



**Nordic Facilities Management Conference 22-23 August 2011**  
Book of Abstract

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# **NORDIC FACILITIES MANAGEMENT CONFERENCE 22-23 AUGUST 2011**

## **BOOK OF ABSTRACTS**

PER ANKER JENSEN (EDITOR)  
AUGUST 2011

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## 1. Introduction

This booklet includes abstracts of the research presentations at CFM's Nordic Facilities Management Conference "Research for Practice – Visions of Futures", 22-23 August 2011 at DTU.

The book of abstracts is aimed at the participants in the conference to help them get an overview of the presentations and help to select those they are interested in participating in. The abstracts are presented in the same order as they appear in the conference program.

The abstracts are written by the authors and structured in a similar way under the headings: Purpose, background, approach, results, practical implications and keywords. There is also information about the authors, including e-mails, so they easily can be contacted after the conference.

An index of keywords from all abstract with references to the abstract is included at the end of the publication.

The full papers will be available in electronic form on a USB-stick, which the participants receive by registration together with a printed copy of this booklet. The file name include the number of the abstract in the book of abstracts as well as the name of the (first) author and keywords from the title.

The presentations will be uploaded at CFM's website [www.cfm.dtu.dk](http://www.cfm.dtu.dk) after the conference.

After the conference we also plan to produce an anthology with the papers and other outcome of the conference.

CFM hopes you enjoy the conference!

## 2. Working Environments (Monday at 13:15-15:00)

### 2.1 Office Contrasts - Six contrasting Dutch cases

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#### ABSTRACT

**Purpose:** The aim of this paper is to get a better understanding of organizations and their work environments. The idea is to find out why some organizations opt for highly flexible or even virtual office concepts, whereas others deliberately choose for more conventional models.

**Background:** In the past decades, mobile and flexible office concepts received a lot of attention. Today, many of these concepts are part of general practice, but, at the same time, we see that these concepts are not yet as mainstream or wide spread as many expected or predicted them to be. This paper takes a closer look at this situation.

**Approach (Theory/Methodology):** The paper starts with an overview of the main trends concerning office concepts. Then, it describes six contrasting cases: the offices of a law firm, a consultancy firm, a government agency, a so-called workhub, an architects firm and a small software firm.

**Results:** The contrasts between the cases show that work environments can take many different shapes and that each shape can be relevant as long as it matches the culture and work processes of the organization.

**Practical Implications:** The main recommendation to practitioners is that they should tailor the work environment to the particular circumstances and characteristics of organizations, looking at aspects like mobility, culture, collaboration, autonomy, size and vision/philosophy.

**Keywords:** Office concepts, new ways of working, workplace management, the Netherlands

## 2.2 Empowering Places for Knowledge Work Processes - Methods for assessing the restorativeness of office environments

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### ABSTRACT

**Purpose:** The purpose of this paper is to assess potential methods for assessing the restorativeness of workplace environments and knowledge work processes.

**Background:** The increasing need for intensive knowledge work calls for more attention to the restorative elements of the workplace. Many times this aspect of the workplace environment is forgotten when workplaces are developed. More attention to the restorativeness should be given because the digital environment sets new kinds of challenges for our working conditions.

**Approach:** This paper takes attention restoration theory (ART) as a starting point and tests methods for assessing and understanding the restorativeness of workplace environments. These methods are surveys, individual and group interviews and heart rate assessments.

**Results:** The results suggest that any of these methods alone does not give a comprehensive account when used alone, but a combination of different methodologies allows for a wide understanding of the restorativeness of workplace environments.

**Practical Implications:** More attention should be paid to the restorativeness of workplace environments, as the well-being of the employees is ever more important in the knowledge era. This article gives a basic understanding of the phenomenon and suggestions to improve the restorativeness of workplace environments.

**Keywords:** Restorativeness, office design, employee wellbeing, heart rate assessment

## 2.3 Facilitating Creative Environments - Lessons from Danish cases at different organizational scales

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### ABSTRACT

**Purpose:** The purpose of the paper is to support the field of Facilities Management to take up the challenges and opportunities offered by the discourse of creativity. The key focus of the paper is on the discursive nature of creative environments and on the relation of facilities and facilitation. The paper explores four cases of different scales and organisational contexts of creative environments.

