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Access over ownership

- A typology of shared use of facilities

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ABSTRACT

Purpose
This paper explores shared use of space and facilities as a concept, and presents and illustrates the use of a typology to help classify and describe the different options for sharing space and facilities within buildings for optimised use of a building portfolio.

Approach
The content presented is based on a cross-sectional study with an inductive approach. The results are based partly on secondary data in the form of a literature review and a mapping of 20 examples from Europe, USA and Australia, and partly on primary data from observations and interviews with key actors from two cases in Denmark and an illustration case from Ireland.

Results
The typology classifies and describes 4 archetypes of sharing between different people, building owners and organisations, to be used when discussing, planning, establishing and evaluating new and existing shared spaces.

Practical Implications
The typology is intended for both researchers and practitioners, and aims at increasing the understanding of sharing as a way to minimize the need for building new by better utilization of the existing building stock.

Research limitations
The typology is the result of a first exploration of shared use of facilities, and does not claim to be fully comprehensive or final.

Originality/value
Shared space and facilities is a relatively new topic with not much research undertaken. This typology provides a language for discussing shared spaces and a base for further developing the research field.

Keywords: Facilities management, shared space, shared facilities, sustainability, collaborative urbanism, collaborative consumption, sharing economy

1. INTRODUCTION

Many cities around the world are experiencing an increase in population and from this also a strain on the existing buildings and a pressure to provide adequate square meters for the population. Urban development and development of new city profiles has traditionally been focused on building new, but with the increasing population, urban space for new buildings will inevitable become increasingly scarce and expensive.

This combined with the new economic situation experienced over the last decade or so and an increased focus on sustainability and optimised use of resources, has helped spark a new sharing mentality, where the mind-set of many are moving towards "*access rather than ownership*"(Botsman & Rogers 2010). Sharing is starting to move outside office space and office buildings, where non-territorial- and open space offices have been on the agenda for some time now, and into a broader spectrum of buildings and organisations as an alternative sustainable view on property-, real-estate and space management. The focus is on optimising use by allowing different types of use and users at different times of the day or different times of the week.

With this in mind shared space is still a relatively new field of study, and not much research has been published so far. The purpose of this paper is therefor to present a typology of shared use of space and facilities, to help evaluate and discuss both existing and new shared spaces. The typology is a first exploration of the concept of sharing space within and between both public and private organisations, and is meant to play a role in establishing a common language in relation to the topic of shared space since existing literature is not always clear and varies depending on from which field it originates.

The paper is mainly directed towards larger property owners such as municipalities and companies with a facilities management department. It takes its base in the assumption that such organisations should take a critical look at their building portfolio, and start questioning the need for having" own" buildings and facilities and instead look at the possibility of sharing with others.

The typology presented in this paper was first published as a conference paper in the conference proceedings for the joint CIB W070, W111 and W118 2014 conference "Using facilities in an open world - Creating value for all stakeholders". This paper is a further development of the original conference paper, and includes among other things a more detailed account of the methods used as well as considerations regarding the practical applications of the typology based on an illustration of use with a case from Dublin, Ireland.

2. SHARING

Sharing as a general concept is not a new thing; we have many examples just in Denmark – agricultural cooperatives, consumer cooperatives and cooperative dwellings (http://www.uwcc.wisc.edu, www.denstoredanske.dk), and the term "shared space" can also refer to street design (TrinityHaus 2012), internet based communications platforms (Rafferty 2012) etc. From this it is clear that sharing is by no means a new idea or trend, but in the last decade or so, the concept of sharing has taken another leap as the term *Sharing Economy* or the similar *Collaborative Economy* has been introduced, launching a renewed focus on sharing.

2.1. The sharing economy

The term 'sharing economy' or 'collaborative economy' is used to describe a new form of sharing developing in societies today; the sharing of anything from a saxophone or a lawnmower to a car. The share economy is in the literature described in many different ways by many different authors, among which are "*a trend that is reshaping our service-based society*" by Voight (2013) and as "*access rather than ownership*" and a mentality of live light, waste less, to protect the environment by Rosenberg (2013). Silver (2013) defines the sharing economy as "*a way of sweating underutilised assets, by building communities around them and turning consumers into providers*", and Owyang et al. (2013) defines it as "*...an economic model where ownership and access are shared between corporations, start-ups, and people...*".

