



**BulwienGesa AG**  
research • analysis • consulting

# INDUSTRIAL PROPERTY IN GERMANY 2010

Joint Study



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Client: Consortium made up of:  
Aurelis, BEOS, ECE, DIWG, Union Investment, Valad, Vivico

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**BulwienGesa AG**



## INHALTSVERZEICHNIS

	SEITE		SEITE
1	1	7	49
2	3	7.1	49
3	10	7.2	52
3.1.a	14	8	55
3.1.b	17	8.1	55
3.2	20	8.2	55
3.3.a	23	8.3	57
3.3.b	26	9	61
3.4	29	9.1	61
4	32	9.2	61
5	37	9.3	62
5.1	37	Anhang	
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6.1	44		
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## 1 PRELIMINARY REMARKS

The asset class "industrial property" has for many years been a standard component of Anglo-Saxon real estate portfolios. According to the real estate division of Prudential Financial Inc. - an American insurance group - the asset class "industrial property" encompasses the following:

- Light industrial/assembly
- Office/warehouse or research & development (R&D)
- Warehouse/distribution<sup>1</sup>

Up until now, no clear and generally accepted definition of industrial property exists in Germany. One reason is that the asset class is far less firmly positioned in German corporations and enterprises as well as in German urban and regional planning authorities than in Anglo-Saxon countries. In the past, for this reason, industrial property was catalogued as a special group, with a corresponding stigma attached.

Resulting from these insecurities, together with the intransparency prevailing on the German industrial property market, a robust investment culture was developed in the past only in individual cases, such as warehouse distribution facilities. This was primarily due to a large number of transactions providing comparables - both regarding tenancy and investment - which contributed to a certain level of transparency emerging on the market.

In case of other types of industrial property, this transparency still does not exist, due to a small number of available tenancy and investment data on the one hand and the difficulty (in some cases even impossibility) of comparing and evaluating individual properties, due to

their often very heterogeneous arrangement regarding sizes and tenancy structures.

Furthermore, another factor hindering the establishment of industrial property as a sustainable investment vehicle in Germany in the past was the broad structure of SMEs (small and medium-sized enterprises) dominating the German economic structure and resulting in a high owner-occupancy ratio. Capitalisation of business real estate, practiced in Anglo-Saxon countries for more than 20 years, is still quite unpopular in Germany, despite industrial REITs. Additionally, the German decentralised urban network is another factor distinguishing the market, since no pronounced industrial centres exist.

Following an analysis of stock and ownership structures, the presented basic study contributes to increasing the transparency within the asset group. The report is intended as a tool for investors, financiers as well as property managers and owners, in order enable them to assign their property to one of the industrial property categories and secure a sustainable valuation of given assets.

Furthermore, the analysis shall offer support to investors and financiers when choosing locations for sustainable investments in industrial property as well as subsequently when organising sustainable letting strategies for their assets (possibly supported by external asset management).

Another question raised in the analysis concerns past and possible future types of investors interested in industrial property.

The analysis pays special attention to transformation property, a property category defined for the purpose of the analysis by BulwienGesa. Transformation property represents a category of real

<sup>1</sup> [www.prudential.com/view/page/public/11584](http://www.prudential.com/view/page/public/11584)

estate typical for the German property market, which does not correspond to any industrial property category represented in Anglo-Saxon countries.

A summary of market potentials and an indication of possible exit strategies for investors follow in the final chapter.

The analysis as outlined above was conducted in the form of a joint study, with the goal of a balanced approach to the subject and high market acceptance of the study's contents. All companies involved in the course of preparing the analysis were anxious to emphasise the benchmark character of this report. We are glad to present seven renowned German property market players - who have already gathered their experience in the field of industrial property as project developers, financiers or investors - who supported the emergence of the presented study.

We would in particular like to thank following companies for their dedicated and trusting cooperation:

- Aurelis Real Estate GmbH & Co. KG
- Beos GmbH
- ECE Projektmanagement GmbH & Co. KG
- NAI apollo/DIWG
- Union Investment Real Estate GmbH
- Valad Property Group Valad Germany GmbH
- Vivico Real Estate GmbH

*Note:*

The notation of German and English decimal places and thousand-separators differs, causing the use of commas and periods to be exactly reversed. While the decimal place is represented by a period in English, a comma is used in Germany (e.g. 1,5% in Germany vs 1.5% in English). Analogously, the comma serves as thousand-separator in English, whereas Germans use a period (e.g. 1.000 km in Germany vs. 1,000 km in English).

For technical reasons, the figures, charts and tables of this report follow the German usage.

## 2 TRADE AND INDUSTRY IN GERMANY

*German national economy - one of the largest in the world*

After the USA and Japan, Germany has the world's third largest national economy, with a strong focus on the secondary and tertiary sector. Agriculture plays only a subordinate role.

Industry accounts for 85 % (2008) of all exports and is thus the engine driving foreign trade. The key industrial sectors are car-making, electronics, mechanical engineering and chemicals. Some 2.88 million people are employed in these four sectors alone, which book sales of 767 billion euros.

As is the case in all western industrial nations, for several years now German industry has been in the midst of structural transformation. Some traditional industries (steel, textiles) have in parts shrunk considerably in recent years, with target markets now elsewhere and strong pressure from low-wage countries, or - as in the case of the pharmaceuticals industry - through M&As have come under foreign ownership.

Yet, industry continues to be the backbone of the German economy and in comparison with other industrial countries such as Great Britain and the USA it is extremely broad-based – by the end of 2009 roughly 10 million people worked in industrial companies, which correspond to approx. 10 % of all employees in Germany.

The country is one of the leading nations as regards several of the technologies of the future that have exceptional growth rates. These include biotechnology, nanotechnology, IT and the numerous high-

tech divisions in individual sectors (aviation and aerospace, electrical engineering, logistics).

Companies specialising in environmental technology (wind energy, photovoltaic power and biomass generation) have emerged as front runners. The German environmental technology branch (wind energy, photovoltaics, bio-mass) is also well established on international markets, with manufacturers of wind energy plants boasting a 50% share of the market. Today, information and communications technology (ICT) follows car-making and electronics/electrical engineering as the third largest sector of the economy. As regards bio- and genetic engineering, Germany is second to the United States worldwide and already has a knowledge edge in many fields of nanotechnology.

However, it is not only major corporations such as Siemens, Volkswagen or BASF that lay the foundations for the German economy to be competitive in the international arena, but also tens of thousands of small and medium-sized enterprises (so-called SMEs, with up to 500 employees) in the manufacturing sector, in particular mechanical engineering, the components industry as well as nano- and biotechnology, which frequently form clusters. With over 20 million employees these SMEs together easily constitute Germany's biggest employer. They also provide the lion's share of traineeships for young people, which makes the biggest difference compared to other leading industry nations.

*Economic relevance of the German SMEs*

During the latest recession, those small and medium-sized companies, together with the short-time working - an instrument of

Source: ULI Report „Guide to Classifying Industrial Property“ 2003, own surveys

employment policy - proved to have a stabilising impact on the German economy. In order to determine the relevance of SMEs to the German economy, technical literature almost always falls back on the quantitative IfM (*Institut für Mittelstandsforschung*, Institute for SME Research, Bonn) classification of company sizes. According to the IfM-definition, SMEs constitute 99.7 % of all German businesses. They generate roughly 38 % of the annual turnover and employ 71 % of all employed persons or approx. 66 % of all socially secured employees respectively. The share of trainees who complete their training in SMEs amounts to 83 %. They also generate nearly 50 %<sup>2</sup> of the net value added.

As the driving force for the national economy, SMEs occupy a distinguished position on the German economic landscape. A look at various economic sectors reveals that nearly three million of all German companies liable to value-added tax are small and medium-sized enterprises. Thereof:

- more than 850,000 operate as supporting service providers
- approx. 705,000 in commerce
- approx. 320,000 in building industry
- approx. 308,000 operate as other public and private service providers
- approx. 275,000 in manufacturing
- approx. 245,000 in the hospitality industry
- approx. 127,000 in transport and communication.

Roughly 900,000 self-employed persons and independent professions complement the list above.

As regards the turnover volume, the majority of small and medium-sized enterprises are smaller businesses, yet the share of companies reaching an annual turnover of more than 5 million euros has been continuously increasing during the past ten years. This tendency is predominantly due to the technical progress. SMEs - active predominantly in growth sectors - were able to improve their turnover figures noticeably during the past decade.

At the same time, advancing globalisation strengthens the role of SMEs as suppliers. New opportunities resulting from the breakdown of value supply chains, reduced production depth and - predominantly in large companies - concentration of core competencies, are actively seized by small and medium-sized companies.

This impressive development is reflected in export participation patterns: Statistically, roughly 12 % of all German companies export products and services abroad; nearly 98 % of all approx. 350,000 exporting companies are SMEs. Thus, small and medium-sized enterprises not only play a relevant role in the domestic market, they also provide strong support for the German export economy.

Some of the exporting SMEs achieve the status of „hidden champions“<sup>3</sup> and global market shares of often up to 70 %. Their strategy benefits in particular from the high quality of their products and it focuses on dynamic growth markets. For more than two years, the local edition of the *Süddeutschen Zeitung* has been presenting those hidden champions (results translated into a cartographic form follow in the chapter).

Furthermore, small and medium-sized enterprises are regarded a driving force for innovation: the relevance of the innovative force of

<sup>2</sup> Calculations by IfM Bonn, 08/2009

<sup>3</sup> Highly successful SMEs, market leaders in their sectors, yet hardly known to the public



nearly all domestic SMEs is evaluated as high, yet the most recent data might put the thesis in a perspective.

Similar to other companies, the majority of SMEs accommodate their manufacturing facilities and services in real estate. Investors accept office tenants and office property occupied by them as well as retail tenants and property occupied by retail businesses (shopping centres, big boxes, etc.) as investment objectives, whereas properties occupied by industry and trade companies (in the following referred to as "industrial property") do not stand in the focus of institutional investors. This is truly surprising, when considering the economic prosperity and employment structures as described above, together with the resulting demand for property in this segment.

The export-oriented and dominated by SMEs German economic structure differs in this respect fundamentally from economic structures in the US and UK. In Anglo-Saxon markets, industrial property is regarded as well established asset class. Thus basic requirements are fulfilled and they increase the - at present still inhibited - fungibility of this type of property. A strong industrial base prevailing in Germany represents a vital support for successful and sustainable investments in this property segment.

In the following, potential investment regions in Germany are identified and classified in order to document the regional stock of industrial property and its sustainability. The classification is based on a scoring model and integration of regional key data, e.g. regarding developments on the labour market, economy and infrastructural equipment<sup>4</sup>.

<sup>4</sup> Variables and methodology of the scoring are explained in the appendix

*Results of the scoring model*

The scoring model provides first indications of successful and sustainable investments in the new asset class "industrial property". The following map displays the results in graphic format and identifies regions with future potentials for sustainable investments in industrial property. Regions with an AA-score are the most sustainable ones and offer the best infrastructure, whereas regions with a C-score feature only weak economic structures and poor infrastructure compared with other German counties.

Scoring-Key		
Score value	Meaning	Verbal evaluation
AA	Very good	Very sustainable economic and labour structure (SMEs) with very good development perspectives; very good infrastructure
A	Good	Sustainable economic and labour structure (SMEs) with good development perspectives; good infrastructure
BB	Good - Satisfactory	Sustainable economic and labour structure (SMEs) with certain development perspectives; good infrastructure
B	Satisfactory	Sustainable economic and labour structure (SMEs) with moderate future perspectives; good infrastructure
CC	Satisfactory - Sufficient	Mixed economic and labour structure (SMEs); with moderate future perspectives; good infrastructure with specific deficits
C	Sufficient	Poor economic and labour structure (SMEs); with moderate future perspectives; weaknesses concerning infrastructure

*Note:* Following presentation of German districts does not substitute intensive due-diligence in case of individual property, still it can serve as a base supporting strategic indicator when searching for possible asset locations and offer some spatial orientation. It is also possible to make a sustainable investment in a district with a poorer score value (B-C).

According to the presented analysis, general statements regarding the structure of the German property market also apply to this specific property segment. An initial overview provides the following picture of the current situation:

Large parts of Baden-Württemberg and Bavaria, the Rhein-Main metropolitan region, agglomerations in North Rhine-Westphalia, the metropolitan region surrounding Hamburg as well as parts of Berlin-Brandenburg, Saxony and Thuringia represent prosperous economic regions and manifest themselves with good scores. Both the large average share of export-oriented enterprises in West Germany as well as the established structure of SMEs in East Germany and the industrial base reflect these results. Agglomerations in the South of Germany should be highlighted, since economic impulses generated here carry over to neighbouring counties.

On the other hand, in case of the five new German states: Mecklenburg-Vorpommern, Brandenburg, Saxony-Anhalt, Thuringia and Saxony - quite the opposite picture emerges. These are quite poorly developed regions with partly scores far below the German average. Parts of Saxony and Thuringia - focused on promoting technological areas of growth - and the Berlin region are an exception.

In this context Brandenburg is a phenomenon: nearly all districts adjacent to the German capital city benefit from the city-hinterland-ties

within the so called suburban sprawl (*Speckgürtel*) and thus they achieve rather average scores, whereas districts located in the rural peripheries of Brandenburg rank at the bottom of the scale.

