



**«The use of FM standards in education and research»
«L'utilisation des normes de FM dans l'éducation et la recherche»**

Some experiences from presenting/applying the CEN FM Standards in education and research in Norway

NTNU

Norwegian University of Science and Technology

2 years full time Master Program

3 years part time/post graduate Master Program

HiOA

Oslo and Akershus University College of Applied Sciences

3 years Bachelor in Facility and Service Management

Some standards are more focused ... :

EN 15221-1 "Terms and definitions"

EN 15221-2 "Guidance on how to prepare Facility Management agreements"

These two translated to Norwegian 2006

EN 15221-3 "Guidance how to achieve/ensure quality in Facility Management"

EN 15221-4 "Taxonomy of Facility Management - Classification and Structures"

EN 15221-5 "Guidance on the development and improvement of processes"

EN 15221-6 "Area and space measurement"

EN 15221-7 "Performance Benchmarking"

Different ways of presenting/applying ...
... and the scope varies. - Some examples :

NTNU (Master)

FM standards presented/introduced mainly associated with different aspects of FM quality issues on strategic and tactical level (FM strategy development, organizing, sourcing, FS procurement etc)

Also integrated in project assignments

NS-EN 15221-1 and NS-EN 15221-2 are compulsory curriculum in NTNU FM Master programs

HiOA (Bachelor ...)

Lectures in NS-EN 15221-1 and NS-EN 15221-2
Aims at presenting the full scope of FM and create an understanding of the different professional aspects of demand and supply

In addition presented/integrated in general Facility Management lectures and lectures in Quality Management/Service Level Agreements

Integrated in assignments

NS-EN 15221-1 and NS-EN 15221-2 are compulsory curriculum

Some encountered challenges

E.g.:

... in interpretations of terms

... in basic understanding

...

And a lot of very positive experiences

E.g.:

... in logics

... in explanations of professional issues

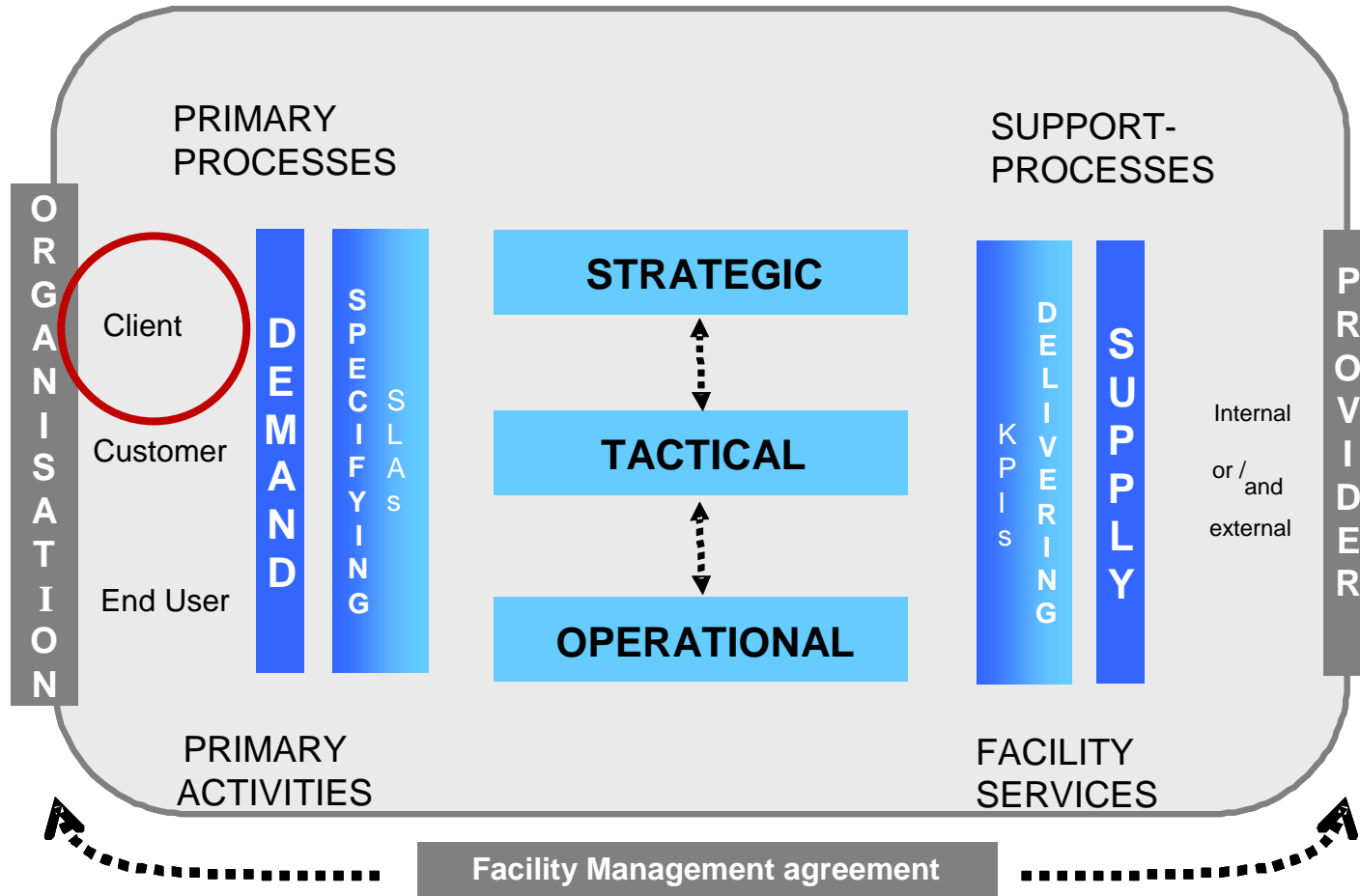
... in practical applications (assignments, models, etc)

