of equipment, systems and technical installation within the technical equipment of the building are the **maintenance programs in accordance with VDMA 24 186.**



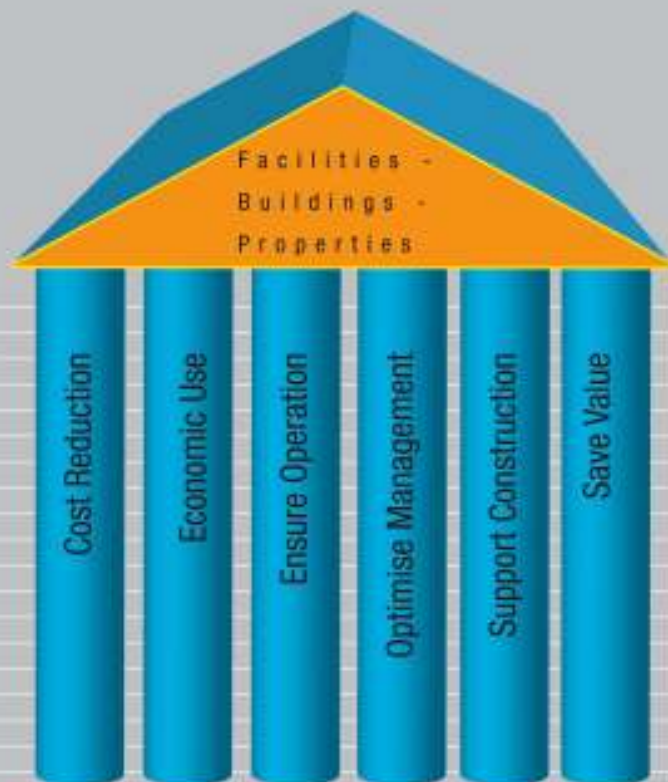
As their complexity may no longer be maintained without administration, based on the electronic technologies, which must be structured in a logical and convenient for electronic processing manner, a numbering system, which is presented in VDMA 24 186 – 0, is necessary. All programs for execution of VDMA 24186 are listed here. Individually they are as follows:

- VDMA 24186 – 0 Review and Division, numerical system
General instructions for use
- VDMA 24186 – 1 Pneumatic technical appliances and equipment
- VDMA 24186 – 2 Thermo-technical appliances and equipment
- VDMA 24186 – 3 Cooling technical appliances and equipment
for cooling and heating purposes
- VDMA 24186 – 4 MRS – Equipment and systems for
facility automation
- VDMA 24186 – 5 Electro- technical appliances and equipment
- VDMA 24186 – 6 Sanitary technical appliances and equipment
- VDMA 24186 – 7 Fire precautionary appliances and equipment
- VDMA 24243 - Reduction of the emissions of the cooling
means of the cooling equipment



RESULTS & BENEFITS OF FACILITY MANAGEMENT

This is just a short review of the term Facility Management, the techniques and systems related to it as well as of the different programs for execution. We hope that this also gives an idea about the **objectives** and the abilities of the **Facility Management**. In conclusion, below is a drawing, which illustrates this.





Facility
Management
Services

Construction Planning

Construction and Renovation

Building Services Engineering

Facility Management

Public Private Partnership



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German Facility Management Association

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The following were used as resources:

Boit Publishing House - DIN pocket manual 255

Building and Construction Management Manual by Nderzachsen Facility Management (FM)

F O R N E W D I M E N S I O N S