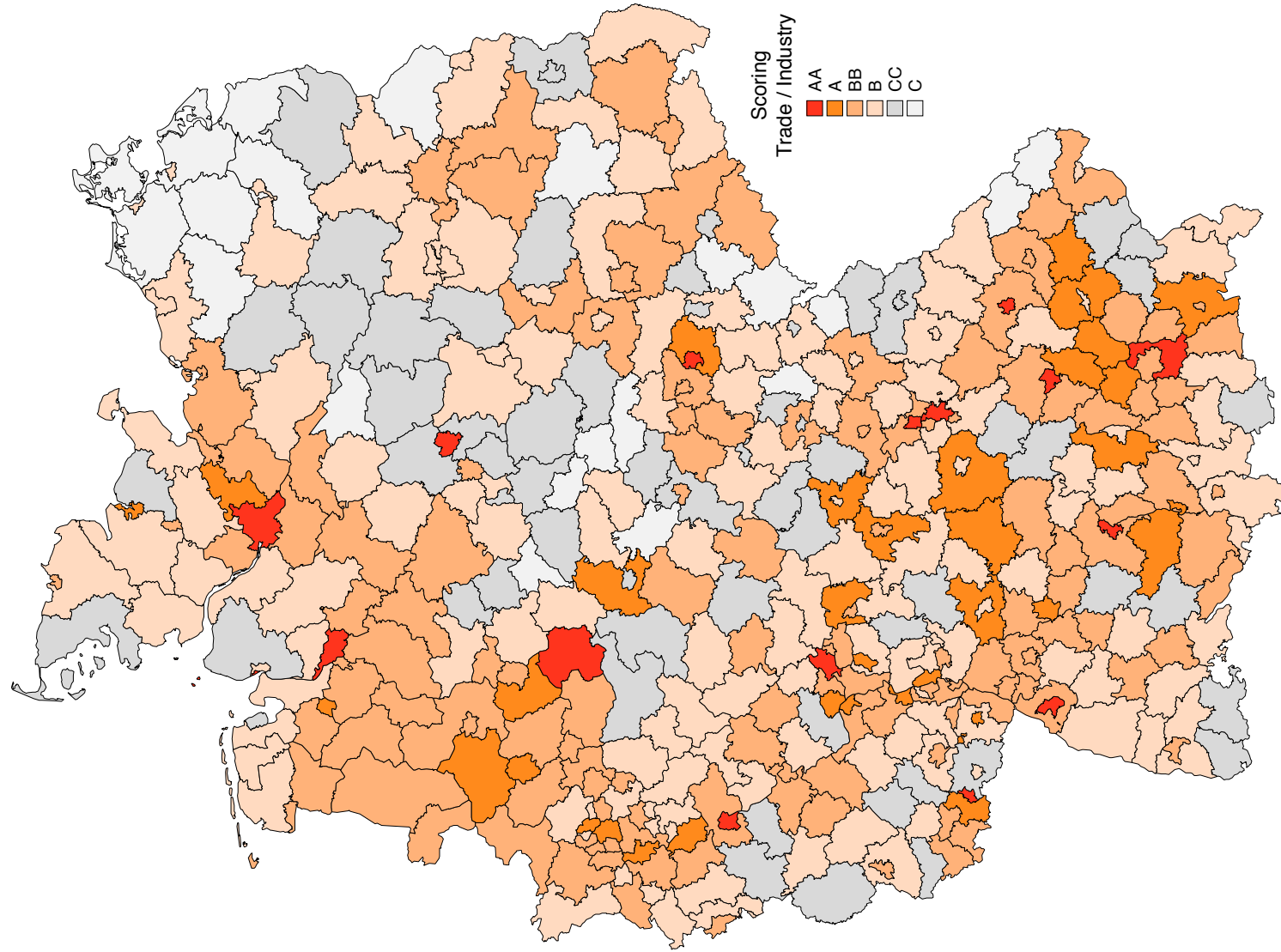
There are some weaker markets in West Germany as well, e.g. in North Hesse, South Lower Saxony and along the former East/West German border (Bavaria), the central German mountain region Eifel, Hunsrück, Pfälzer Wald and in parts of the Westerwald (Rhineland-Palatinate) as well as along the coastal region of Lower Saxony and Schleswig-Holstein.

#### *Future economic productivity in German counties*

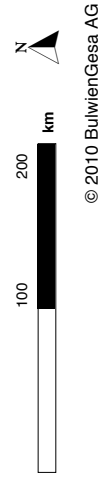
Not only historic developments and the current situation in a region play a role for investment decision, but the region's future potentials and developments have also a great impact on the decision making process. The following map shows the future expected economic productivity in German districts, calculated as a ratio of gross value added and employed persons.

Here again, some prosperous islands emerge on the map of Germany. Additionally to well-known metropolitan regions in the South of Germany (Stuttgart, Nürnberg, Munich and Upper Bavaria), economic productivity above the German average is expected in the future in agglomerations located in the Frankfurt/Rhine-Main region, North-Rhine Westphalia and Hamburg. Not least because of the large share of employees in the service sector, who basically generate a high gross values added, these regions feature a ratio above the average. Furthermore, these counties shall benefit from a positive population development during the entire period of analysis (five years).

Competitiveness of Trade and Industry



Data source:  
Federal Statistical Office  
Calculation by BulwienGesa AG



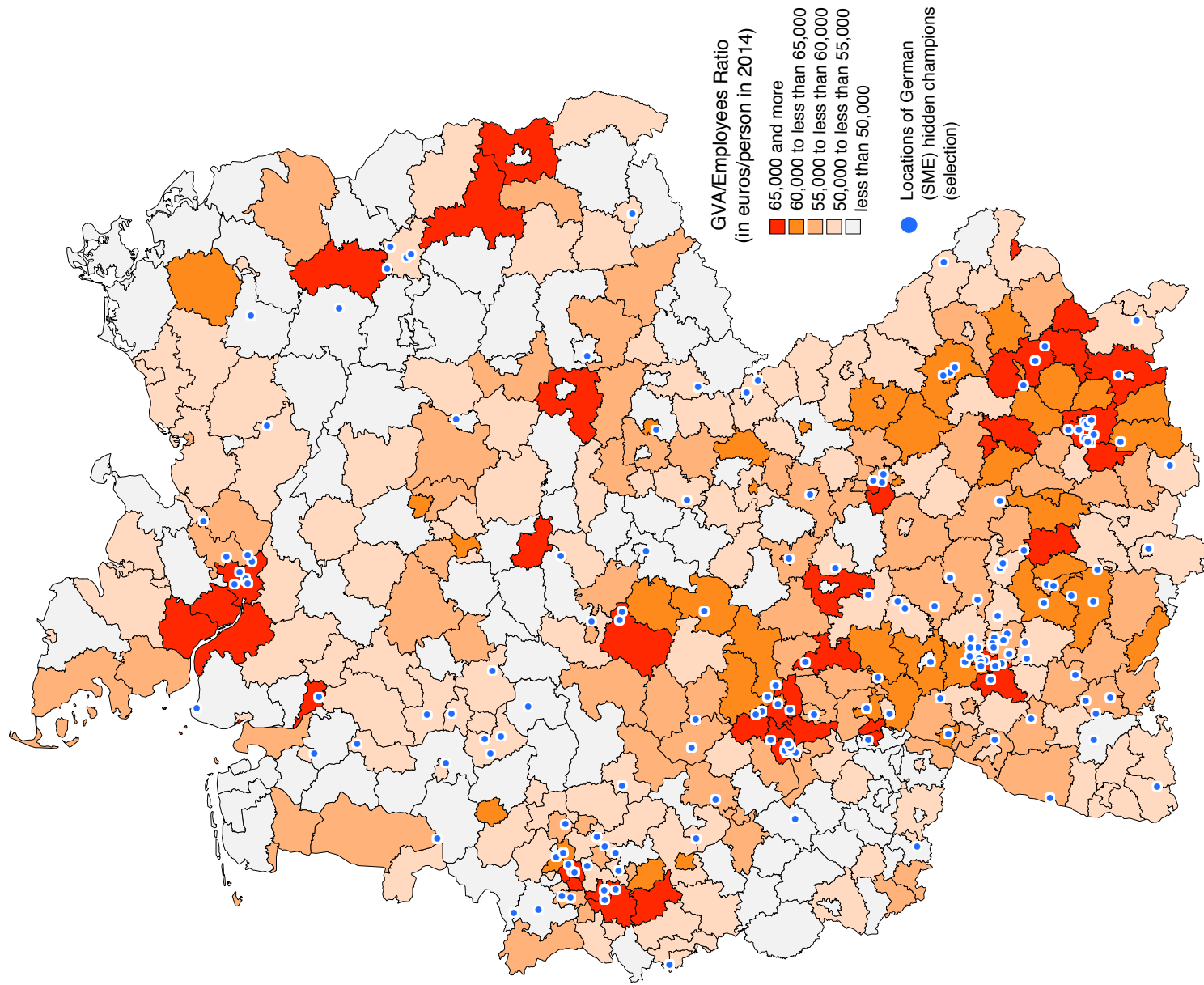
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Further regions in North Germany (particularly in rural regions) and the new German states shall suffer not only from the consequences of the demographic change but also the lower than average development of economic productivity. Their development prospects are rather pessimistic.

Even if the surveyed sample constitutes of only 187 enterprises<sup>5</sup> and they were chosen according to subjective criteria determined by the editorial office for economic affairs of the Süddeutsche Zeitung, the cartographic analysis of locations occupied by German (small and middle) hidden champions displays certain overlaps with German regions displaying strong economic future prospects. Thus, the relevance of SMEs for the German economy can once again be indicated. Yet no scientific conclusion by analogy can be drawn at this point.

<sup>5</sup> Effective day 30th January 2010

Forecast of economic productivity in German districts in 2014



Data source:  
Federal Statistical Office  
Calculation by BulwienGesa AG  
Süddeutsche Zeitung "Unsere Weltmarktführer"  
(Subjective selection of "hidden champions" )

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### 3 CATEGORIES OF GERMAN INDUSTRIAL PROPERTY

Parallel structures and differences between German and international industrial property markets become visible when comparing definitions and characteristics of each category and company sample schemes.

In accordance with the ULI Report "Guide to Classifying Industrial Property" from 2003 and numerous other Anglo-Saxon sources, including the American insurance group Prudential - a very active investor in the industrial property segment - the following classification applies to the industrial property segment:

Types of German Industrial Properties by Comparison		
International	Germany	Included in the Study
∅	Transformation property ( <i>Transformationsimmobilie</i> )	√
Multi-tenant	Multi-tenant property/Commercial zones ( <i>Gewerbepark/Multi-Tenant-Objekte</i> )	√
Warehouse distribution – Regional warehouse – Bulk warehouse – Heavy distribution – Refrigerated distribution – Rack-supported warehouse	Warehouse distribution ( <i>Logistik</i> ) – Regional warehouse ( <i>Regionales Frachtzentrum</i> ) – Bulk warehouse ( <i>Sperrgutlager</i> ) – Heavy distribution ( <i>Schwertransportzentrum</i> ) – Refrigerated distribution ( <i>Kühllager</i> ) – Rack-supported warehouse ( <i>Hochregallager</i> )	√
Manufacturing – Light manufacturing – Heavy manufacturing – Airport hangar	Manufacturing ( <i>Produktion</i> ) – Light manufacturing ( <i>Produktionsimmobilien</i> ) – Heavy manufacturing ( <i>Industrieimmobilien/-anlagen</i> ) – Airport hangar ( <i>Flughafenhallen</i> )	only light manufacturing property
Research & development flex (R&D)	Research & development ( <i>Forschung und Entwicklung</i> )	√
Freight Forwarding – Truck terminal – Air cargo	Freight forwarding ( <i>Fracht-Umschlag</i> ) – Truck terminal ( <i>Umladestationen</i> ) – Air cargo ( <i>Luftfrachtgebäude</i> )	∅
Data switch center	Data switch center ( <i>Rechenzentren</i> )	∅



The international classification of industrial property roughly applies to the German market, when complemented by the category "transformation property". However, the presented study deals only with selected categories of industrial property exhibiting sufficient investment potentials. The classification is explained in detail below.

*"Transformationsimmobilien" - Transformation property (I a)*

Transformation properties are (former) manufacturing facilities, with building structures grown together over time on operational grounds into an entity. Some of them have characteristics of industrial parks. They are usually located relatively centrally (in opposition to "greenfield" locations) in downtown commercial zones and are managed centrally. In the course of the transformation process, owners/asset managers benefit from the cash-flow secured by the current tenant and implement transformation measures, such as modification, conversion, extension or refurbishment in order to turn a single-use or single-tenant property into a multi-use or multi-tenant location.

*"Produktionsimmobilien mit Büroanteilen" - Manufacturing property with integrated offices (I b)*

When comparing the German industrial property market with Anglo-Saxon markets, the category "manufacturing" consists on Anglo-Saxon markets of:

- Light manufacturing
- Heavy manufacturing
- Airport hangar

In the context of possible tradeability, only the "light manufacturing" subcategory is at present relevant on the German real estate market. It also comprises manufacturing facilities (similarly to transformation property) and in Germany it is referred to as *Produktionsimmobilien* (manufacturing property).

The most important distinguishing criterion between both categories I a and I b is the missing transformation process in case of I b due to the not existing historic stock structures.