...

Some of the challenges ...

The total Facility Management Process ...

(The FM Model – EN 15221-1 Facility Management – Terms and definitions
Annex 1 – Informative)



Facility Management

Integration of processes within an organisation to maintain and develop the agreed services which support and improve the effectiveness of its primary activities

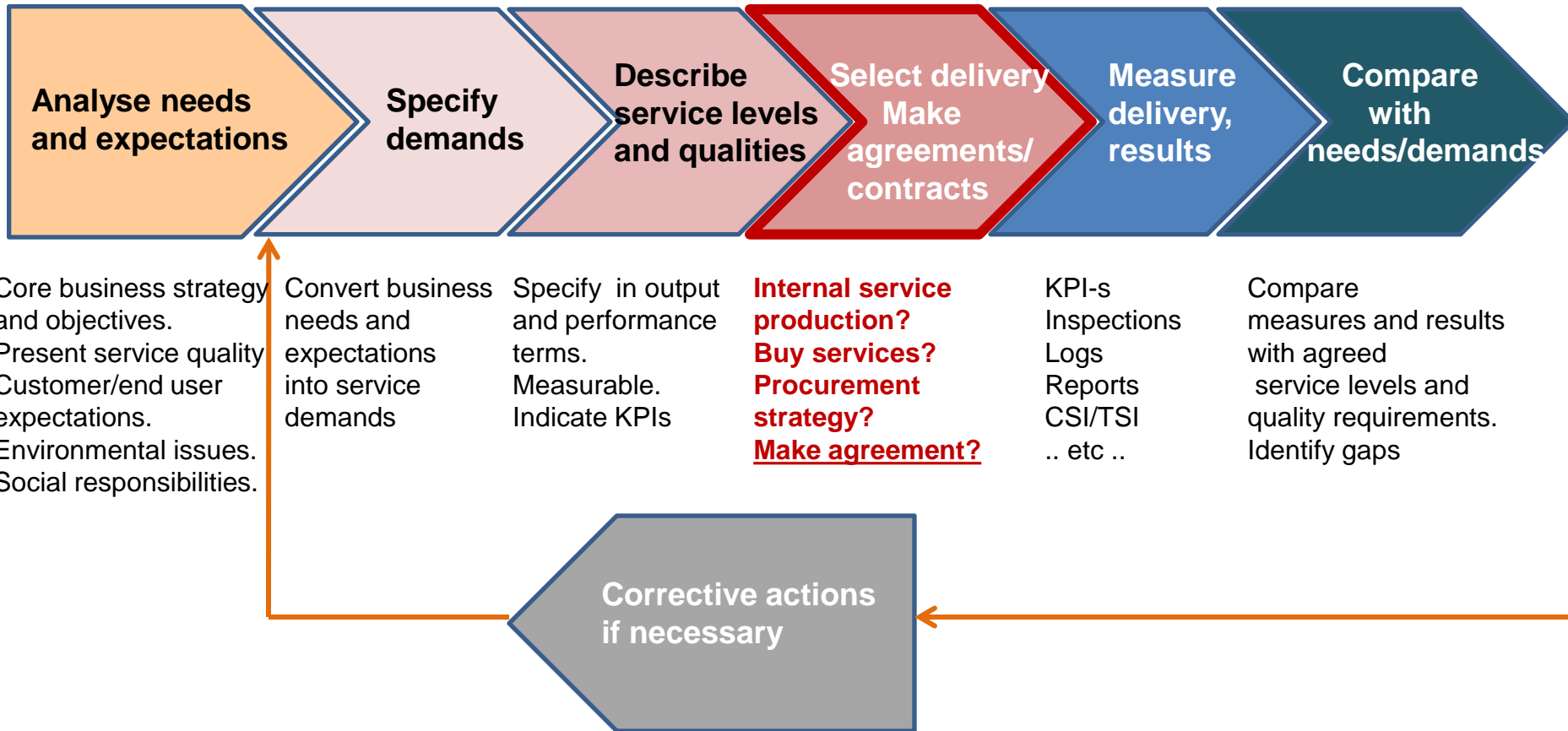
EN 15221-1 „Terms and definitions“ :