This development has been made possible by the internet and social media which has aided the development by constituting a not before seen platform for sharing-interested individuals, groups, communities and companies, and the sharing economy, collaborative economy and also collaborative consumption are all fast growing concepts and trends. Websites facilitating diverse forms of sharing are numerous (thesharehood.org n.d.; collaborativeconsumption.com n.d.; nesta.org.uk n.d.; greenvillages.com.au n.d.; shareable.net n.d.), and several books have been published on the subject, where Botsman & Rogers (2010) publication "What's mine is yours – the rise of collaborative consumption" are among the more well-known.

But the sharing has not stopped with the sharing of smaller items or possessions, and is now starting to move from *stuff* to *space* by the progression of the Collaborative Economy to *Collaborative Urbanism;* a trend that takes the same ideas of sharing, openness and cooperation as seen with the Sharing Economy and applies them to the built environment (nobox-lab.com n.d.; streetplans.org n.d.;inclusiveurbanism.org n.d.; collaborative-urbanism.com n.d.; collaborative-urbanism.org n.d.). This collaborative urbanism, along with other emerging and existing trends in society, are directing new attention to how we use the limited resources and facilities in cities that buildings represent; attention that have also sparked the interest of municipalities and space- and property managers at private companies. It is developing and utilizing this attention that constitutes the inspirational background for the development of the typology presented in this paper.

2.2. FM and Shared facilities

What can be derived from these previous sections is that despite sharing in general is not a new thing, shared space and shared facilities as we are experiencing them now are a relatively new field, especially within research, and not much has been written on the subject. Theory therefore, must come from a variety of sources connected to, or on the edge of, the specific topic, and be brought together to constitute a knowledge base that is relevant for *shared facilities* in relation to the field of FM.

When looking at shared space and shared facilities in a facilities management context there are a volume of literature already available to inspire; sharing in the context of an office or workplace, for example. Guidelines from FM on designing shared space for offices in the form of open-office spaces and *the new*

office (Becker & Steele 1995; Duffy & Powell 1997) have been around for some time now, and we are also seeing the trend moving towards the newer *activity based workplaces* (KILDE). This literature though, mainly addresses inter-organisational sharing, and not sharing with outside participants, or outside the office space.

If we instead look outside the office and even outside buildings, towards the field of urban planning, we also find guidelines on designing shared space, although here the focus is outdoor spaces such as parks, squares, streets etc. (Gehl 2010; Gehl 1971; TrinityHaus 2012) . The limitation within this field in relation to the topic of the study presented in this paper, however, is the focus on out-door space, and not space within buildings.

Additional subjects that provide inspiration and literature is the field of community facilities management (Alexander 2009; Alexander & Brown 2006; Moss et al. 2009) and the field of urban facilities management (Roberts 2004; Michell 2013). These are fields that are starting to build a bridge between urban planning and facilities management, but despite of this they still have their limitations in relation to the topic of the study behind this paper, since the focus has yet to reach systematic use of shared space and facilities between organisations.

In addition to the research mentioned above, a smaller number of articles also exist, that are directed specifically towards shared spaces and facilities as they are understood in this paper. These are for example (Lee et al. 2010) where interior shared space in apartment buildings is the focus, or (Rafferty 2012) who introduces a concept for physical shared space in more general terms.

These illustrate different perspectives on the subject of sharing, and the overall question being raised when looking beyond the theoretical backdrop; *why should building owners and FM organisations share their buildings and facilities with others – why should they open up*? This is not a simple question to answer, but increasing focus on FM and professionalization of FM in many municipalities and larger companies with a large building portfolio means that it is an interesting aspect to study. Space and square meters are expensive and financial and sustainability considerations promote optimised use of the existing building stock to help reduce the need for building new. This is where sharing comes in play.

In relation to this, it is important to note that this study will not focus on the benefits and advantages of sharing, but aims at developing a neutral description of different types of sharing and their characteristics in relation to 4 discriminators identified during the research. However, in order to provide an overview of some of the possibilities and potential pitfalls observed during the study and literature review (Uzairiah et al. 2013; Moss et al. 2009; Rafferty 2012; Fawcett 2009 to mention a few), Table 1 provides a quick illustration. This however is not an exhaustive list, but merely provides an excerpt of examples, and will require more research to develop.