Additionally, German manufacturing properties are usually located in modern, traffic-oriented commercial zones. The commercial zone Gewerbegebiet Hulb/Böblingen should be mentioned here as an example. Typical users are enterprises from the manufacturing and processing sector generating only low emissions of noise, exhaust air ect., such as food producers, manufacturers of household appliances, electrical and medical engineering as well as clothing and furniture manufacturers. Following types of property do not count to this category:

- Property occupied by heavy industry (automobile factories, blast furnaces, etc.)
- Property occupied by industry with high emissions and at the same time rules regarding e.g. water and noise pollution, fire prevention, etc.
- Property occupied by industry, which can be better classified as plant/installation than as property, e.g. rack-supported warehouse, etc.

*"Multi-Tenant Objekt/Gewerbepark" - Multi-Tenant property/commercial zones (II)<sup>6</sup>*

German "Gewerbepark" is an equivalent of the international category multi-tenant industrial property/commercial zone. Property developers build multi-use schemes in commercial zones originally for industrial use. In contrast to transformation property, properties in this category do not include any historic stock. They much rather consist of a combination of office space, service and storage space arranged in a park-like layout, managed professionally and offered to potential tenants for rent. Multi-tenant commercial zones in Germany are located in the outskirts or in the suburbs of cities, because they must be well accessible for heavy lorry and freight traffic.

Additionally to the "typical" commercial zones of the 1st-4th generation (e.g. developed by GIP), featuring different shares of office and storage space (1st generation - large share of storage space, 4th generation - hardly distinguishable from office parks), a new generation of commercial parks emerges, often located close to the inner city and smaller (maximum 10 users/tenants, developed e.g. by Segro). This type of industrial property has been performing much better than the majority of older developments. However, due to their relatively short market presence and up until now only slight relevance for the analysed category of industrial property, modern commercial zones are not included in the presented analysis.

We distinguish following types of German multi-tenant industrial property:

- Type I: 90 % storage space, 10 % office space

<sup>6</sup> Definition in accordance with gif e.V.

The first type of multi-tenant industrial property, introduced to the German property market in early 1980s; hardly distinguishable from logistics parks; dominant tenant group - freight forwarders

- Type II: 60 % storage space, 40 % office space  
Higher share of office space compared with type I
- Type III: 45 % storage space, 45 % office space, 10 % service space  
Integration of more office space into storage space
- Type IV: 20 % storage space, 80 % office space  
Due to usually high land prices in the outskirt of large cities, 50 % of the existing service space is often redeveloped into office space

We take a critical line on the share of office space in case of the second type of multi-tenant industrial property amounting to 40 % (complemented by 60 % occupied by storage), since the share of office space in this kind of developments is far to large regarding the only secondary function of offices. This share of office space is also too large regarding the fact, that the property represents an unattractive location for an independent office user and thus prospects of achieving office rent in line with the market are often dim.

*"Logistik" - Warehouse distribution property (III)*

"Logistik" corresponds to the international category of warehouse distribution property and it includes all of its subcategories. Modern warehouse distribution properties are usually characterised by following features:



- Warehouse distribution properties encompass the functions of warehousing, handling and consignment of goods and commodities. They dispose of necessary infrastructure and technologies (e.g. materials-handling technology, office and social rooms, EDP, petrol stations, workshops et al.)
- They are situated in characteristic locations (ideally in industrial areas/freight traffic centres with other logisticians) and (very) well integrated into the transportation network (e.g. transshipment facilities for road, rail, water and air transport). They are often located at large traffic junctions (e.g. motorway intersections).
- Warehouse distribution properties are mostly operated by logistics companies, based on contract logistics agreements.

Due to unfavourable structures of already existing buildings, older stock properties are often not suitable for accommodating multi-tenant concepts. Nowadays, already during the initial planning phase, project developers pay particular attention to make sure that the developed property must be adapted to new market requirements and thus can at the same time be occupied by several tenants (multi-tenant-capacity). Furthermore, modern industrial properties - developed after the year 2000 - are characterised by different shares of office and storage space and basically different dimensions. Thus, we distinguish in this study between modern<sup>7</sup> warehouse distribution property (III a) and stock warehouse distribution property (III b).

<sup>7</sup> Constructed in 2000 or later

#### *"Forschung & Entwicklung" - Flex/Research & development property (IV)*

With the category Flex/Research & Development (R&D)" an equivalent to the German category "Forschung und Entwicklung" exists on the international property market. This type of industrial property is occupied by research and development facilities belonging to private enterprises or institutions. Their arrangement often resembles a campus.

However, university buildings are excluded from this category, as well as other public research facilities, such as the Federal Research Institute for Animal Health on the Island of Riems. Research and development properties are often located in direct vicinity of manufacturing facilities and include not only office space but also laboratories. Pharmaceutical companies as well as research departments of industrial companies count among their most typical tenants. Here fundamental research and new product development are based.

#### *Freight-forwarding and data-switch-centres*

The last two property categories described in the international context as "freight-forwarding" and "data switch centres" are excluded from the presented report. The reason for this is the little significance of these schemes in terms of their possible investment volumes and investment capacity. The same applies - as already mentioned in the description of I - to both subcategories "heavy industrial" und "airport hangar".

3.1.a

**I a Transformation Property**

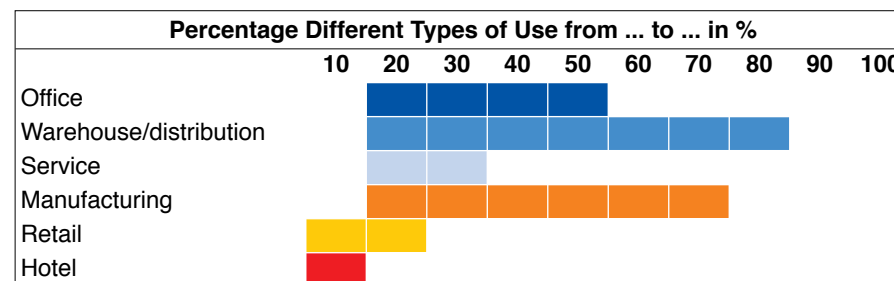
**Multi-Use-Schemes, Former Manufacturing Facilities Grown Together over Time on Operational Grounds**



**Property Profile (technical data)**

- Very diverse types of use (warehouse, office, manufacturing, infrastructure, etc.)
- Diverse unit dimensions
- Partly multi-level manufacturing area
- Central media supply (transformer station, heating plant, etc.)
- Predominantly ground level loading, only sporadic loading ramps
- Often crane systems/crane runways
- Loading capacity at least 3 t/sqm, often higher
- Ceiling heights at least 3 m, partially much higher
- Limited parking and shunting space for lorries
- In some cases (still) private haulage and infrastructure (canteen, gate keeper, etc.)
- In some cases several access roads to the premises
- Often (former) railway siding still existent

Dimension in sqm Useable Area			Plot Size in sqm		
minimum	average	maximum	minimum	average	maximum
10.000	30.000	120.000	10.000	50.000	150.000



- Typical Location Characteristics**
- Often city central, integrated location
  - Good infrastructural connection
  - Grown structures
  - Heterogeneous neighbourhood (residential/commercial uses)
  - Often vicinity of railway tracks

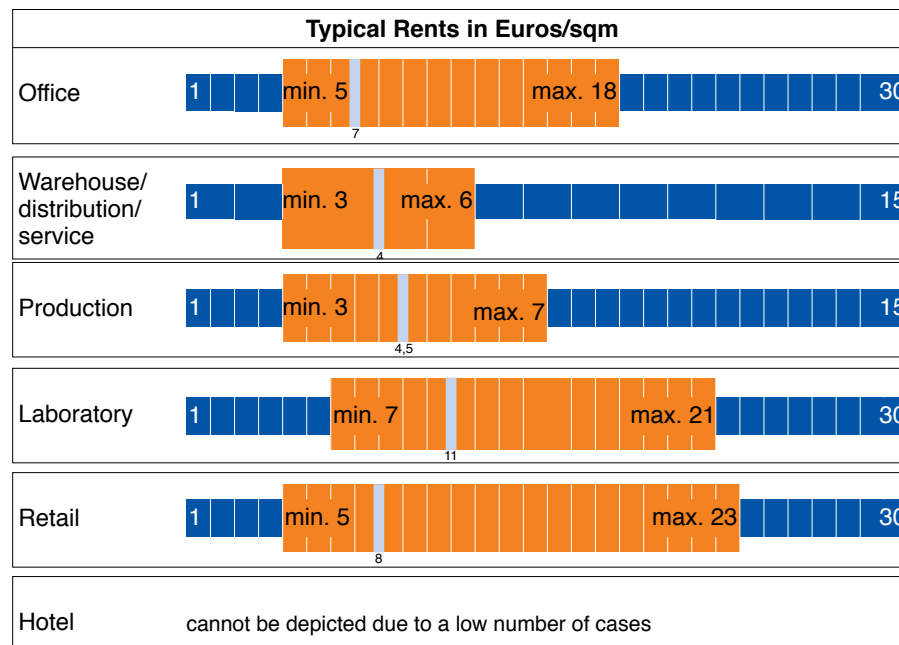
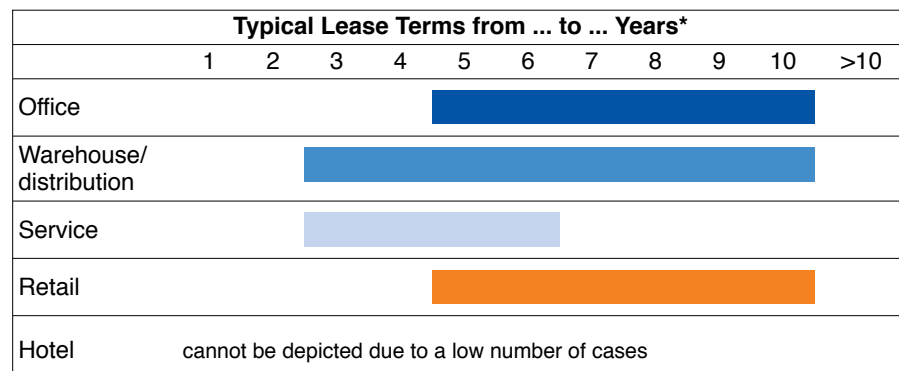
Alternative Use Capacity			Max. Commercial Viability up to ... Years*									
low	medium	high	5	10	20	30	40	50	60	70	80	100
		x										

**Typical User/Tenant Structures**

Service providers	+++	Wholesale	+
Logistics	0	Light manufacturing	++
Courier transport	+	Manufacturing	++
Minor transport	+	Research & development (R&D)	+
Retail	+	Event space/leisure	+

0 = not represented      ++ = averagely represented  
 + = seldom represented      +++ = strongly represented

\* Depending on the progress of refurbishments; In case of revitalised properties the remaining useful life is considerably longer



\* Depending on the progress of development/stabilisation

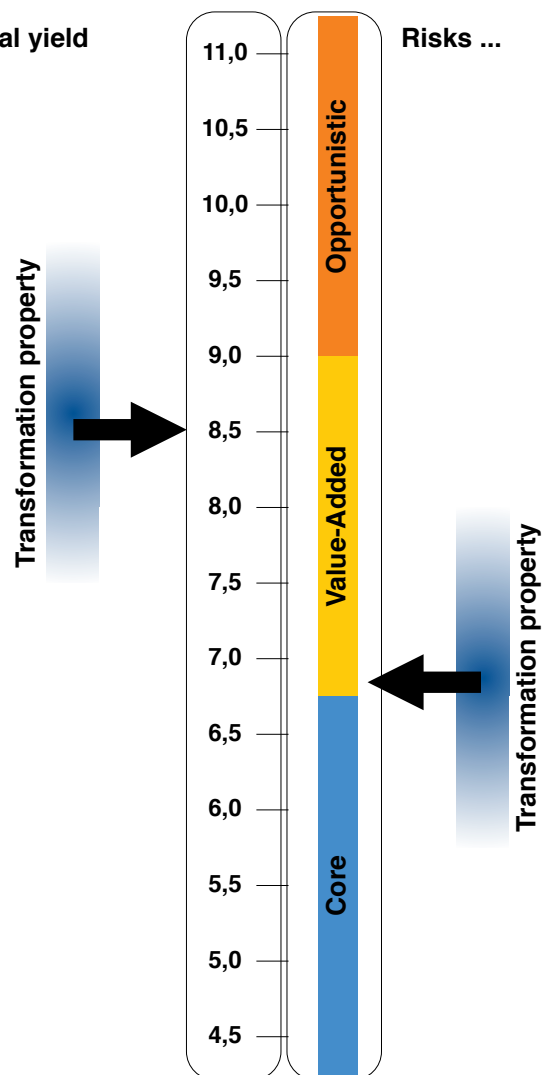
Typical Tenancies						
City	Tenant	Sector	Type of use	Rental area sqm	Rent/sqm floor space in euros	Year of signing
Berlin	T-Hall	Leisure	Hall	1.760	3,28	2010
Berlin	PCS Power Converter Solutions	Industry/production	Office/production/logistics/R&D	2.500/7.000/2.500/3.000	-	2010
Stuttgart Stuttgart	Alstom Power SMR Automotive Services	Industry/production	Office/Office/R&D	1.600/4.100/1.000	9,50/7,00/7,00	2010 2009
Berlin	PI Photovoltaik-Institut	Services	Office/logistics	666/1.562	4,15/4,25	2009
Hamburg	Elbwerkstätten	Services	Office	2.500	6,00	2009
Cologne	Lübbe	Publishing house	Office	5.800	11,40	2009
Cologne	InBit	Software/IT	Office	1.040	8,30	2009
Berlin	Koebecke GmbH	Printing plant	Office/production	650/950	6,50/3,50	2009

Typical Investments					
City	Investor	Size of property in sqm	Approx. PP* in m of euros	NIY**	Year
Berlin	Beos	8.600	7,0	-	2008
Berlin	Sirius Facilities	73.100	28,0	8,90	2008
Frankfurt/M.	Beos	50.000	40,0	-	2008
Herborn	German Property AS	55.000	17,0	-	2008
Mainz	Beos	123.000	60,0	8,8 gross	2008
Berlin	Property Service Group	16.000	9,0	-	2009

\* PP: purchase price    \*\* NIY: Net initial yield

### Yield-Risk-Scale

Net initial yield  
in %



Risks ...