Facility Management

Limits the real scope of FM !

Integration of processes within an organisation to maintain and develop the **agreed** services which support and improve the effectiveness of its primary activities

FM Quality Processes



Core business strategy and objectives.
Present service quality expectations.
Customer/end user expectations.
Environmental issues.
Social responsibilities.

Convert business needs and expectations into service demands

Specify in output and performance terms.
Measurable.
Indicate KPIs

Internal service production?
Buy services?
Procurement strategy?
Make agreement?

KPI-s
Inspections
Logs
Reports
CSI/TSI
.. etc ..

Compare measures and results with agreed service levels and quality requirements.
Identify gaps

Analyse gaps and non compliance.
Identify needs for changes, adjustments.
If needed, rephrase specifications and agreements.
Sanctions? Penalties? Cancellations?
Renegotiations?

EN 15221-4

«Taxonomy, Classification and Structures in Facility Management»

Challenge:

Make students understand the relevance/use of the term:

Facility Product, in a service production environment.

(In Norway the conception of «good service» contains a number of important non-tangible quality elements which are generally not associated with the term «product»)

**Some of the positive
experiences ...**

EN 15221-1, Facility Management „Terms and definitions“, Annex A

Levels of interaction

Strategic level:

To achieve the objectives of the organization in the long term through:

- defining
- policy
- active
- initiati
- initiati
- manag
- commu
- mainta

Tactical level:

To implement the strategic objectives in the organization in the medium term through:

- impleme
- develop
- translat
- defining
- monitor
- managi
- managi
- optimisi

Operational level:

To create the required environment to the end users on a day-to-day basis through :

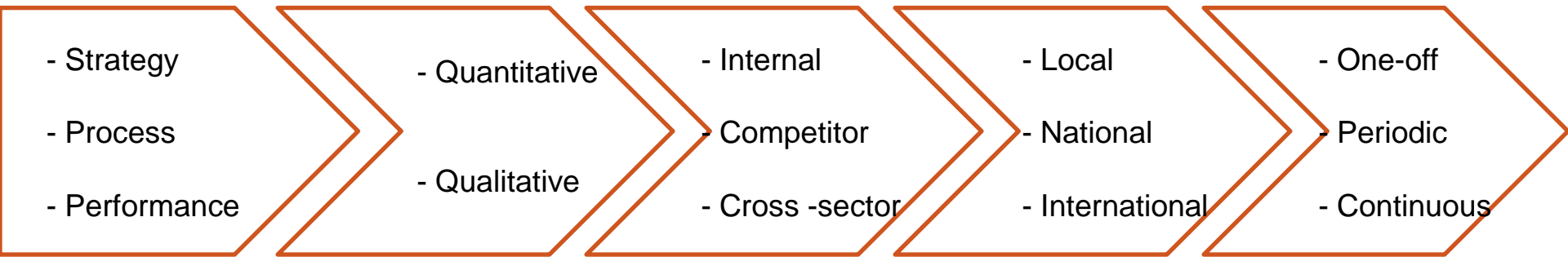
- delivering services in accordance with the SLA
- monitoring and checking the service delivery process
- monitoring the service providers
- receiving requests for service e.g. via help desk or service line
- collecting data for performance evaluations, feedback and demands from end users
- reporting to tactical level
- communicating with internal or external service providers on an operational level

EN 15221-2 «Guidance on how to prepare FM agreements»

Logical build-up, good explanations
Can easily be applied as a check list
Good as text-book for students

EN 15221-7 «Performance Benchmarking»

Classification of benchmarking forms



Content ...

* Measure ...

Comparator...

Domain ...