Potential benefits	Potential pitfalls
Sustainability (fewer buildings, optimised use)	More complicated logistics
Synergy (between different users)	Risk of lack of demand
Cost reduction (increasing economies of scale)	Management difficulties due to unclear ownership
Better connection to outside world (CSR)	Less control over availability
Creating a more vibrant atmosphere (avoiding 'dead space')	Psychological objections due to feelings of territoriality or privacy
Professional management (in case of third party ownership)	

Table 1: Examples of potential benefits and pitfalls when establishing a shared space (Brinkø et al. 2014)

3. APPROACH

The development of the typology presented in this paper was divided into three main steps followed by a fourth step in the form of an illustration of use with an international case (see **Error! Reference source not found.**), from Dublin, Ireland.
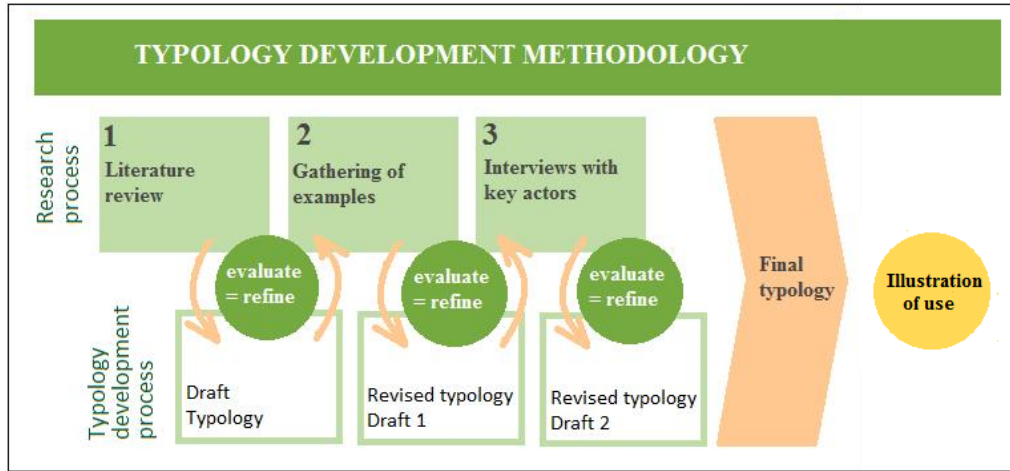

Figure 1: Typology development methodology. Adapted from (Brinkø et al. 2014)

The three main steps were as illustrated in **Error! Reference source not found.** used to continuously improve and refine the previous step to ensure the highest possible quality and validity of the typology. Step one was a literature review to identify existing knowledge, step two was a gathering of examples of shared space in practice, and step three was interviews with key actors from two Danish cases, as mentioned previously, to gain deeper insights. These steps were all used to evaluate and refine the previous, leading to the development of the final typology presented in this paper.

The use of the typology was subsequently illustrated with a case from Dublin, Ireland.

3.1. Literature review

The literature review completed as a part of this study has been undertaken with inspiration from the "Eight steps for conducting a systematic literature review" presented by Okoli & Schabram (2010), adapted to fit the specific needs, purpose and design of this study. The steps used are:

1. *Define the purpose of the literature review*: The purpose must be clearly defined in order to secure optimal consistency in the search and review process. For this study the purpose has been to collect a broad section of literature connected to the field of shared space, in order to map existing knowledge within the area, and identify possible sources to form the theoretical starting point for a more in-depth exploration of the meaning and implications of shared space.
2. *Search for literature*: Since journal papers are an important part of scientific communication these were chosen as primary source for the literature review. Four databases containing a broad and comprehensive spectre of journals and papers were chosen for the search (Scopus, Web of Science, DTU Digital Library and Google Scholar). All searches undertaken were done so by systematic use of two sets of pre-determined keywords; one set to specify the first initial round of searches for journals, and another to further narrow down the field for articles in a second round of searches. The keywords can be seen in **Error! Reference source not found.**
3. *Practical screen and Quality appraisal*: An initial screen and quality appraisal was conducted based on paper abstracts, in order to identify the articles most relevant and to ensure sufficient

quality. The screening process and criteria for selection was based on the researcher's assessment of relevance to the subject of the study.