... Volume risk

Transformation property is often large-volumed and requires intensive tenant support as well as experience in project development. Due to the multi-use structures, a specific challenge arises in the complexity of the project, which requires development in stages.

... Time risk



The time factor plays a key role in case of transformation property, since the **yield gap between purchase (Ø 8.50%) and sale (Ø 6.75%)<sup>1</sup>** is quite large, regarding the property's development in between. Already existing tenancy agreements offer support during the purchase phase and financing of further development steps. The yield gap corresponds to high development costs and high value-added-potentials for investors.

... Vacancy risk



The vacancy risk declines along with expanding the tenant mix and assuring a broad target group approach (redevelopment, conversion, supplementation and refurbishment of a single-tenant and single-use-property into a multi-tenant and multi-use-property). Upgrading the floor space (conversion from ordinary storage to office or retail) represent another option.

<sup>1</sup> cf. exit-cap-rates on page 52



3.1.b

**I b Manufacturing Property**

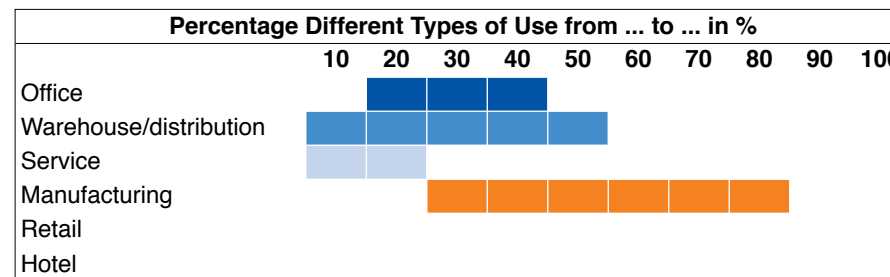
**Manufacturing Schemes with Office Space, Possible Multi-Tenant-Use**



**Property Profile (Technical Data)**

- Diverse unit dimensions
- Predominantly ground level loading
- Narrowed loading area, limited shunting space
- Usually no through-loading ramp
- User-specific development, yet divisible
- Often crane systems
- Large current capacities
- Loading capacity at least 2 t/sqm
- Ceiling heights approx. 4–8 m

Dimension in sqm Useable Area			Plot Size in sqm		
minimum	average	maximum	minimum	average	maximum
5.000	20.000	60.000	10.000	30.000	80.000



**Typical Location Characteristics**

- Often commercial zones
- Proximity of motorways
- Partly vicinity of railway tracks
- Established infrastructure on site
- Commercial use and industry in the surroundings

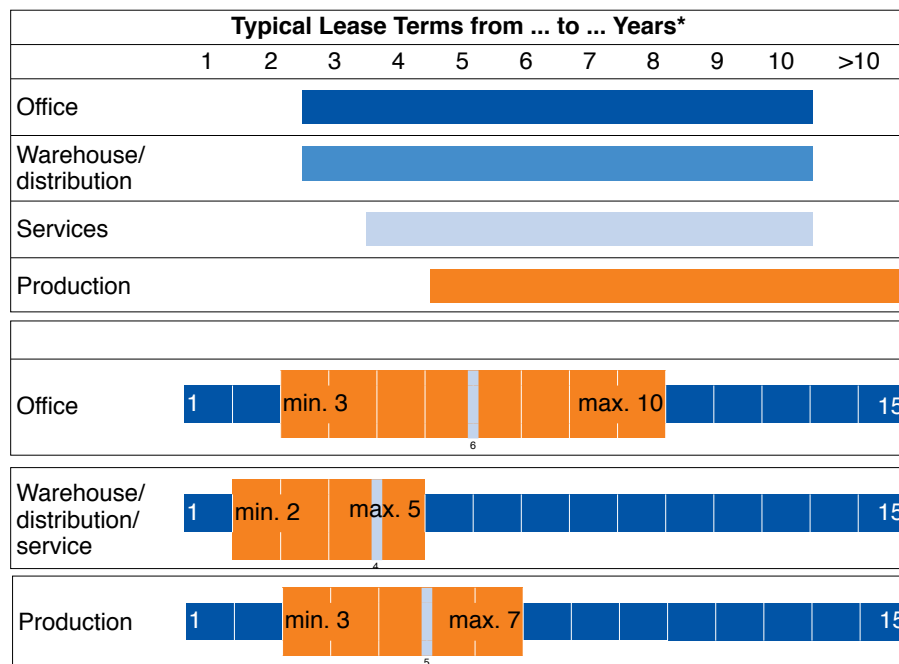
Alternative Use Capacity			Max. Commercial Viability up to ... Years*										
low	medium	high	5	10	20	30	40	50	60	70	80	90	100
	x												

**Typical User/Tenant Structures**

Service providers	++	Wholesale	0
Logistics	0	Light manufacturing	+++
Courier transport	0	Manufacturing	+++
Minor transport	0	R&D	0
Retail	0	Event space/leisure	0

0 = not represented      ++ = averagely represented  
 + = seldom represented      +++ = strongly represented

\* Depending on the progress of refurbishments; In case of revitalised properties the remaining useful life is considerably longer



Typical Tenancies						
City	Tenant	Sector	Type of use	Rental area sqm	Rent/sqm floor space euros	Year of signing
Cologne	Buch- und Offsetdruckerei Häuser KG	Media	Office/ production	1.500/ 8.600	–	2009
Hamburg	Plastic Global Network GmbH	Production	Storage	2.564	–	2009
Esslingen/ Neckar	Hexion Specialty Chemicals	Chemicals	Mixed	10.000	–	2009

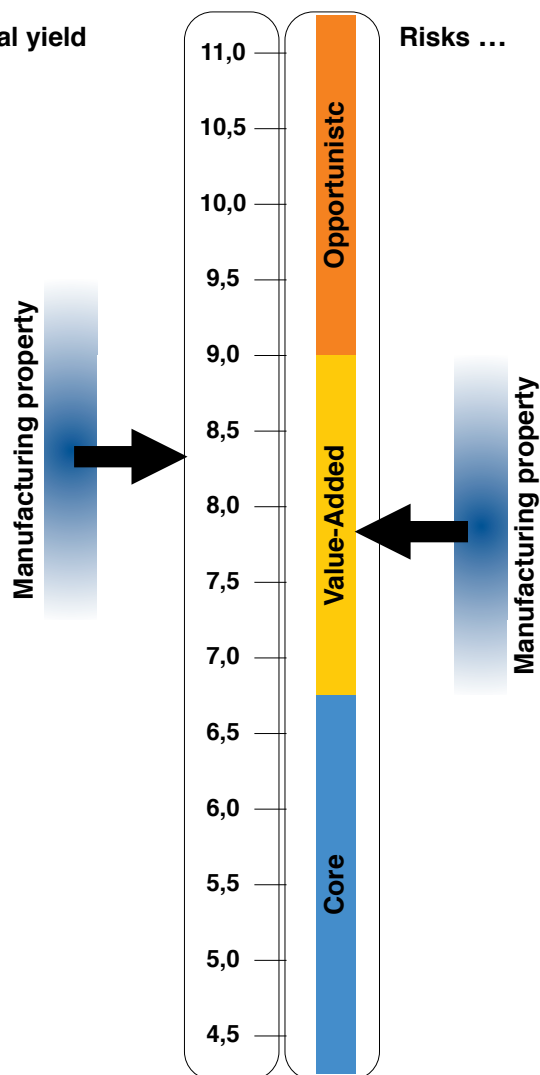
Typical Tenancies						
City	Tenant	Sector	Type of use	Rental area sqm	Rent/sqm floor space euros	Year of signing
Groß-Gerau	Cummins	Industry	Mixed	2.900	–	2009
Groß-Gerau	CHG-Meridian Deutsche Computer Leasing AG	IT/ services	Office/ logistik + service	1.500/ 8.500	9,00/ 5,00	2009
Hamburg	YXLON International X-Ray GmbH	Industry/ production	Office/ service/ storage	1.968/ 3.600/ 400	12,00/ –/ –	2009
Garbsen	New Oil Technologies	Production	Office/ production	500/ 1.800	–	2008
Esslingen am Neckar	Hexion Specialty Chemicals	Chemicals	Production	10.000	–	2008

Typical Investments					
City	Investor	Size of property in sqm	Approx. PP* in m of euros	NIY**	Year
Gottmadingen	Hansteen Holdings	70.000	37,0	–	2010
Norderstedt	Württembergische Lebensversicherung AG	27.100	–	–	2009
Dormagen	Höveler Spezialfutterwerke GmbH	5.900	–	–	2009
Munich	Sirius Facilities GmbH	58.500	30,0	–	2008
Donauwörth	Wealth Management Capital Holding	29.700	36,8	–	2008
Witten	1st Red AG	35.600	9,0	–	2008

\*PP: purchase price \*\*NIY: Net initial yield

**Yield-Risk-Scale**

Net initial yield  
in %



... Volume risk

Volume risk in case of manufacturing properties is rather low. Only in regions characterised by weak economic structures re-letting risk occurs regarding large properties.

... Time risk



Manufacturing properties are nearly always purchased with running tenancy agreements and not speculatively. Thus, assuming certain credit standing of the property's tenants, stable cash flow should be secured over the years. The alternative use capacity can only be assessed as moderate. Consequently, the time risk is the highest.

... Vacancy risk



Single-tenant structures are common. Thus thorough credit assessment of the tenant is necessary, due to potential risk of vacancy leading to loss of the entire cash flow. Since many tenants are location-bound (SME-structures), renewals are quite probable.

3.2

**II Multi-Tenant-Property incl. Commercial Zones**

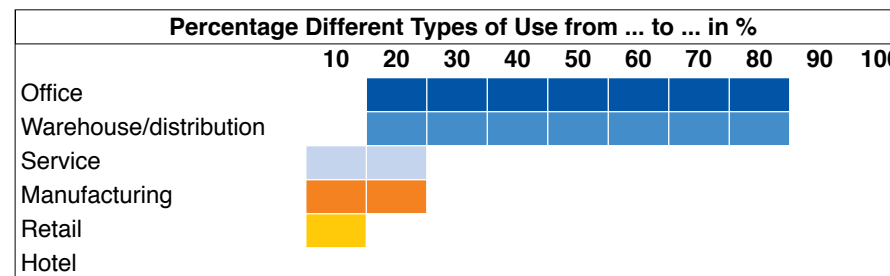
**Multi-Use-Scheme, built Originally for Industrial Use in (Peripheral) Commercial Zones, often Centrally Managed**



**Property Profile (Technical Data)**

- Very good alternative use capacity
- Diverse unit dimensions
- Ground level loading docks and loading ramps
- Hall sizes between 500 and 1,000 sqm with 1–3 drive-in doors
- Load capacity at least 2 t/sqm
- Ceiling heights office 3.00–3.75 m, ceiling heights halls 6–8 m
- 2- to 3-level office buildings, often a single wing above loading ramps
- Intelligent management of location's accessibility
- Sufficient amount of parking lots (outside, underground or multi-storey car park)
- Lifts in office buildings, no freight elevators

Dimension in sqm Useable Area			Plot Size in sqm		
minimum	average	maximum	minimum	average	maximum
5.000	10.000	70.000	10.000	15.000	110.000



**Typical Location Characteristics**

- Mostly in commercial zones developed in the 1970s and 1980s
- Often located along access/exit roads, vicinity of motorways
- Vicinity of public transportation
- Partly little infrastructure, hardly any local supply
- Homogeneous neighbourhood (industrial and retail property)
- No typical office locations

**Alternative Use Capacity**

low	medium	high
		x

**Max. Commercial Viability up to ... Years\***

5	10	20	30	40	50	60	70	80	100

**Typical User/Tenant Structures**

Service providers	+++	Wholesale	+
Logistics	+	Light manufacturing	+
Courier transport	++	Manufacturing	0
Minor transport	+	Research & development (R&D)	0
Retail	+	Event space/leisure	+

0 = not represented      ++ = averagely represented  
 + = seldom represented      +++ = strongly represented