**Background:** Demands for creative environments have become a central focus in Western public and private businesses. Creativity has in particular been promoted as a means of staying ahead in the competition with the growing economies in Asia, and thus the perception of businesses being able to reinvent themselves and produce innovative ideas are central to the economic thoughts in the western world. The concept of creativity has become a main driver, not only in the creative industries, but it is also constructed as an essential guideline by the managerial level in public administration and business in general, producing a noticeable demand for facilitating creative environments within these organizations.

**Approach:** The paper is based on the results from a research project on facilitating creative environments, financed by the Danish Centre for Facilities Management – Realdania Research. It presents case studies of four Danish creative environments, analysing the development of the environment, the physical facilities, the facilitation processes, the relationship between facilities and facilitation, and the use of the facilities and the local interpretation of "creativity". Furthermore, it presents theoretical perspectives on creativity from different fields of literature on creativity (like Ericsson 2001) and urban planning (like Landry 2000). While the three cases include more traditional work space, the fourth case includes an urban perspective on creative environments

**Results and practical implications:** A central point in the lessons learned is the need to abandon the focus on special rooms and office design as keys to facilitate creative environments. Instead, broader perspectives on the organisation need to be considered, including the concrete correlation between facilities, facilitation and culture.

**Keywords:** Creativity, Facilities, Facilitation, Culture, Work space



### 3. FM and Sustainability (Monday at 13:15-15:00)

#### 3.1 Claims of Sustainable FM: Exploring current practices

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#### ABSTRACT

**Purpose:** The purpose of the paper is to provide an overview of current practices within the emergent management discipline: Sustainable Facilities Management (SFM).

**Background:** To develop a sustainable society, facilities managers must become change agents for sustainability in the built environment. Facilities Management (FM) is contributing to the environmental, social and economical problems, but can at the same time also be a part of the solution. However, to integrate sustainability in FM is still an emergent niche within FM, and the examples of SFM so far seems to come out of very different mindsets of aims and means.

**Approach:** SFM is studied as a phenomenon and a socio-technical construction using qualitative research methods in the period 2008-2011. This paper presents a synthesised understanding of SFM, based on literature studies, participation in research projects, testing of preliminary findings and dialogue with practitioners. Emphasis is on the openings for SFM in order to contribute constructively to the further research and development of the discipline.

**Results:** The result is a framework which relates the studied examples and openings for SFM with the organisations general FM strategy and with the organisations general integration of sustainability as a value in core business. The general FM strategy and the role of sustainability in core business seem to be the most dominating factors for the possibilities for even starting to realise an SFM strategy. Three understandings of SFM are identified which have different strategic approaches: *incremental, radical and transformative*. These SFM understandings are concluded to be coexisting claims of SFM definitions.

**Practical Implications:** Facilities managers will be able to identify the mindset behind different services and technologies that are promoted as SFM. But maybe just as important is that they are provided with concepts that can help them clarify and improve their own emerging strategy of SFM. The limitations of the research call for deeper investigations and a collaborative effort from researchers and practitioners to develop SFM in practice and theory.

**Keywords:** Innovation, management, realized strategies, sustainable facilities

### 3.2 A Critical Review of Environmental Management System as a Tool for Sustainability

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#### ABSTRACT

**Purpose:** The aim of the article is to make a critical review of the environmental management system as a tool for sustainability in local authorities.

**Background:** As a point of departure sustainability is outlined as an ambivalent term that has been interpreted in a number of ways, which is important as the understanding informs the choice of societal response to the ecological crisis.

**Approach (Theory/Methodology):** Action research has been used as the primary methodological approach for the empirical work and the empirical material has been analysed with respect to reflections on environmental management and the notion of sustainability.

**Results:** The main conclusion is that the environmental management system does not support an understanding of sustainability beyond a highly instrumental focus on specific environmental issues, nor does it support the everyday practice for sustainability in a local authority FM-context. As a branding tool it might have some potential but there is a risk that the tool legitimizes non-sustainable practices as sustainable, which can lead to frustrations and resignation among employees willing to actually make a difference.

**Practical Implications:** Facilities managers in local authorities must be aware that when using management technologies as e.g. the environmental management system other means than the system are needed if they aim for sustainability in a broader sense. The instrumental rationality on which the systems are based can lead to alienation and restrict innovative thinking in relation to solutions that could potentially contribute to a sustainable society, as it is very difficult for employees to think beyond the system in their everyday work life. One possible alternative arena for innovation towards sustainability is workshops designed and facilitated in a way that allows for a life world perspective to emerge.