4. *Data extraction:* After the search has been completed, relevant information from each paper chosen is systematically extracted by the reviewer

5. *Synthesis of literature review:* Analysis of the data extracted by the reviewer

Keywords						
1 Building	Built Environment	Sustainability/ Sustainable	Facilities/ Facility	Social responsibility	Housing	Property/ Real-estate
2 Knowledge city	Knowledge Town	University city	University town	Shared space	Shared facilities	Urban FM

Table 2: Keywords for literature review

To summarize, the approach for the literature review have been to use multiple databases for the searches in order to secure that a significant portion of the literature available have been included in the review, as well as to validate the results from one individual search. The searches themselves have been completed using predetermined keywords to secure a consistent and well-defined approach for identifying and collecting articles, and the focus of the review has been to identify the existing theoretical knowledge within the subject. All in all 64 scientific journals was systematically searched, resulting in a total of 78 relevant articles from which 12 main articles within the subject were chosen based on relevance to the study as judged by the author (Fawcett 2009b; Rafferty 2012; Moss et al. 2009; Roberts 2004; Uzairiah et al. 2013; Larsen et al. 2011; Wood 2006; Hoffmann et al. 2012; Komarova 2008; Dempsey 1999; Andersen 1985; Michelini & Fiorentino 2012). The information gathered from the review was used to form the theoretical offset and framework for the development of the typology, as well as to form a first very rough draft for a typology to be used as the theoretical base to guide the collection of examples for the inventory described in the following.

3.2. Inventory of examples

The literature review described above was as mentioned used to create an outline containing topics and characteristics, to be used for guiding the search for both national and international examples of existing shared spaces. In order to secure both scientific well-described examples as well as newer 'popular' examples, searches were carried out by use of scientific journals as well as newspapers, magazines etc.. To ensure validity by using multiple sources of information as well as an as large variety of examples as possible, several industry professionals were asked for input; adding to the total inventory of examples. A total of 20 examples from Europe, Australia and USA were identified and chosen, and were subsequent used to form an inventory of examples, illustrating an as diverse base of examples as possible.

An initial analysis of these examples was undertaken with the purpose of describing the characteristic of all 20 examples in order to identify themes and commonalities. A number of characteristics were identified as being common for all – or a majority – of the examples collected and thereby judged to have special significance. These characteristics were grouped together according to theme in a follow-up analysis, and the themes identified are illustrated in **Error! Reference source not found.**.

Themes							
Type of sharing	Reason behind sharing	Goals hoped to achieved	Users	Suppliers/ owners	Time aspect	Organizations involved	Focus of sharing

Table 3: Themes identified from first analysis of the inventory of examples

These themes were used to refine the rough draft outlined based on the literature review, resulting in a more focused typology, from which the following work in the form of interviews would take its starting point.

3.3. Interviews

To gain deeper knowledge of the nature of shared spaces, two examples from the inventory was selected for further studies. These cases were Musicon in Roskilde, Denmark, and Lyngby Idrætsby in Lyngby, Denmark. The choice was made based on criteria such as degree of complexity and accessibility and illustrative purposes to mention some. Sharing in these two cases was directed towards private individuals, private businesses and associations, providing a look in to the processes involved in sharing between parties outside a single organisation, an important aspect in relation to the focus of the typology.

Semi-structured interviews based on the works of (Kvale 2002) were conducted with key actors from both of these cases with a focus on the themes identified in the analysis of the inventory of examples as described above. The specific type of interview was chosen based on its ability to provide insights into a specific subject or theme, and to ensure answers to predetermined key questions and aspects, while at the same time having the opportunity to obtain further non-anticipated information from the individual being interviewed.

3.4. Illustration of use of developed typology

The choice of Mabos as case for this illustration has been based on a number of different considerations. The case represents a type of sharing that is usually very un-organised but Mabos have an approved business plan, are in continues dialog with the city council and are working with them in formulating new ways of managing this type of space and use of a public level. Furthermore Mabos as a case is a bit of an outlier in relation to the typology and the examples used for the development of it, so illustrating the usability and generalizability of the types and discriminators on an outlying case can help provide new insights and possibilities of further development to increase the usability of the typology.