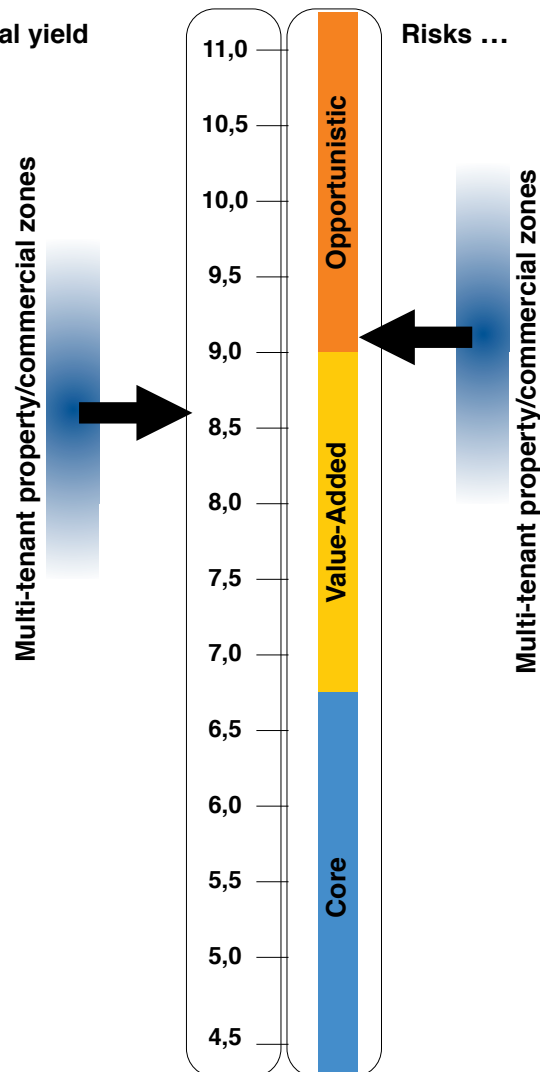
\* Depending on the progress of refurbishments; In case of revitalised properties the remaining useful life is considerably longer





**Yield-Risk-Scale**

Net initial yield  
in %



... Volume risk

From today's perspective, different generations of traditional commercial zones are often too large, which leads to high risks and yield assessments. Small and medium commercial zones as well as modern multi-tenant schemes, often located within the city, occupy the bottom of the applying yield range.

... Time risk



This type of property - at least regarding traditional commercial zones - has been getting on in years and requires investments concerning the old building fabric. New demands on the part of enterprises regarding location make small and medium schemes located within the city attractive, the more so since these schemes are usually modern and they are regarded as less risky.

... Vacancy risk



Regarding the mixture of different types of use and their distribution as well as accessibility by means of transportation, multi-tenant schemes feature high vacancy risk potentials. At the same time, their alternative use capacity is very high, due to flexible structures. Thanks to multi-tenancy structures, the risk of rental losses is - provided an appropriate occupancy level - lower than in case of single-tenant schemes.

3.3.a

**III a Modern Warehouse Distribution Property**

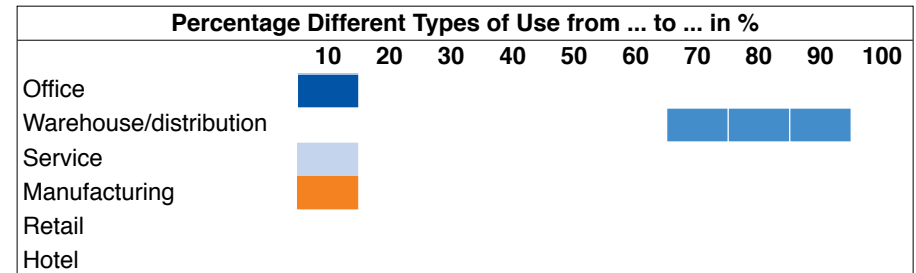
**Modern Warehouse Distribution Property with Integrated Offices and High Handling Volume, Feasible for Multi-Tenant Use**



**Property Profile (Technical Data)**

- Load capacity at least 5 t/sqm, floor flatness according to DIN 15185
- Ceiling heights 8-12 m
- Many docks, far more than 1dock/loading bridge per 1,000 sqm warehouse floor
- Maximum 10 % office space
- Generous delivery yards/shunting area and parking spaces with a minimum depth of 35 m
- Supporting grid at least 12.50 m
- Fire compartment areas not larger than 1,200 to 6,000 sqm
- Floorspace easily split into sections
- Gas blower heating
- Sprinkler system

Dimension in sqm Useable Area			Plot Size in sqm		
minimum	average	maximum	minimum	average	maximum
10.000	25.000	100.000	10.000	55.000	150.000



**Typical Location Characteristics**

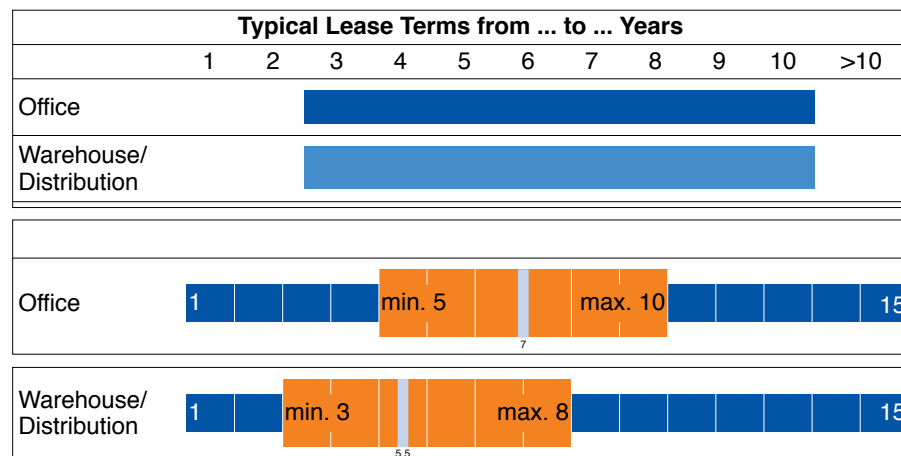
- Commercial zones/ 24/7-commercial zones/industrial parks
- Direct motorway access/motorway junctions in direct vicinity (max. 2.5 km)
- Vicinity of airport and/or harbour, container terminal, transformer station
- Mostly low business tax rate
- Extension of the property possible
- Undisturbed access/exit roads
- Avoidance of cross-town links (traffic jam risk)

Alternative Use Capacity			Max. Commercial Viability up to ... Years*									
low	medium	high	5	10	20	30	40	50	60	70	80	100
		x										

**Typical User/Tenant Structures**

Service providers	+++	Wholesale	++
Logistics	+++	Light manufacturing	0
Courier transport	0	Manufacturing	0
Minor transport	0	Research & development (R&D)	0
Retail	0	Event space/leisure	0

0 = not represented	++ = averagely represented
+ = seldom represented	+++ = strongly represented



**Typical Tenancies**

City	Tenant	Sector	Type of use	Rental area sqm	Rent/sqm floor space in euros	Year of signing
Bergheim	TK Maxx	Industry	Logistics	48.000	–	2010
Ginsheim-Gustavsb.	Garant Spedition & Logistik	Transportation	Storage	9.000	–	2010
Rade	C & A	Retail	Office/logistics	188/8.750	8,00/4,85	2009
Bielefeld	DHL	Transportation	Office/logistics	730/7.300	–	2009
Bischofsheim	Rigterink	Transportation	Office/logistics	532/18.392	5,64/3,81	2009
Langenbach	DSV	Transportation	Logistik	21.000	5,33	2009
Lehrte	Rexel Elektrofachgroßhandel	Wholesale	Mischflächen	16.000	3,00	2009

**Typical Tenancies**

City	Tenant	Sector	Type of use	Rental area sqm	Rent/sqm floor space in euros	Year of signing
Cologne	Gastronomie Service Dahmen	Services	Office/logistics	180/1.000	8,00/5,50	2009
Hamburg	Jeschke Spedition	Transportation	Office/logistics	733/12.000	9,00/–	2009
Rade	–	Retail	Office/logistics	188/8.750	8,00/4,85	2009
Hamburg	Wego Systembaustoffe	Wholesale	Office/logistics	850/4.049	8,00/5,25	2008
Hannover	Wabco	Industry	Office/logistics	6.750	3,00	2008
Wedemark-Mellendorf	FS-ZM	Industry	Office/logistics	2.146/23.140	6,00/3,50	2008
Mülheim an der Ruhr	Schmalz + Schön	Transportation	Office/logistics	800/10.000	6,50/4,50	2008
Rieste	PSA Peugeot Citroen	Industry	Office/logistics	2.057/42.000	6,00/3,40	2008
Oberding	Group 7	Transport	Büro/Logistik	2.000/13.000	9,00/5,20	2008

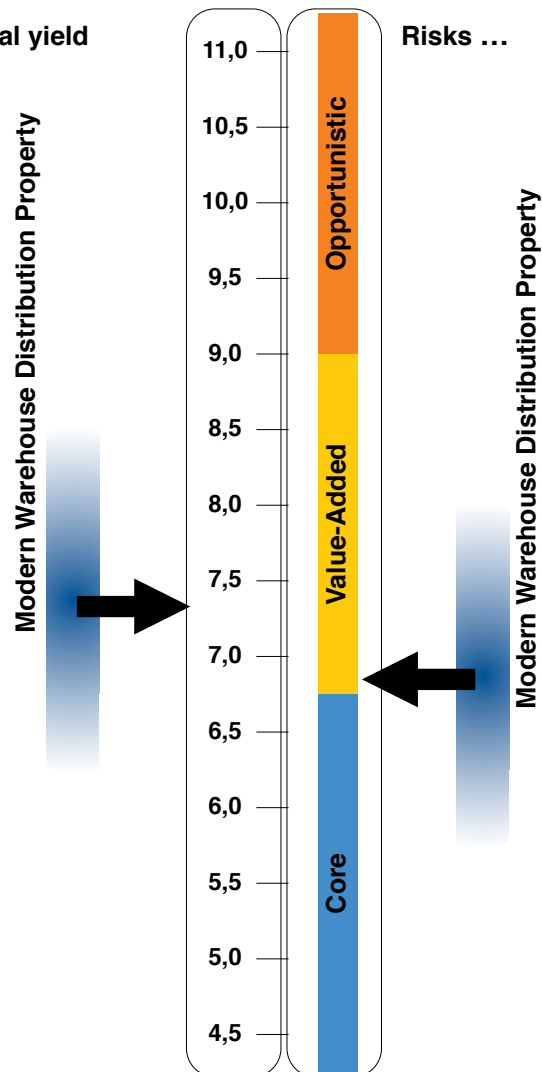
**Typical Investments**

City	Investor	Size of property sqm	Approx. PP* in m of euros	NIY**	Year
Hamburg	Unilmmo: Deutschland	27.500	22,4	7,3	2010
Mönchengladbach	Unilmmo: Global	53.200	34,5	7,2	2010
Bad Hersfeld	Immo-Invest: Europa	102.000	40,0	7,2	2009
Großostheim	CGI hausInvest global	34.700	26,4	8,5	2009
Berlin	Prupim M&G European Property Fund	39.600	57,0	–	2008
Memmingen	Wealth Cap Immobilien Deutschland 30	50.200	61,5	–	2008
Hamburg	ING Real Estate	86.900	90,0	–	2008
Bremerhafen	Immo-Invest: Europa	29.900	21,0	8,3	2008
Garching	AXA REIM	11.000	21,0	7,9	2008

\* PP: purchase price \*\* NIY: Net initial yield

**Yield-Risk-Scale**

Net initial yield  
in %



... Volume risk

The size of modern warehouse distribution property plays a minor role in terms of risk assessment. Even though properties of more than 50,000 sqm are often custom-tailored for a specific user, still - provided appropriate flexibility of main structures - the volume risk regarding alternative use capacity can be limited. The scheme can in this case be used for multi-tenant purposes.

... Time risk



The time factor often comes into play after the expiration of the - usually long-term - lease contract (incl. options) with the main tenant. At this point, the property reached an age of 10 to 20 years. It remains to be seen whether the property's location, size and fittings still meet the strict requirements of the changing market. Planning as flexible basic structures as possible facilitates later adaptation to the new market situation.

... Vacancy risk



Single-tenant structures are common. Thus thorough credit assessment of the tenant is necessary, due to potential risk of vacancy leading to loss of the entire cash flow. However, in case when the scheme is located in one of Germany's major logistics locations, provided its structures are in line with the market, the vacancy risk is only minimal, especially when long lease terms are agreed.