**Keywords:** Environmental management, sustainability, local authority, action research.

### 3.3 ESCO in Danish Municipalities: Basic, integrative or strategic approaches?

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#### ABSTRACT

**Purpose:** The aim of this paper is to discuss the possible benefits of involving Energy Service Companies (ESCO) in realising energy savings in municipalities, and how ESCO projects can be formulated very differently in the various municipalities, according to building volume, use of technologies, energy savings, type of collaboration etc.

**Background:** Since 2008, several Danish municipalities have started energy retrofitting of municipal buildings, based on contracts with Energy Service Companies. In spite of the strong growth of ESCOs, there is also widespread scepticism about ESCO, as many municipalities see an in-house approach as a better alternative.

**Approach (Theory/Methodology):** Our research is based on literature studies and on qualitative interviews with Danish municipalities carrying out ESCO projects, as well as with ESCO providers.

**Results:** Our studies suggest that different ESCO approaches are being used in Danish municipalities, which we label *the basic*, *the integrated* and *the strategic* ESCO approaches. The three approaches include different ambitions, technologies, economies and innovation potentials. Whereas the basic approach implies a 'traditional' guarantee-based model, with relatively few buildings, energy retrofitting and low investments, the integrative and strategic approach include a higher degree of partnership, a more ambitious building renovation approach, and more innovative understandings of facilities management. We also compare ESCO with energy retrofitting as an in-house approach, which many municipalities are considering.

**Practical Implications:** We suggest the practical implications of our findings, as a short characteristic of the different approaches, intended for municipalities to start up energy retrofitting of municipal buildings.

**Keywords:** ESCO (Energy Service Companies), municipal buildings, energy retrofitting, innovation, facilities management

## 4. Innovation and Usability in FM (Monday at 15:30-17:15)

### 4.1 Innovation Insights in the Danish Facility Management Sector

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#### ABSTRACT

**Purpose:** This paper investigates innovation in the Danish facilities management sector and addresses the following research question: “Do Danish FM organizations innovate and if so what are the major types of innovations in the Danish FM sector?”

**Background:** In the last three decades, Facilities Management (FM) has established itself as a key service sector, with a diverse and highly competitive market of FM contractors, in-house FM teams, FM suppliers, FM consultants, and professional FM institutions. Traditionally, innovation processes in service firms have often been characterised as being unsystematic and not science-based and often resulting into ad-hoc innovations that were not really strategically planned. Recent literature, however, has showed that service firms also innovate and their innovations are also of strategic, organized nature.

**Approach (Theory/Methodology):** The study takes the starting point in the literature on facilities management, services and service innovation, and adopts a qualitative research approach to investigate the research question. Specifically twelve interviews were conducted with key managers in twelve Danish companies in the Danish facilities management sector.

**Results:** The results show that for big service providers, innovation is a strategic activity and is conducted as a planned and systematic process. For FM service customer with their own FM department, the results are mixed: some of the FM departments have innovation as a strategic priority and clear innovation strategies while other FM departments do innovate without being aware that innovation is taking place. The “ICT Supplier/Consultants” are found to be innovative and their innovations are both driven by the user needs and by the desire to improve their competitiveness.

**Practical Implications:** The study has implications for service innovation researchers, facilities management researchers as well as facility managers.

**Keywords:** Facility Management, Services, Innovation, Innovation Types, Qualitative Study

## 4.2 Usability Reviewed: Summing up Norwegian research on Usability

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### ABSTRACT

**Purpose:** This paper sums up the Norwegian research on usability, reflects on the experiences from the studies, and discusses impacts and directions for future research within the field.

**Background:** The true value of buildings lies in the support and shelter which they provide for their users. For both users and owners, it is this ability that creates long-term benefits. Usability can be understood as the extent to which a building can be used by users to achieve goals with regards to effectiveness, efficiency, and satisfaction. The main focus and motivation for usability research has been the improvement of workplaces and facilities for users and organizations to add value to their core business. There has been a lack of knowledge about the usability of buildings and how it can be assessed.