Information on the case has been gathered via a number of different sources:

- Video with comments from 12 main users
- Interview with founder Dave Smith
- Interview with City Planner, Dick Gleeson
- Observations of the space 'in action' at 4 separate occasions over a period of 2 months

4. A TYPOLOGY OF SHARED FACILITIES

This typology was first presented in a conference paper titled "The shared building portfolio – an exploration and typology" (Brinkø et al. 2014). It is directed towards both researchers and professionals, and is focused on sharing of buildings and on sharing that takes place between different organizations or businesses that would traditionally prefer exclusive use or ownership ('intra organisational' use).

The result of this process is a typology that is sorted first of all by type, the decisive factor in the structure of the typology, grouping the different types of sharing observed in to four individual groups. Secondly, the four different types are sorted according to scale varying from sharing a desk to a network of buildings, with the smallest on the left to most comprehensive on the right. A short description of general attributes is linked to each type, along with an illustration to provide a starting point for recognition and discussion, after which the remaining 4 discriminators, "when", "why", "who" and "how" are used to provide the characteristics for each type.

What is being shared - type?

'**What**' is being shared, meaning the type of sharing taking place, is the main discriminator for the typology. It represents the physical space or facility being shared and is used to organise the different forms of sharing into four overall categories of sharing. In both the literature and the examples studied during the process of developing the typology, sharing was identified to take place at many different levels and scales. From sharing a desk or workstation as observed in for example co-workspaces, to sharing office facilities and canteens between groups or sections, or sharing rooms or facilities between organisations, and the list goes on. So grouping the different types into four categories representing four archetypes of sharing provides a first overview to guide further investigation and discussion.

When is it being shared?

Another aspect that was identified repeatedly as a significant feature in the different examples and cases is the second discriminator, '**time**'. Sharing and what the expected gain of establishing a shared space is, has close ties to the time aspect involved. The choice between simultaneous or serial use leads to significant differences regarding outcome in terms of synergies, administration, management etc. This makes it very important to be aware of these aspects and how they are linked with the time aspect, when determining if it is simultaneous sharing, where different people/organizations uses the same space at the same time, or serial sharing where one person/group/organization use the space during some hours of the day and another person/ group/ organization during other hours of the day.

Why is it being shared?

'**Why**' a given space or facility is shared, or should be shared, is the third discriminator in this typology. Choosing to share can be due to considerations regarding costs, increased sustainability by optimised use of resources – or sharing resources, a desire to create synergies or agglomeration effects, just to mention some of the possibilities. Identifying the "why" is therefore an important aspect of determining which type of sharing is most suited to a specific situation or organization, as well as achieving clarity for all partners involved regarding what a given project of sharing is working towards achieving.

Who is sharing?

The fourth discriminator in the typology is the aspect of '**who**' is sharing. The typology presented in this paper is as mentioned focused on sharing between organisations or individuals, and the purpose with this discriminator is to be clear about the participants engaging in sharing. To define whether the sharing is initiated by a public or private organisation, institution or individual; what the relationship is between user and owner, meaning are the sharing partners equal or not; if the sharing is restricted to one or more specific groups with specific limitations regarding access or the sharing is open for all to participate in. These are all important aspects to have clarified before entering in to using or establishing a shared space, and can help focus the search for a specific type of sharing.

How is it being shared?

"**How**" the sharing is organised is the fifth and last discriminator, and also the one that can be the most difficult to describe. The aspect of *how* can be translated into a myriad of different configurations depending on the partners involved, the goals with using or establishing a given shared space, the people it is directed towards, the time frame etc. These many aspects all contribute to the high degree of difficulty but it is also due to this that it is also the one that seems to possess the most relevance in relation to counselling in regards to the topic of shared space.

4.1. The typology

The process of creating the typology has been a pursuit of diversity and variation, to ensure maximum range and types that would complement each other to as high a degree as possible.

When talking about scale in connection with the types included in this typology as described in the following, it is the physical structures that are shared that is in focus, and not the extent of the actual sharing, meaning for example the level of interaction, integration etc. between the sharing partners. This is due to the chosen focus on the optimised use of buildings, space and facilities as an alternative way of looking at sustainable space- and portfolio management, and not on the social interaction of the parties taking part in the sharing. Not that this is not important and play a large role in relation to sharing, but this aspect is for another study.