3.3.b

**III b Stock Warehouse Distribution Property**

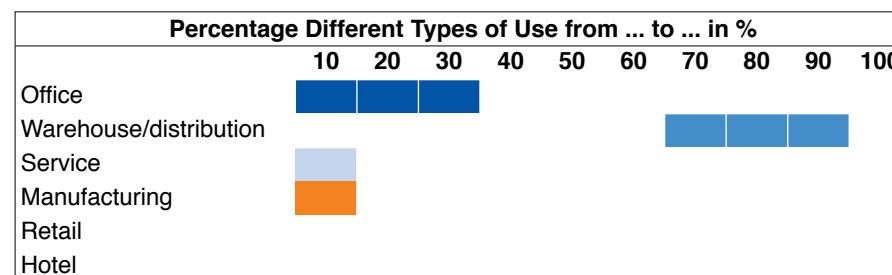
**Stock Logistics Property often with Low Equipment Standards and Handling Volume, Feasible for Multi-Tenant Use**



**Property Profile (Technical Data)**

- Load capacity at least 5 t/sqm
- Ceiling heights 5-8 m
- Often poor insulation, heated and unheated halls
- Ground level loading and loading ramps
- Maximum 1 dock/loading bridge per 1,000 sqm warehouse floor
- Floorspace hardly divisible
- Share of office space up to 30 %
- Often no sprinkler system
- Supporting grid below 10 m
- Year of construction before 2000

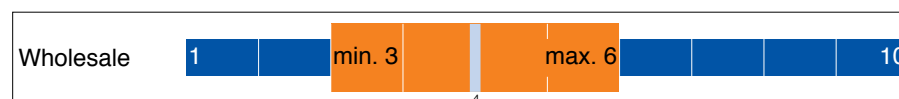
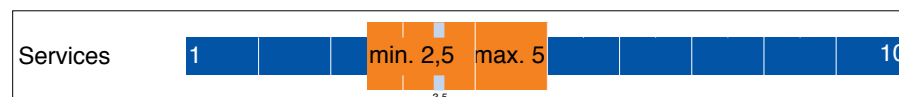
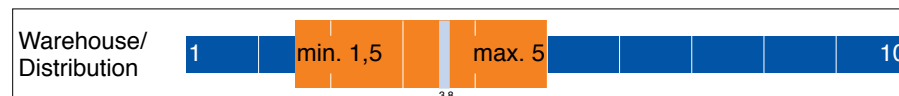
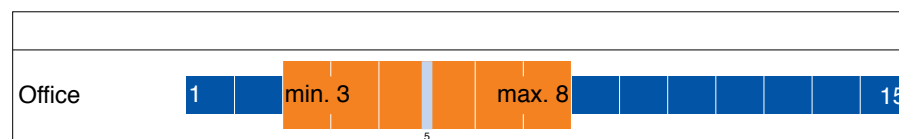
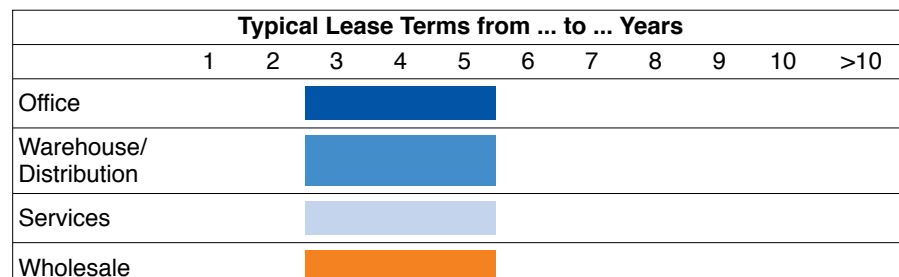
Dimension in sqm Useable Area			Plot Size in sqm		
minimum	average	maximum	minimum	average	maximum
5.000	10.000	60.000	5.000	15.000	100.000



Typical Location Characteristics	
-	Usually grown and established structures (commercial zone/industrial park)
-	Often accessible with public transportation
-	Acceptable infrastructural location
-	Peripheral location near motorways
-	Homo- to heterogeneous neighbourhood (depending on history/surroundings)
-	No or only limited extension potentials

Alternative Use Capacity			Max. Commercial Viability up to ... Years*									
low	medium	high	5	10	20	30	40	50	60	70	80	100
	x											

Typical User/Tenant Structures			
Service providers	+++	Wholesale	+++
Logistics	+++	Light manufacturing	+
Courier transport	+	Manufacturing	+
Minor transport	+	Research & development (R&D)	0
Retail	0	Event space/leisure	+
0 = not represented		++ = averagely represented	
+ = seldom represented		+++ = strongly represented	



**Typical Tenancies**

City	Tenant	Sector	Type of use	Rental area sqm	Rent/sqm floor space in euros	Year of signing
Ratingen	b+s Exhibitions	Services	Storage	5.613	4,50	2010
Ahrensburg	ACUS Textiles	Retail	Office/ logistics	1.000/ 16.000	–	2010
Dresden	Heliatek GmbH	R&D	Office/ logistics	430/ 3.000	–	2010

**Typical Tenancies**

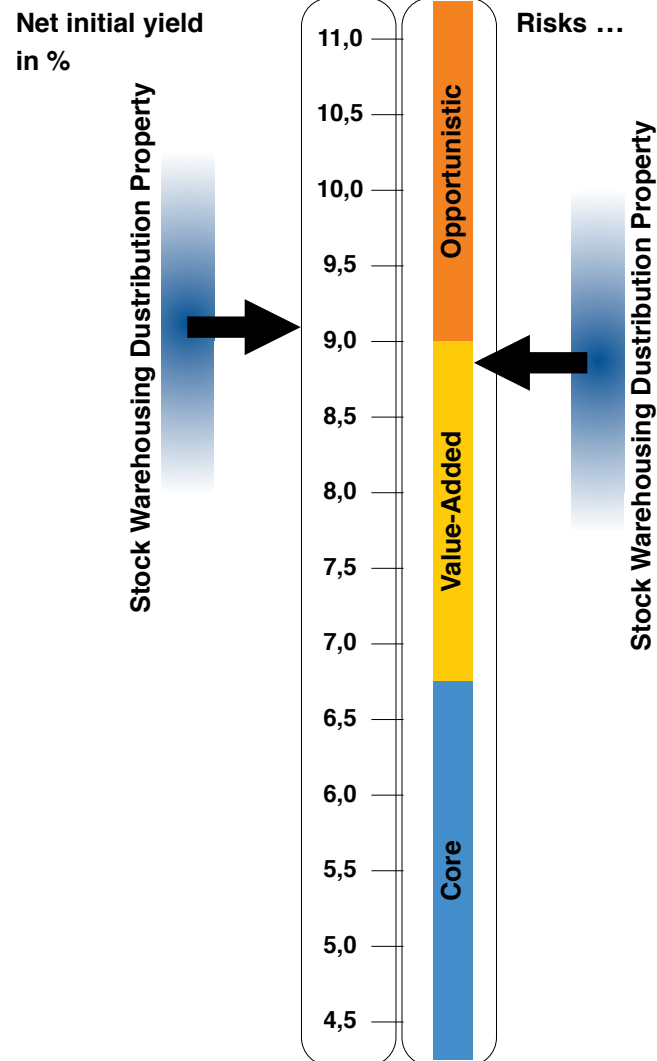
City	Tenant	Sector	Type of use	Rental area sqm	Rent/sqm floor space in euros	Year of signing
Ratingen	Arena Electronics	Retail	Office/ logistics	492/ 2.382	7,00/ 4,50	2009
Berlin	Deutsche Post	Transportation	Logistics	1.911	5,10	2009
Berlin	Verpackungsdienstleister	Services	Office/ logistics	200/ 800	3,50/ 3,50	2009
Laatzen	Schmidt Winterdienst- und Kommunaltechnik	Services	Office/ logistics	293/ 5.263	– /4,25	2009
Hannover	Mein Holz	Retail	Mixed	2.306	2,90	2009
Bonn	Stadtarchiv	Public	Storage	1.129	5,31	2009
Hamburg	TexTrans Nord Logistik	Transportation	Office/ logistics	234/ 4.000	6,60/ –	2009
Hamburg	BSN Medical	Industry	Mixed	11.000	5,90	2009
Hanau	Spedition Anker	Transportation	Logistics	12.874	4,17	2008
Pulheim	Ecostream	Retail	Logistics	4.057	4,00	2007

**Typical Investments**

City	Investor	Size of property in sqm	Approx. PP* in m of euros	NIY**	Year
Neunkirchen Saar	Industrial Securities Europe	5.189	5,8	–	2008
Winsen/Luhe	DEGI German Business	33.501	18,3	–	2008
Garching	Privat	19.000	–	–	2009
Münster	ERGO Trust Logistikfonds Nr. 1	36.927	13,7	–	2008
Bornheim	BVT Ertragswertfonds 4	12.500	5,1	–	2008
Ötigheim	Hanstee Holdings	13.718	9,1	10,2	2007

\* PP: purchase price    \*\* NIY: Net initial yield

**Yield-Risk-Scale**



**... Volume risk**

The size of stock warehouse distribution property plays a minor role in terms of risk assessment. However, compared to modern warehouse distribution property, this type of industrial property can be assessed as less flexible. The volume risk regarding alternative use capacity is higher, adapting the property for multi-tenant purposes often involves high costs.

**... Time risk**



The alternative use capacity of stock warehouse distribution property is average, due to (old) basic structures on the supply side and at the same time quickly changing requirements of the modern logistics industry on the demand side. The older the scheme, the higher investments regarding reconstruction measures. Constructing a new scheme is often a plausible long-term alternative.

**... Vacancy risk**



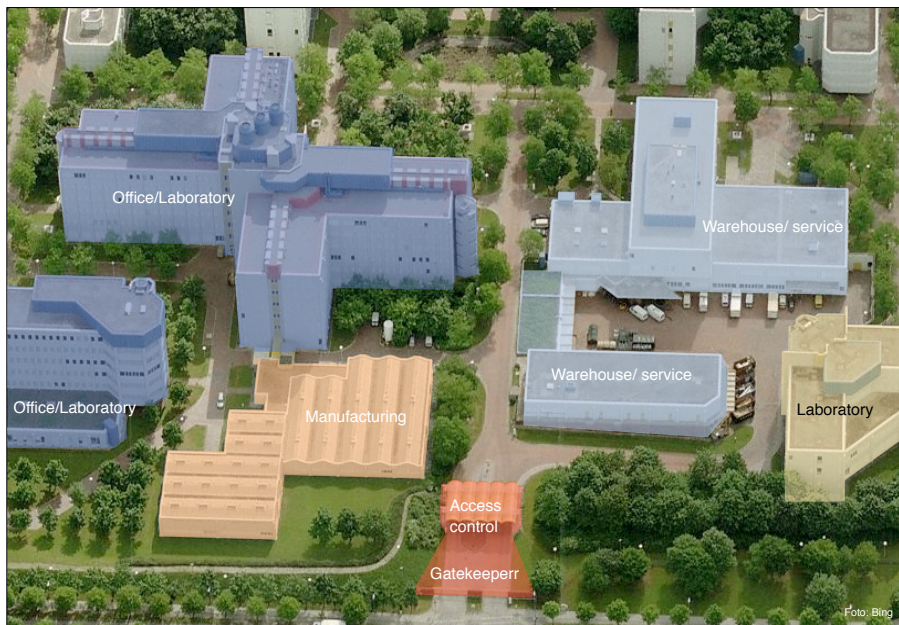
Lease terms in stock warehouse distribution schemes are shorter than in modern logistics property. Consequently, management costs increase. Furthermore, often fewer tenants generate the entire cash flow. Thus thorough credit assessment of the tenant is necessary in order to minimise the vacancy risk. On the demand side, tenants are highly mobile and not location-bound. Thus renewals are common only during economic upswing phases.



3.4

**IV Research and Development Property (R&D)**

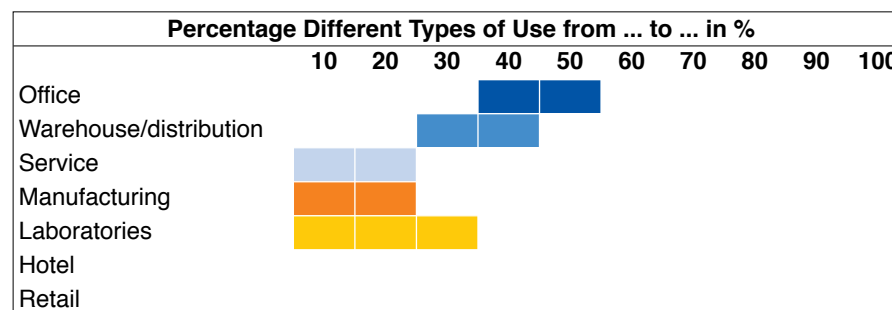
**Research and Development (Campus-Character)**



**Property Profile (Technical Data)**

- Different unit dimensions with laboratory space and offices
- Loading often hindered and production-/research-related, ground level docks
- Often very specific floor layouts
- Conditioning zones and fire protection requirements
- Load capacity at least 3 t/sqm
- Normally no multifunctional floors
- Enclosed area, access control, gate keeper
- Partly high technical costs regarding air-conditioning, water treatment, process cooling water, low temperatures, extra suction, industrial gases, emergency power supply, etc.
- Ceiling heights at least 3 m

Dimension in sqm Useable Area			Plot Size in sqm		
minimum	average	maximum	minimum	average	maximum
8.000	20.000	70.000	15.000	35.000	100.000