**Approach (Theory/Methodology):** The paper is based mainly on experience gained from a number of Norwegian case studies, and also relevant theory and literature studied during the corresponding period. To consider the results of case studies and the methods used, a series of interactive “best practice” workshops have been conducted.

**Practical Implications:** The value of such evaluations for feed forward into new projects or improving existing facilities lies mainly in the ability to understand users’ experiences and to translate them into adequate products and solutions. Consequently, the results of research related to evaluation should be quickly and easily accessible. Development of knowledge and tools within USEframe will help structure the further implementation of usability knowledge and tools in practice.

**Keywords:** Usability, evaluations, improvement, methods, value

### 4.3 Facilitating User Driven Innovation – A Study of Methods and Tools at Herlev Hospital

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#### ABSTRACT

**Purpose:** To present the preliminary research results of user driven innovation methods at healthcare facilities and their relevance to research and practice.

**Background/Approach:** The paper is based on a case study conducted at the Gynaecologic Department at Herlev Hospital as part of Healthcare Innovation Lab, which is a public-private collaboration project testing the simulation and user-driven innovation between users and companies at Hospitals in the Danish Capital Region. The theories presented are user driven innovation, usability and boundary objects.

**Results:** This article presents different methods used in planning of new hospital facilities and the experiences with using them in practice to improve usability of the built environment. The study focuses on the initial stages of the design processes, specially 'user driven innovation' – the participatory design process in which users are actively involved as co-creators. The paper describes the process and its phases, as well as reflects on the results of the user involvement and specific methods. Depending on the methods used at the workshops the participants/users had different focus, changed the priorities and developed different solutions.

**Practical Implications:** Advice on process and use of boundary objects for future workshops with user groups

**Keywords:** user driven innovation, hospitals, methods, boundary objects, usability

#### 4.4 Facilities in Use – Nordic Studies about Usability of Workplaces

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#### ABSTRACT

**Purpose and background:** The stakeholders and end users in the field of construction and real estate need versatile and systematic feedback data about the usability and functionality of the buildings and the quality of the facility they use. This is needed to support and govern the design, construction and FM processes when developing facilities. To achieve this, methods concerning project management of the design process are needed as well as methods to capture the characteristics and aspects that support usability.

**Approach:** Based on the three national studies in the research project, User-oriented Benchmarking for Usability and Sustainable Performance of Real Estate, REBUS, knowledge has been developed concerning issues related to usability of facilities in use.

**Results and practical implications:** In the project it was confirmed that previous research on briefs and methods to capture user needs is relevant. It also became clear that these methods need to include management of action and be supported by information technology. The role of the users as well as effective feedback systems crossing project barriers also needs to be developed. The identified need of development also affects project management and the role of the project manager. In addition, the focus on methods and processes needs to be complemented also by a theoretically based discourse.

**Keywords:** Facilities Management, usability research, end-users, construction clients, methods

## 5. Partnerships in FM (Monday at 15:30-17:15)

### 5.1 To procure for better buildings - FM and Public Private Partnerships in Denmark

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#### ABSTRACT

**Purpose:** The paper is based on a research project investigating whether PPP's are good for the procurement of FM, i.e. are PPP's advantageous for the integration of FM considerations into the planning, design and construction of buildings?

**Background:** In Public-Private Partnerships FM services are procured together with the building. This is often assumed to be an advantage for the integration of FM considerations.

**Approach (Theory/Methodology):** So far literature on PPP has been reviewed, participants in Danish PPPs have been interviewed, the Danish market for PPP projects has been described and a review of literature on issues related to integration of FM considerations in the planning, design and construction of facilities has been made. Some case studies on the influence of elements in partnerships to the integration of FM are being prepared.

**Results:** The results indicate that the effect of PPP's on the integration of FM is exaggerated. It is disputed whether PPP's really deliver better value for money. It is far from evident that PPP's lead to improved integration of FM consideration. Interviews with actors from Danish PPP projects and review of literature indicate that the structure of the construction process and the relationships between the actors are paramount for the integration of FM.

**Practical Implications:** The results imply that FM practitioners should pay interest to issues related to the sociology of the construction process rather than legal arrangements like PPP.