The first type presented in the typology, *sharing a specific facility – a desk or a work-space in a semi-closed community*, represents sharing on the smallest physical scale in the typology. It covers spaces like cowork spaces that specialize in facilitating sharing where you rent a desk – not necessarily a specific desk, just a desk – in a shared working space, and also instances where a company invites for example individuals or business partners in, and provides workspace within their company. Examples of this from the material used to develop the typology are Republikken in Copenhagen, Denmark; Plywood sheds for artists in USA or The HUB in Denmark. (Republikken.net n.d.; Hodara 2011; copenhagen.impacthub.net n.d.) For more see the typology in Table 4.

The second type, *sharing several facilities in an open or semi-closed community*, represents the instances where a company or the like makes a part of their facility that would usually only be accessible to individuals inside the organization available for a large group of people. The type can also cover spaces like shared spaces for the community, shared sports facilities etc. Examples of this type could be Rambøll in Ørestaden, Denmark; Lyngby Idrætsby in Lyngby, Denmark or Risskov Library in Risskov, Denmark. (ramboll.dk n.d.; Risskov_bibliotek n.d.; lyngby-idraetsby n.d.) For more see the typology in Table 4.

The third type, *sharing physical space in a building or a building in itself in a closed community*, is sharing of several facilities but within the same building or building complex. It is within this type the most significant growth have been observed during the period of this study, and the type that due to the scale and structure is really interesting for businesses and organizations in developing and utilizing their property portfolio. Examples of this type are Shared Use Hubs in Australia, Denver Shared Spaces in USA or FOF in Denmark. (Denver Shared Spaces 2012; hubaustralia.com n.d.; fof.dk n.d.) For more see the typology in Table 4.

The fourth and last type, *sharing facilities between users in a network of buildings/organizations in an open, semi-closed or closed community*, is the most extensive type of sharing, and the only one that involves more than one building. This type of sharing is often kept within a relatively closed community and often requires a big commitment from the involved parties due to sheer scale. Examples of this type of sharing are Musicon in Roskilde, Denmark or Manchester Media City, Manchester, UK.(musicon.dk n.d.; mediacityuk.co.uk n.d.) For more see the typology in Table 4.

All four types along with the discriminators mentioned and described previously make the 'typology of shared use of facilities' which can be seen below in Table 4.
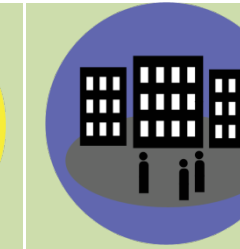
TYPOLOGY OF SHARED USE OF FACILITIES

Type	Sharing a specific facility – a desk or a workspace in a semi- closed community	Sharing several facilities in an open or semi-closed community	Sharing physical space in a building or a building in itself in a closed community	Sharing facilities between users in a network of buildings/organizations in an open, semi-closed or closed community
General attributes	Sharing is facilitated by an owner and directed towards private individuals	Sharing in the form of a building owner making specific facilities available to the general public	Sharing of space inside a building between different groups or organizations	Sharing of facilities between users of different buildings with different owners
When	Simultaneous use	Simultaneous and serial use	Simultaneous and serial use	Simultaneous and serial use
Why	Keep costs down Synergy	Keep costs down Optimized use CSR activity	Keep costs down Optimized use Surplus space	Keep costs down Optimized use Synergy
Who	Access is restricted to individuals approved by the owner	Access is available to a large group of people in addition to own employees	Access is restricted to pre-agreed groups or individuals decided by the owner	Access is available for employees/residents from the buildings involved
How	One party has ownership of the space, and individuals can gain access either free or for a fee	The organization with ownership opens up specific parts of their property for use for the greater public	One party has ownership of the space and makes it available for specific groups or individuals for a fee	Different building owners come together and agree on sharing specific facilities or buildings instead of each having one
Examples	1) Republikken, DK 2) Plywood sheds, USA 3) School sharing, NED 4) The HUB, DK	5) Lyngby Idraetsby, DK 6) Rambøll, DK 7) Frivilligcenter Hillerød, DK 8) Risskov Library, DK	9) FOF Lyngby, DK 10) Fjaltring-Trans, DK 11) Churches, UK 12) Shared use hubs, AUS 13) Space for entrepren., USA 14) Airport passenger buildings 15) Use of school premises, UK 16) Centre for A & E, LTK, DK 17) Denver Shared Spaces, USA	18) Musicon, DK 19) Manchester Media City, UK 20) Shared school campus, NIR

Table 4: Typology of shared use of facilities [ANONOMOUS]

5. ILLUSTRATION CASE

Use of the typology was as mentioned illustrated with a case from Dublin, Ireland, called Mabos, in order to gain some insights into the practical application of the typology in a real world setting.