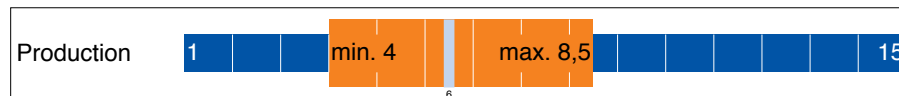
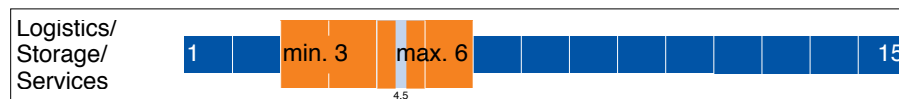
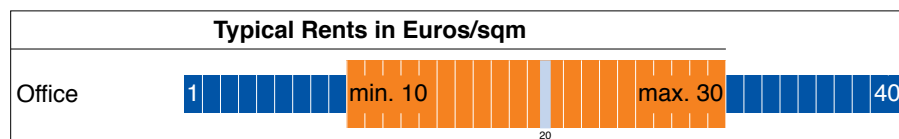
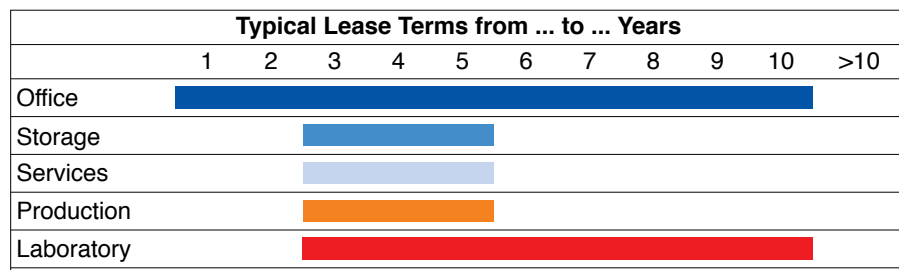
- Typical Location Characteristics**
- Commercial zones
  - Airport and motorway vicinity
  - Well accessible with public transportation
  - Heterogeneous neighbourhood (residential/commercial property)
  - Often near large industrial enterprises/regions

Alternative Use Capacity			Max. Commercial Viability up to ... Years*									
low	medium	high	5	10	20	30	40	50	60	70	80	100
x												

**Typical User/Tenant Structures**

Service providers	+++	Wholesale	0
Logistics	0	Light manufacturing	+
Courier transport	0	Manufacturing	+
Minor transport	0	Research & development (R&D)	+++
Retail	0	Event space/leisure	0

0 = not represented      ++ = averagely represented  
 + = seldom represented      +++ = strongly represented



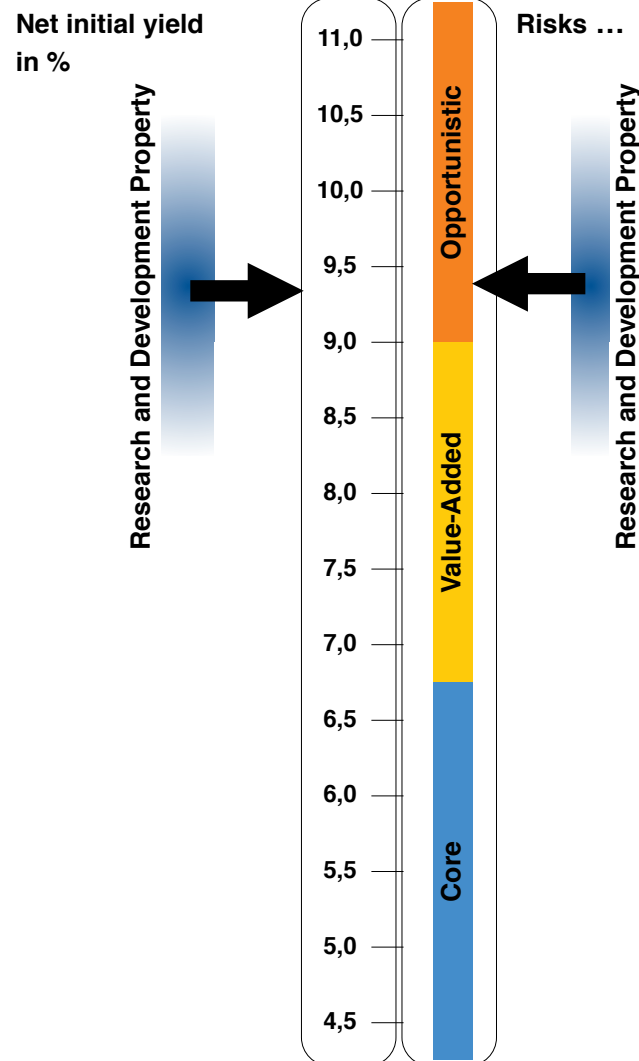
Typical Tenancies						
City	Tenant	Sector	Type of use	Rental area sqm	Rent/sqm floor space in euros	Year of signing
Berlin	BSH Bosch und Siemens Hausgeräte	Industry	Office/ Services/ Storage	20.000/ 5.000/ 9.450	10,50/ 10,50/ 4,37	2010

Typical Tenancies						
City	Tenant	Sector	Type of use	Rental area sqm	Rent/sqm floor space in euros	Year of signing
Backnang	Tesat-Spacecom	Electronics	Mixed	12.000	–	2010
Ottobrunn	MTU Onsite Energy	Industry	Office/ Logistics/ Production	2.250/ 2.238/ 6.112	–	2009
Berlin	Neutron Games	Software	Office	197	2,70	2009
Munich	Siemens AG	Industry	Production	5.715	–	2008
Wiesbaden	Hum. Ges. f. Biochemic/Diagnostca	Pharmaceuticals	Office/ Logistics/ Laboratory	1.160/ 1.400/ 630	–	2008
Berlin	Mforce	Pharmaceuticals	Office	1.750	11,50	2008
Berlin	Parexel	Pharmaceuticals	Office	1.080	11,00	2008

Typical Investments					
City	Investor	Size of property in sqm	Approx. PP* in m of euros	NIY**	Year
Munich	HIH Hamburgische Immobilien Handlung/ RFR Holding	216.469	300 - 400	–	2010
Augsburg	Car Val Investors (CVI)	105.000	–	–	2007
Hanau	Dietz AG	20.000	–	–	2009
Darmstadt	Prime Office AG	71.869	–	–	2006
Feldkirchen	CLS Holdings plc	18.725	28,6	7,0 br.	2006
Backnang	Tamar Capital Partners	54.000	23,0	–	2007

\*PP: purchase price \*\*NIY: Net initial yield

**Yield-Risk-Scale**



**... Volume risk**

Research and development properties are often large, since many enterprises decide to centralise their research departments. Thus schemes of maximum 30,000 to 40,000 sqm floor space pose a high cluster risk for investors, due to their minor alternative use capacity.

**... Time risk**



Even if the design and building structures are relatively flexible, R&D schemes are characterised by only minor alternative use capacity (redeveloping offices into laboratories and vice versa involves high costs). In the long term, this makes it difficult to adjust the property to current market requirements and demand structures.

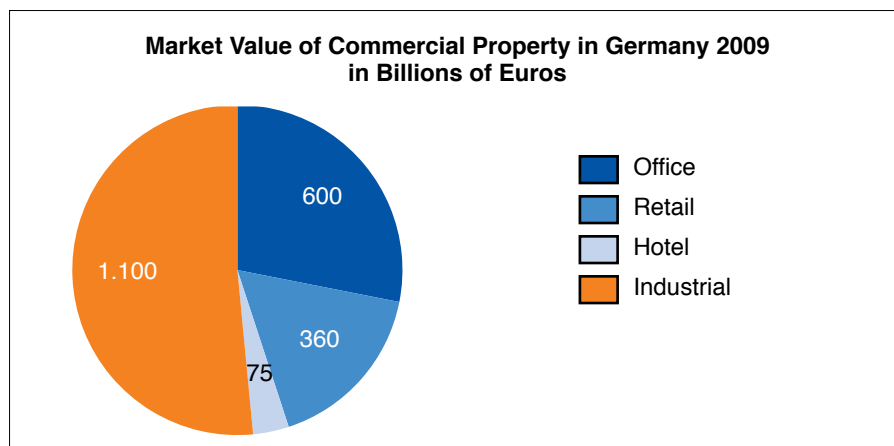
**... Vacancy risk**



The vacancy risk regarding R&D property is significantly increased. This type of property is highly specialised (upgrades, etc.) for certain users - often only a limited target group can be approached. At the same time tenants are highly dependent on their parent company, located in direct vicinity of the property. In case of (global) restructuring measures, adjacent R&D departments/schemes are often affected as well.

## 4 MARKET VOLUME AND INVESTMENT

The current market value of commercial property (incl. office, retail, hotel) in Germany is estimated at roughly 2,135 bn euros. According to estimations based on the IW/ZEW<sup>1</sup> from late 2009, the market value of the asset class "industrial property" amounts to roughly 1,100 billion euros<sup>2</sup>, corresponding to approx. 51 % of the entire German commercial property. From a methodological perspective, this estimation is based on land use statistics for Germany and average valuations. For the sake of comparison, at the end of 2009 market volumes of other commercial property segments were the following: office property amounted to roughly 600 bn euros (28 %), retail property was roughly 360 bn euros (approx. 17 %) and hotels had a share of approx. 75 bn euros (approx. 3.5 %)<sup>2</sup>.

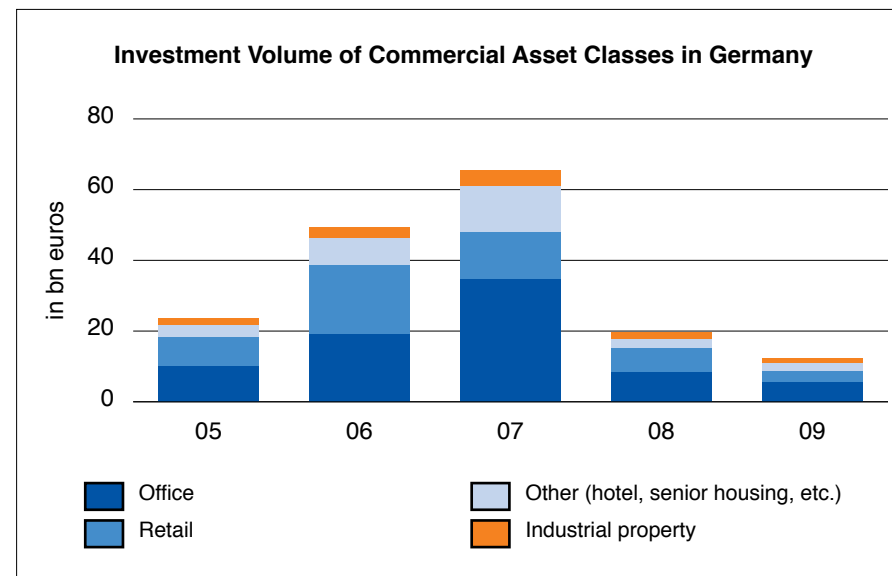


Source: Own surveys and estimations

<sup>1</sup> IW (Institut der deutschen Wirtschaft Köln) - Cologne Institute of Economic Research; ZEW (Zentrum für Europäische Wirtschaftsforschung GmbH) - Centre for European Economic Research in Mannheim

<sup>2</sup> IW/ZEW: Wirtschaftsfaktor Immobilien, die Immobilienmärkte aus gesamtwirtschaftlicher Perspektive, 2009

The annual investment volume regarding industrial property amounted during the past years to between approx. 1.2 to approx. 4.4 billion euros, which corresponds to only between 6 % and 10 % of the annual investment volume in commercial property. At the same time, investment volumes as regards individual categories of industrial property also differed from each other. In the past 10 to 15 years, warehouse distribution (stock and new projects) and multi-tenant property<sup>3</sup> managed to establish themselves as fungible assets, whereas investment activity as regards other categories of industrial property was quite low.



Source: Own surveys

<sup>3</sup> Only some commercial zones are subject to investment on regular terms

By way of comparison, the annual investment volume concerning office property amounted between 2005 and 2009 to between 6 and 34 billion euros (between 42 % and 53 % of the annual investment volume in commercial property in Germany respectively), retail investments accounted for between 3 and 20 billion euros (approx. 20 % to 40 %) and residual commercial types of property (hotel, senior living, etc.) accounted for between approx. 2 and 13 billion euros (between 14 % and 20 % respectively).

The total market value of the industrial property market, amounting to approx. 1,100 billion euros corresponds to an estimated total area of 2,500 million sqm. This total stock is distributed heterogeneously among individual property categories:

With estimated 1,360 billion sqm, industrial plants account for by far largest share in the industrial property stock. Germany still has a strong industrial economy (approx. 30 % of the German gross value added are generated by industry) and this circumstance is reflected in these figures. Together with minor industrial properties occupied for instance by smallish craftsmen - their stock is estimated at roughly 310 million sqm - a total property stock of approx. 1,670 sqm emerges, representing property not taken into account in this study (cf. Chapter 3). The respective market value of property excluded from this report amounts to roughly 570 billion euros, yet only estimated 66 billion euros thereof are considered tradeable.