**Keywords:** Public-private partnerships, facilities management, value for money



## 5.2 Flexibility - Implications on project and facilities management

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### ABSTRACT

**Purpose:** This paper analyzes flexibility in both a facilities and project management perspective.

**Background:** In a facilities management perspective, flexibility is desired to face changes in the business environment for the core activity in a building. On the other hand, flexible projects are generally not described as desirable from a project management perspective. These conflicting approaches to flexibility have justified an analysis of the dynamics related to project flexibility, both from a theoretical and an empirical perspective.

**Approach (Theory/Methodology):** Flexibility is related to a capability to adapt to new, different or changing requirements. The paper discusses project flexibility categorisations, perspectives of analysis, flexibility drivers and enablers. The study addresses both flexibility relating to planning and construction processes, and flexibility as a characteristic of buildings. The study is based on three types of data related to Norwegian public investments.

**Results:** The paper identifies some characteristics of successful project flexibility management. Four approaches to project flexibility management are presented, and the implications on facilities management are presented.

**Practical Implications:** It is in the interest of facilities managers to ensure sufficient flexibility in projects. For efficient operation and maintenance, it is desirable to be able to adjust the facility being built.

**Keywords:** Flexibility, project management, facilities management, adjustments

### 5.3 Long-Term Buyer-Supplier Relations in Facilities Management

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#### ABSTRACT

**Purpose:** To analyse long-term collaboration between buyers and suppliers in the facilities management sector and its advantages and disadvantages as regards stimulation of productivity, quality, innovation, and earnings in customers' businesses.

**Background:** Recent studies of collaborative relationships indicate that reciprocal trust and mutual knowledge sharing furthers the potential for improvements and innovation of service quality. A long-term perspective is expected to facilitate and augment the effect of collaborative approaches to the benefit of productivity, the quality of service solutions and general economic sustainability. Long-term collaboration may take place as an on-going informal process in the same customer/supplier relationship, or can be based on contracts such as partnership agreements.

**Approach:** Theories and earlier studies of FM innovation and collaboration are confronted with empirical findings from a survey and from case studies in the Danish FM sector. Four types of collaboration are analysed based on experience and expectations of FM suppliers and customers in the sector.

**Results:** The survey showed that generally operational long-term partnerships were assessed as beneficial, particularly by FM suppliers and respondents which were both suppliers and customers (mostly from the public sector). Private customers were more unwilling to accept the possible benefits of long-term formal partnerships. The case studies showed a need for development of capabilities at an operational level such as trust, responsibility, communication, and user orientation, especially in markets where the quality of FM service has a direct impact on customers' core business. These dimensions are crucial but difficult to elucidate and are often tacit.

**Practical implications:** More focus on sociological elements at the operational level concerning responsibility, trust and user orientation is needed in order to obtain bigger customer satisfaction. This may be furthered by long-term collaboration, albeit it is a challenge to make these elements more explicit in operations as well as in tenders and bids. Without support from trust-based inter-firm relations at the top level, collaborative practices at lower levels are not encouraged. On the other hand, the development of innovative solutions and the potential for new service solutions require bottom-up innovation brought about through close interaction at operational and middle-manager level on a regular, if not daily, basis.

**Keywords:** Long-term collaboration, productivity, innovation, tacit dimensions of operation

## 6. National FM Research Overviews (Plenum Tuesday at 08:30-10:00)

### 6.1 FM Research for Practice – Swedish developments

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#### ABSTRACT

**Purpose:** The purpose is to give an overview of internationally published FM research carried out in Sweden.

**Background:** Since the early 1990s, many Swedish university researchers have dealt with topics that are relevant for facilities management (FM) practitioners. To understand the relation between researchers and practitioners, the field itself is defined by practice: FM is basically whatever facilities managers do.

**Approach (Theory/Methodology):** Thirty-three international scientific FM articles written by Swedish university researchers over the last twenty years have been identified. Authors' abstracts have been used as sources. Additionally, findings published in PhD dissertations not appearing in article form have been included.

**Results:** Seven themes were found: costs and financial issues, followed by information technology and innovation, space management and briefing, service qualities and satisfaction, contract strategies, company strategies, and finally FM and environmental sustainability.

**Practical Implications:** For the future, an ambition could be to influence mainstream research into business services research, and this would correspond to practitioner wishing to raise the profile of FM in firms, demonstrating its importance for crucial management decisions.