Mabos was created in the summer of 2011 on the base of 5 years of successfully running a festival called Kings of Concrete. The initiators were Dave Smith and Peter O Brien who in July 2011 leased a disused warehouse at no 8 Hanover Quay in the Grand Canal area of the Dublin Docklands. The space is now run by Dave Smith and consists of a collective of artists, designers, carpenters, engineers, photographers, film makers, skaters, architects, musicians & more. They are focused on the following three categories, with an underlying focus on community integration in all work they do:
- Arts & Incubation

- Entertainment

- Education

In relation to sharing, Mabos is a diverse example. The space currently constitutes the location for an advertisement business run by Dave Smith himself along with 2 partners; it is the studio for 4 independent artists 2-3 days a week, with a further 4-5 other artists using the space on a more sporadic but still regular basis (1-3 times a month) and with many more wanting to join. Besides these regular daytime uses, the space is also rented out for think tank & workshop days. The Craft Council of Ireland, Jameson Whiskey and Google have all used it for these purposes. Weeknight evenings Mabos works primarily as workshop space. There are a number of different regular meets such as Bushido/Juggling/All girls skate club to more sporadic workshops, like for example a monthly projection mapping workshop. Saturdays are generally for a younger audience, with weekly parkour classes and once a month they have an open skills day for all ages with skateboarding /graffiti/ photography / t-shirt design and print amongst other things. Late evenings are for running events – a ping pong club as well as a monthly 'trad' (traditional) music session and other music nights. Dave Smith describes the space as follows:

- *"A rethinking of what a community space is for this generation"*

- *"A playfully anarchic space – not accepting the norm, but only pushing when it is needed"*

- *"A place designed for social interaction"*

The financial model is largely based around the workshops, rental and the entertainment elements, with rental accounting for 40% of revenues, workshops 5-10% and the rest entertainment. The regular users – the artists, mainly use the space for free, with the condition that they make themselves available at workshops, classes and other educational stuff for adults and children in the local community. "*They are here on a barter*" is how Dave describes is. When hosting workshops and other events and builds they pay a membership fee, because it takes up a lot of space and can have a bigger impact on others using the space. Evening workshops for adults are done via donations – people don't pay a membership, but donate whatever they want.

The approach for applying the typology to the case of Mabos can be seen in Table 5. The basic questions used as discriminators in the typology are used as keywords from which the case is then described. The typology is originally developed with a focus on large property owners, but is expected to also be able to play a significant role in a broader societal context as for example Mabos represents.

Mabos	
General attributes	The space in which Mabos is located is owned by a third party and rented out to the founder of Mabos, Dave Smith. He then is in charge of daily and overall management, and oversees the use and events in the space
When	There are simultaneous sharing during the day with artist having workspaces there and the founder running a separate business from there, as well as serial sharing with different events, workshops etc. being held at other times.
Why	The core was to create a community integration initiative, and the vision to do this was three-fold: to create an arts and incubation space, to create a creative education space and to host experimental entertainment.
Who	The sharing at Mabos is mainly directed towards the local community, with local artist having workspace there and the local population using it for workshops, relaxing, events and more. Furthermore is the space often used by larger organisations and companies to host workshops, meetings etc.
How	The space is rented from an owner with whom they have no contact. The founder Dave Smith is in charge but the 'collaborative spirit' of the space is important so all decisions are discussed with the 'regular' users and participants who agree on rentals and events. The space is open as a workspace/studio for pre-approved individuals; sports, games, etc. for the general public and as event/workshop space by agreement with the founder.