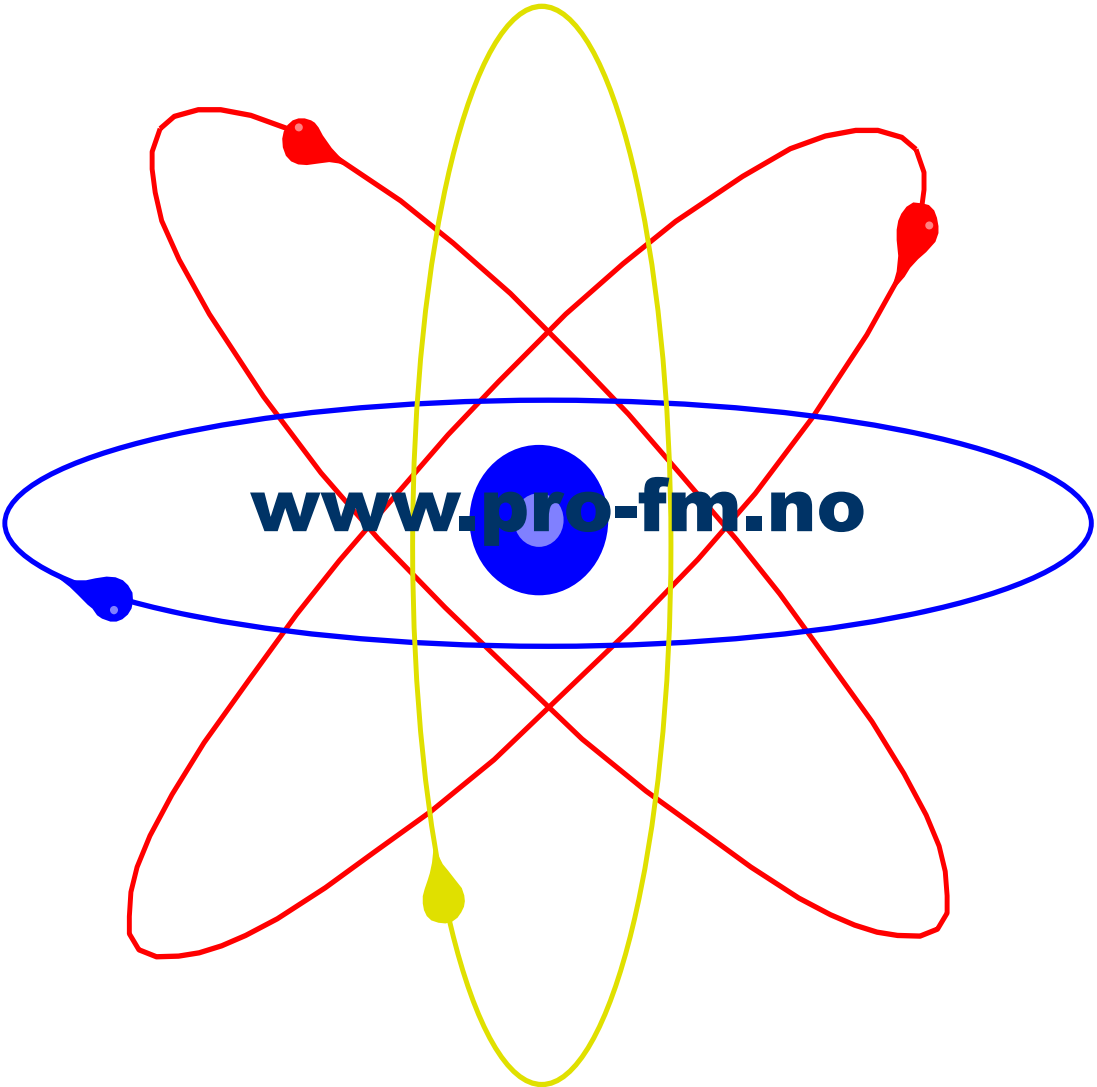
Frequency ...

Examples of purposes:

- Identification of improvement options
- Resource-allocation decisions
- Prioritisation of problem areas
- Verification, legal compliance
- Identification of best practices
- Budget review and planning
- Alignment with corporate objectives
- Verification of process effectiveness
- Assessment of property performance
- * cost effectiveness, space usage, environmental
- * service quality shortfalls, employee satisfaction
- * individual productivity

* Types of measurement – Quantitative/ qualitative

- finance ...
- space ...
- environment ...
- service quality ...
- satisfaction ...
- productivity



A Norwegian interpretation of the EN 15221-1 Facilities Management definition:

FM: The management of services demand & support to the core activities in private and public business,

Range: From full management and technical operations of building facilities and workspace ... to a large variety of facility services and support.

Objective: optimal adaptations to the needs of the organization, the workplaces and the individual users.

(NordicFM Network – Denmark, Finland, Iceland, Norway, Sweden - has a similar understanding)