**Keywords:** facilities management, research, scientific publication, Sweden.

## 6.2 Facilities Management Research for Practice – An Overview on Finland

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### ABSTRACT

**Purpose:** This paper provides an overview of facilities management research and its development in Finland. It summarizes the ongoing research projects and describes the national research practices.

**Background:** The facilities management research in Finland is supported by different funding organizations, e.g. by Tekes, a Finnish funding agency for technology and innovation. The role of Tekes is to support high-quality research that generates significant commercial potential for businesses while also promoting better competitiveness and welfare for society at large. The research projects are carried out in close collaboration with practice, using the field not only as a source of data but as a reflection and way of steering the research process: the shared interest is in research results that are relevant both for the academic field and practical implementation. In order to provide possibilities to encourage practice driven research, Strategic centre for Science, Technology and Innovation of the built environment has been created by the Ministry of Employment and Economy.

**Approach (Theory/Methodology):** The approach is explorative and is based on document analysis and the evaluation of the effectiveness of research projects funded by the Finnish funding agency for technology and innovation, Tekes.

**Results:** Facilities management research in Finland has developed over the last decades mainly in three waves.. The first wave of facilities management research in the 1990's focused on facility management services, service development and on the production and management of services. The second wave focused more on research about the connection between the facilities management and the client organizations. The third wave is now focusing on more integrated models, both in the mixed use concepts in different space segments and in enlarging the service business models to an areal context, for example. The development of the facilities management industry gives input to the national research agenda.

**Practical Implications:** The paper is concluded with recommendations on how the multidisciplinary facilities management research and practice can collaborate in order to achieve the best possible benefit from the research processes and results.

**Keywords:** Facilities Management, Research, Development, Finland

### 6.3 FM Research for Practice in Denmark

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#### ABSTRACT

##### **Purpose:**

The purpose of this paper is to present an overview of research and development in the area of Facilities Management (FM) in Denmark.

##### **Background:**

Research in FM is a fairly new activity in Denmark, but there have during the 1980's and 1990's been a number of development activities on national level, which have had importance to constitute and form a professional basis for FM.

##### **Approach (Theory/Methodology):**

The paper provides a chronological overview of research and development activities related to FM over the last 30 years in Denmark, including CFM's ongoing research projects.

##### **Results:**

In the 1980's the research activities related to FM mostly concerned indoor climate and there was also some research on briefing and development projects concerning building operation. In the 1990's the research related to FM was broadened to a wider environmental focus including energy and the external environment. FM started to be developed in practice with a strong focus on benchmarking and IT systems like CAFM. Around year 2000 a number of research and development project on Whole Life Costing was carried out and around 2005 there were some development projects and publications on new offices. Digital handover of data from building projects to FM and Building Information Modelling also became an important field of development. Research in FM started at DTU in 2003 and got a major boost by the establishing of CFM in 2008. In recent years sustainability has emerged as a new important research area in FM both in Denmark and internationally.

##### **Practical Implications:**

The paper provides an overview of research and development related to FM, which is an important background to understand the trends and the state of the art and gives a basis for discussions and decisions on future research themes and activities.

**Keywords:** Facilities Management, Research, Development, CFM, Denmark.

## 7. Knowledge Implementation (Tuesday at 10:30-12:15)

### 7.1 Communities of Practice as a Learning Challenge in Construction Projects – How FM knowledge can be integrated in the learning process

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#### ABSTRACT

**Purpose:** How FM knowledge can be better integrated in the design phase of construction projects?

**Background:** In the construction industry a high reliance on standardization in contract formulas as well as in roles and skills, provides what is known as “standards of workmanship”. Thus there seems to be a paradox between the “silent” coordination mechanism of this institutionalization and community of practice on the one hand and the reliance on norms and standardization of procedures and roles which provides challenging terms for learning in construction. It seems FM knowledge integration in the construction design phase is mainly done through norms and standardization of procedures and roles. With a construction industry heavily build on “silent” coordination mechanism, how can FM knowledge be integrated in the design phase.

**Approach (Theory/Methodology):** Knowledge management and learning. Facility management knowledge. Literature review. Case study

**Results and practical Implications:** Facility Managers and others with equal practices/practical experiences need to be connected to or integrated in the design phase of construction projects as translators or knowledge brokers. At the same time there is a need for greater emphasis on boundary objects between construction communities and facility management communities.