Table 5: Mabos described by use of the typology

This information can be used in connection with the typology to identify the type of sharing in question and thereby provide a basis for discussion about the development, management or similar of the space.

In the case of Mabos the type based on the above information is as follows:

Type	Type 2, "Sharing several facilities in an open or semi-closed community"

Table 6: Mabos as a type according to the typology

6. PRACTICAL AND ACADEMICAL IMPLICATIONS

As described in the previous sections of this paper, space management is already working with shared space, especially in the office building, in the form of non-territorial offices or 'free seating' offices and the like, but this type of sharing is all kept strictly between a company's own employees, meaning only intra-organisational sharing. The typology presented and used in this paper, takes sharing a step further and looks outside the boundaries of a single organisation towards inter-organisational sharing and an optimised management of property in general. The sharing economy has been a hot topic for some years now, and shared use of space and facilities has as a topic a wide societal relevance. Despite of this it has been chosen for the research behind this paper to only focus on the situation and needs of larger property owners and municipalities. This is due to the fact that it is within these types of businesses and organisations that a significant part of the building stock not used for private housing can be found, and therefore also here a big difference can be made.

The typology described in this paper and presented originally in the conference paper "The shared building portfolio - A typology of shared facilities" (Brinkø et al. 2014), is meant to support facilities-, property- and space managers in two different aspects of their work:

1) First of all as an analytical tool to be used for investigating and describing existing or possible future shared spaces, for example in connection with building briefs etc.

2) Second, as an inspirational tool and a tool for dialogue, when thinking about sharing and shared spaces in general.

On a more strategic level, it can be used for starting a new discussion, provide a new view, on property- and real-estate management, by beckoning facilities managers, large property owners and municipalities to ask the question set forth in the introduction to this paper; "Do we need to build new, or can we maximise the use of the space and facilities we already have?"

The typology still has its limitations though. It is still a work in progress and needs to undergo further testing and is continuously being refined by including more examples. Furthermore will the pros and cons of the different options be investigated more thoroughly in later research, as the typology is a part of a larger research project. So, at this stage the typology is not final, but more a tool for creating overview and discussions about how to share space in an inter-organisational context. It is a step towards a new strategy for how buildings and facilities can be understood, managed and used for a more optimised use of the built environment.

7. CONCLUSION

The result of the research behind this paper is a first version of a typology of shared use of facilities and an illustration of applicability on a real-life case to illustrate the use and application value. It is the intent that the typology at its finished state will be able to function as a tool to support facilities-, property- and space managers in introducing a new way of looking at sustainable building portfolio management.

The typology illustrates four types of sharing, using the five discriminators identified during the research to describe the individual types of shared spaces. These four types as first presented in (Brinkø et al. 2014) are:

1. Sharing a specific facility – e.g. a desk or a work-space - in a semi-closed community

2. Sharing of several facilities in an open or semi-closed community

3. Sharing physical space in a building or a building in itself in a closed community

4. Sharing facilities between a network of buildings/organizations in a closed community

The five discriminators as first presented in (Brinkø et al. 2014) are:

1. What (referring to the object of use)

2. When (referring to the time perspective)

3. Why (referring to the reason behind the sharing)

4. Who (referring to between whom the sharing takes place)

5. How (referring to how the sharing is organised)

The typology is developed with base in 20 examples from both Denmark as well as internationally and covers a wide range of shared spaces, but does as mentioned in previous sections not claim to be fully comprehensive, and is under ongoing development and refinement as a part of a larger research project.

Based on the explorative overview the typology constitutes as well as the illustration of use presented in this paper, it can be concluded that the concept of sharing space and facilities is a relevant topic for facilities management, with many potential benefits in relation to efficiency, innovation and sustainability but also with significant challenges that must be met. It can also be concluded though, that it is a very general topic and it is difficult to realise the potential benefits without further clarifying the different aspects of *what* is being shared, by *whom* and *how* it is managed, in order to counter the obstacles an organisation is presented with when entering into sharing facilities.

This means that there is still plenty of research to be conducted before the typology presented here is at a final operational level where it can fulfil the goal of being a tool for facilities managers and the like to use in practice. With this in mind however, it forms a solid base from which the needed further research can take its starting point, and can already now be used to open up discussions on this alternative way maximising the use of the resources our buildings and facilities constitutes.

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