**Keywords:** Communities of Practice, FM knowledge, FM in construction projects

## 7.2 Knowledge as a Source of Power in Real Estate Organisations

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### ABSTRACT

#### Purpose

The purpose of the paper is to explore how knowledge contributes to value adding activities within real estate organisations. More specifically, the study aims to investigate; (1) how knowledge sharing activities are perceived in real estate organisations, (2) what motivates individuals to share knowledge and what incentives are used to support them, and (3) if employees in these organisations have experience of insufficient knowledge sharing activities resulting in additional project costs.

#### Approach

The study includes a literature study and the findings from a questionnaire survey of 71 representatives of real estate organisations in Sweden are presented.

#### Results

Knowledge sharing activities were perceived to be insufficient between different subunits in the organisation. Employees' main motivation for learning was to achieve a good job for their customers. Rarely did any of the organisations use incentives to increase knowledge sharing activities. Almost every respondent acknowledged that a lack of knowledge and knowledge sharing resulted in additional project costs: a majority rated it as 10% of total project cost.

#### Practical implication

The contribution of the findings is an increased understanding of how employees in real estate organisations perceived knowledge sharing between organisational units. Sensible knowledge management can possibly facilitate the organisation's ability to improve its profitability.

**Keywords:** Knowledge, motivation, construction projects, real estate organisation, profitability.

### **7.3 POKI - A Management Tool for the Implementation of FM Know-How in Construction Projects**

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#### **ABSTRACT**

##### **Purpose**

This paper is based on a project initiated in order to develop methods to enhance the implementation of Facilities Management (FM) know-how in construction projects.

##### **Background**

It is well known that many Danish facilities are more problematic and expensive to run than necessary. Studies have shown that in many cases this is due to the lack of focus on the operational phase and implementation of FM know-how when new facilities are planned and constructed. A preliminary study has revealed that the use of FM know-how encounters many barriers.

##### **Approach**

The project is an empirical study involving the authors and a project group of 18 experienced Facilities Managers, architects and engineers.

##### **Results**

Based on discussions in a series of intensive workshops the group came up with the POKI management tool for screening the facilities management element of construction projects, where "P" represents the change within the Processes, "O" the changes in the Organization of the projects and the behaviour of the parties, "K" the necessary know-how and tools, and "I" a well planned and executed information and communication effort.

##### **Implications**

The lead author is currently involved in two major construction projects involving the creation of world class research and teaching facilities at two faculties of the University of Copenhagen. In both projects, there is intensive management focus on FM and user demands. Facilities Managers and User Coordinators have been placed centrally in the organization and several of the suggested features in POKI have been used in the projects. As a result, in the pre-construction phase of the projects, most of the barriers to the implementation of FM know-how in the projects have been overcome.

**Keywords:** FM knowhow, FM portal, FM screening, Management Tool, POKI,



## 8. FM and Added Value (Tuesday at 13:15-15:00)

### 8.1 Facilities Management and Value Adding - The LEGO case

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#### ABSTRACT

**Purpose:** To investigate how Facilities Management (FM) can add value and develop a management concept that can assist facilities managers in implementing value adding strategies and practices.

**Background:** Earlier research has shown an increased focus on added value of FM and a FM Value Map has been developed to analyse and demonstrate the different ways FM can add value. However, there is a need to develop management tools that can be used more directly and proactively by facilities managers to implement adding value strategies and practices.

**Approach:** The development of the concept is based on the management model for FM included in the European FM standards, recent theories on added value of FM and real estate and the related concept of Value Management from building projects. The paper outlines a preliminary theoretical based management concept, which is investigated, tested and discussed based on a case study of LEGO.

**Results:** The study shows that the management model for FM creates a relevant starting point but also that stakeholder and relationship management is an essential aspect of Value Adding Management. The case study confirms the relevance of the basic concept and provides an important example of how Value Adding Management can be implemented and added value measured.

**Practical Implications:** The concept of Value Adding Management is expected to increase the awareness of the impacts and strategic importance of FM for organisations and can be a practical tool for facilities managers in implementing value adding strategies and practices.

**Keywords:** Facilities Management, FM model, Added Value, Value Management, Management Concept.

## 8.2 Classifying FM Value Positioning by Using a Product-Process Matrix

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### ABSTRACT

**Purpose and Background:** Facilities management value position is conceptualized as the relative optimal point of value delivering of facilities management (FM). This paper argues that the degree of value delivering is based on the degree of facilities product customization and complexity comparing with the type of facilities processes between FM organizations with their clients.

**Approach (Theory/Methodology):** The paper develops the facilities product - process matrix to allow comparisons of different facilities products with facilities processes and illustrate its degree of value delivering. The building blocks of matrix are a facilities product structure and a facilities process structure.

**Results:** A facilities product structure, characterized by degrees of facilities product customization, complexity, contingencies involved, defines four facilities product categories. A facilities process structure, characterized by levels of information, knowledge and innovation sharing, and mutual involvement, defines four facilities process types. Positions on the matrix capture the product-process interrelationships in facilities management.

**Practical Implications:** The paper presents propositions of relating stakeholder value to positions on the facilities product and facilities process structures and on the matrix. This framework also demonstrates the illustrative applications of the matrix to examine facilities management value positions from two FM organizations within two multinational corporations: LEGO group and A.P. Moller - Maersk Group.

**Keyword:** Facilities Management, Value Proposition, Product-Process Matrix, Value Position

### 8.3 Managing the Benefit Part of Service Value: IT based service design strategies in FM

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#### ABSTRACT

**Purpose:** The paper aims to examine the role of dynamic capabilities and service concept in the relationship between organizational capabilities and performance in the FM industry in Finland.

**Design/Methodology/Approach:** The study used a firm from the IT industry and its FM service provider and achieved a final sample of ten qualitative interviews.

**Findings:** The results show that dynamic capabilities and service concept impact on relationship quality, which influences performance. Effects are responded on market objectives, benefit objectives, and strategic objectives. In addition, marketing activities were found to distinguish performance with respect to the ability of demanding service requirements.

**Practical implications:** The study has implications for academics, managers, and practitioners. The results indicate that relationship quality aspects derived from dynamic capabilities and service concept impacts on performance through IT and information systems related strategies. Customer perceptions and use of specific service products are maximized when managing service processes collaboratively.

**Keywords:** Service design, Benefit, Dynamic capability, Facility management, Strategy

## 8.4 Green FM as an Adding Value Element for the Core Business

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### ABSTRACT

**Purpose:** The purpose is to present the concept of Green FM, describe what the environmental efficient FM services mean and demonstrate how the added value can be created through green FM processes.

**Background:** Previous research has shown that Facilities Management (FM) and Corporate Real Estate Management (CREM) can create added value to the core business of the occupier organization in multiple ways. FM can influence directly or indirectly to the employee satisfaction, productivity and well-being. It also has its influence on the company costs, brand and image. Most of the existing added value models are missing the environmental sustainability aspects of the FM, which might be potential and measurable added value channel for FM practitioners.

**Approach (Theory/Methodology):** In the case study, the FM organization ISS's processes and products were developed more environmental efficient and the effects of the "greener" services were tested at the client organization's case facility. The results of the case study were mirrored towards the added value model develop in the previous research.

**Results:** The added value associated with Green FM is created in multiple ways: Increasing employee satisfaction, supporting the organization's image, increasing the value of real estate assets, supporting employees' creativity, reducing real estate related cost and supporting organization's environmental sustainability.

**Practical Implications:** Practical examples of the greener FM services and their impact to the client company could assist other organizations to develop their processes towards more environmental sustainable way. The case study results help to understand the real impact of FM services to the core business and provide measurable proofing for decision makers.

**Keywords:** Green FM, sustainability, office building, added value

## 9. FM Research Agenda (Plenum Tuesday at 15:30-17:00)

### 9.1 European FM Research Agenda

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#### ABSTRACT

**Purpose:** The study aims to contribute to the development of the European FM research agenda.

**Background:** Earlier research in the FM field and the European FM network, such as that conducted by Jensen, Alexander, and Pullen et al.

**Approach (Theory/Methodology):** A survey was conducted within the research network group of the European Facility Management network (EuroFM). In addition, the research topics were discussed in relation to earlier research and feedback from survey participants.

**Results:** As an outcome of the survey, the most important research fields and research centres were prioritised.

**Practical implications:** The FM research agenda supports the collaboration of researchers, educators, and practitioners. The objective of the research agenda is to contribute to the further establishment of the FM discipline.

**Keywords:** FM research agenda, European FM network, FM discipline, EuroFM research network group

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