Distribution of Industrial Property Stock and Market Value in Germany 2009							
	Area in millions of sqm	Share	Value per sqm/ useable area in euros	Total value in billions of euros	Share	Thereof tradeable	
						in %	absolute
Commercial spaces in minor property (craft) <sup>1</sup>	310	11,9 %	300	93	8 %	20 %	19
Industrial plants <sup>1/2</sup>	1.358	52,2 %	350	475	43 %	10 %	48
<b>Subtotal</b>	<b>1.668</b>	<b>64,2 %</b>	<b>341</b>	<b>568</b>	<b>51 %</b>	<b>12 %</b>	<b>66</b>
Transformation property (I a)	60	2,3 %	700	42	4 %	50 %	21
Manufacturing property (I b)	537	20,7 %	550	295	27 %	40 %	118
Multi-tenant property (II)	5	0,2 %	1350	7	1 %	90 %	6
Warehouse distribution property (III)	320	12,3 %	550	176	16 %	50 %	88
Research & development (IV)	10	0,4 %	1850	19	2 %	70 %	13
<b>Subtotal</b>	<b>932</b>	<b>35,8 %</b>	<b>578</b>	<b>539</b>	<b>49 %</b>	<b>46 %</b>	<b>246</b>
<b>Total</b>	<b>2.600</b>	<b>100,0 %</b>	<b>426</b>	<b>1.107</b>	<b>100 %</b>	<b>28 %</b>	<b>312</b>

1 Are not taken into account in the presented study

2 Estimation GFZ = 1

Source: Own estimations

### *Transformation and manufacturing property (I a & I b)*

The subcategory transformation and manufacturing property represents the second largest category of the German industrial stock and at the same time the most relevant one in terms of tradeability of the analysed asset class. Due to SME-structures prevailing on the German market, especially this category of industrial property has been underestimated in the past in terms of its stock and potential investment volume. For the purpose of this joint study, we estimated the German transformation and manufacturing property stock at nearly 600 million sqm, corresponding to a total value of roughly 340 billion euros. Thereof 140 billion euros are considered tradeable. Considerations underlying these estimations are the following (cf. also the definition in Chapter 3):

- No heavy industrial facilities, plants nor similar buildings
- Generally excluded are small-sized commercial units (small craft enterprises, etc.) and industrial yards
- Analysis of case examples from the BulwienGesa in-house property database

### *Multi-tenant property (II)*

Based on previous analyses conducted by BulwienGesa, the total stock of modern multi-tenant industrial property is estimated at roughly 5 million sqm. Approximately 90 % thereof are tradeable. In the past properties from this category were already subject to investments made by many (institutional) investors. Thus this category benefits from the highest market transparency in the entire segment.

### *Warehouse distribution property (III)*

In the past years the warehouse distribution property stock in Germany has been estimated in various ways by, on the one hand BulwienGesa in 2002 and on the other hand by the Fraunhofer Institute in 2009 - within the scope of the study "Distribution and warehousing property in Germany". Thus the estimation of this segment's stock - amounting to 320 million sqm - can be regarded as relatively reliable. We distinguish between modern stock on the one hand, defined as suitable for multi-tenant use and built after the year 2000, and older stock on the other hand. Based on official statistics and a random sample of approx. 3,000 data records from the BulwienGesa in-house property database, the modern warehouse distribution property stock is estimated at 60 million sqm. Consequently, the residual 260 million sqm represent older logistics stock. In terms of tradeability, the 60 million sqm of modern warehouse distribution property can be regarded tradeable as well as a share of 100 million sqm of the older stock, due to its favourable building and tenancy structures as well as attractive locations in line with current demands on the part of investors.

### *Research & development property (IV)*

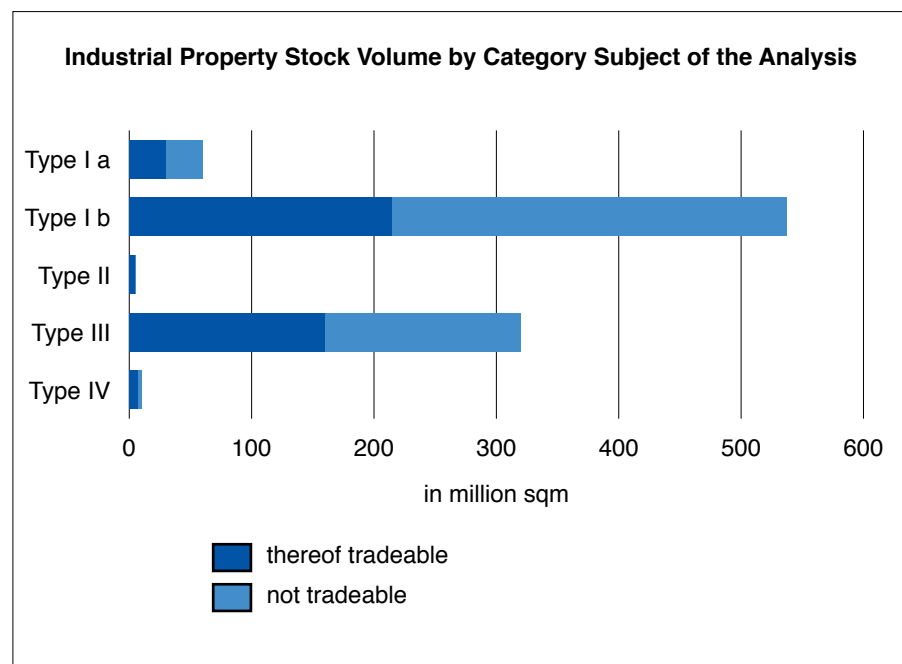
In case of research & development property, boundaries between this and other types of use (office, mere laboratory space) are blurred. Thus, we determined following exclusion criteria in order to define precisely which property is included in this category:

Properties occupied by e.g. the Max Planck Society, the Fraunhofer Institute and other academic research facilities are not subject of the analysis. Relevant to our study are research facilities and



development departments from the private sector, e.g. the pharmaceutical industry (Bayer-Schering), the chemical industry (BASF), the automotive industry (Mercedes, VW, etc.), in the medical technology field (Philips, Dräger, etc.) as well as other sectors of economy (Siemens) and SMEs.

Furnishing and equipment standards, such as media connections (gas, electricity, exhaust air, etc.) make it possible to distinguish between laboratory and office space. Office space is included into the research and development property stock in case when office activities carried out are directly linked to research. Administrative buildings with back-offices, etc. are excluded from the analysis.



Source: Own survey and estimations

I a = Transformation property  
 I b = Manufacturing property  
 II = Multi-tenant property  
 III = Warehouse distribution property  
 IV = Research and development property

On the basis of a sample group of properties from the BulwienGesa in-house property database, as well as by means of a fundamental calculation based on the number of employees, we estimate the stock of research and development property at roughly 10 million sqm. Thereof approx. 70 % - roughly 7 million sqm - are tradeable.

*Industrial property excluded from the presented analysis*

The total market value of the industrial property, amounts to roughly 1,100 billion euros. Thereof approx. 78 % - roughly 850 billion euros - are not included in this analysis. This great deal of industrial stock are not tradeable due to one of the following reasons:

- Their current owners or corporates consider them essential for operation (operating real estate)<sup>4</sup> and thus the property is not for sale
- Property is owned by a SME that is solvent enough and can afford to own it

<sup>4</sup> Operating real estate means, that the property is considered a necessary infrastructural production factor and not a separate value or yield model as in case of real estate industry. Consequently, it is hard to illustrate the property's value in sqm-prices, much rather it occurs in relation to costs of the company's production process. Thus, the property's fungibility is significantly limited, since the real estate industry and corporate at present do not speak any „common language“. SMEs still need to learn a lot about the possibilities of gaining economic benefits from corporate property.



- Property is too small and does not provide a worthwhile investment volume.

Consequently, the remaining asset value/industrial property stock, available to investors in the next 5 to 15 years amounts to roughly 246 billion euros/approx. 428 million sqm.

This corresponds to nearly the entire office and retail property stock located in Germany, which add up to roughly 473 million sqm.

#### *Reasons for low investment volumes in industrial property*

Except for warehouse distribution and multi-tenant industrial property, which - as already mentioned - represent relatively established asset categories on the German property market, and have counted among investment products chosen by open-ended property funds for more than ten years, following characteristics lead in the past to a low trading volume within the analysed asset class:

- Multi-tenant-property implies relatively high administrative efforts
- Relatively short rental terms and allegedly increased vacancy risk
- Limited transparency regarding rental income and market key data, consequently limited transparency regarding rents and take-up
- Limited transparency regarding investment and rental markets (missing comparables) makes valuation of industrial property difficult

- Missing know-how in the field of asset management; no professional management structures exist
- Potential investment properties often consist of different components/building periods/types of use, difficult to capture in the course of property valuation
- No demand and lack of knowledge/no common language between corporates and the real estate industry
- Emotional aspect on the part of SMEs (family businesses).

As a result, the majority of industrial property categories were classified in the past not as core but as core-plus or even value-added-investments, with corresponding yield and risk prospects. Consequently, industrial property did not suit into investment strategies of core-oriented institutional investors, such as insurance companies, banks and pension funds. The only exception were individual cases of warehouse distribution schemes in top locations, with long-term lease contacts and tenants with high credit standing. Open-ended and special funds represent the only investor groups who decided to make some sporadic high-yield investments in the industrial property segment in the past. Apart from that, the market was dominated by types of investment with high affinity to risk, such as private equity funds, partly closed-end funds, asset managers and property companies.

## 5 TENANT AND USER STRUCTURES

### 5.1 Tenant Structures

Additionally to its location, property's equipment, fittings and quality, especially tenant structures and lease term periods - securing the cash flow - represent the most relevant factors for a sustainable investment. In most cases, tenant structures and lease term periods regarding industrial property vary considerably from structures and periods applying for other types of commercial property, such as offices, retail and hotel property.

Tenant Structures in Different Commercial Asset Classes				
Asset-class	Office	Retail	Hotel	Industrial property
Multi-use structures	–	–	–	++
Single-use structures	+	+	+	0
Multi-tenant structures	++	++	--	++
Single-tenant structures	++	+	++	0
Pre-lettings	+	+	+	0
Most common lease terms in years	3 - 10	10	10 - 20	1 - 10
Turnover rent	–	+	++	–
Incentives	++	0	0	+

-- very unlikely  
 – unlikely  
 0 indifferent

+ probable  
 ++ very probable

Source: Own estimations

Lease term periods between 3 and 10 years are characteristic for typical office schemes. Retail space is usually let for 10 years and hotel lease contracts are usually signed for a time period of between 10 and 20 years. Turnover rents are common in the retail and hotel

segment, whereas incentives (rent-free periods, tenant-specific improvements, etc.) occur mostly in the office segment.

At the same time, tenant structures regarding industrial property diverge considerably regarding several characteristics not only in relation to other established asset classes but also within the new asset class itself. Thus, the asset class industrial property requires a more differentiated consideration. In case of warehouse distribution schemes, for instance, usually long-term lease agreements are signed with only one tenant with a good credit standing. In terms of risk and asset management efforts these schemes resemble single office schemes. All other categories of industrial property feature multi-tenant or multi-use structures and thus they involve much higher administrative efforts.

So far, many (institutional) investors considered these structures often disadvantageous, with regard to the increased administrative efforts (compared to single-tenant and single-use structures). That is to say the majority of institutional investors are opposed to bearing additional expenses (for cost efficiency reasons, cf. Chapter 8 - Asset and Property Management).

However, with respect to potential vacancy risk, it is favourable when different types of use and diverse tenants occupy a scheme. In case when one of the tenants declares bankruptcy, the property's cash flow is not completely impaired, but only reduced. Furthermore, lease periods can be arranged in order to avoid expiration of more than one agreement at a time. This measure allows limiting the cash-flow risk.

Tenant Structures by Property Category						
Industrial property category	I a	I b	II	III a	III b	IV
Multi-use structures	++	+	++	--	-	++
Single-use structures	--	-	--	++	+	--
Multi-tenant structures	++	+	++	0	0	+
Single-tenant structures	--	+	--	0	0	-
Pre-lettings	0	0	-	+	--	+
Most common lease terms in years	3 - 10	3 - 10	1- 5	3 - 10	3 - 5	1 - 10
Turnover rent	-	-	-	--	--	--
Incentives	+	0	+	0	0	+

-- very unlikely  
 - unlikely  
 0 indifferent

+ probable  
 ++ very probable

I a = Transformation property  
 I b = Manufacturing property  
 II = Multi-tenant property/commercial zones

III a = Modern logistics property  
 III b = Stock logistics property  
 IV = Research & development

Source: own estimations

Transformation properties are an exception in terms of tenancy structures, since corporate property, with already existing tenant structures and redevelopment potentials, is often purchased via sale-and-lease-back procedures. Thus, the current tenant secures the property's cash flow, which can be invested in redevelopment and refurbishment measures of the spaces (halls, offices, workshops, etc.) gradually abandoned by the tenant. This represents a relevant value-added potential.

## 5.2 User Structures

Individual categories of industrial property analysed in this report often feature, in accordance with their purpose, quite homogenous user structures. Warehouse distribution property (stock and modern - types III a and III b) for example, is occupied predominantly by logistics companies and other service providers in the field of consignment and transportation, although other types of users occur as well. The situation is similar in case of manufacturing properties with offices (type I b), which are occupied predominantly by enterprises from both manufacturing and light manufacturing sectors.

Typical User Structures by Property Category						
	I a	I b	II	III a	III b	IV
Services	+++	++	+++	+++	+++	+++
Logistics	0	0	+	+++	+++	0
Courier transport	+	0	++	0	+	0
Minor transport	+	0	+	0	+	0
Retail	+	0	+	0	0	0
Wholesale	+	0	+	++	+++	0
Light manufacturing	++	+++	+	0	+	+
Production	++	+++	0	0	+	+
R&D	+	0	0	0	0	+++
Event space/leisure	+	0	+	0	+	0

0 = not represented  
 + = seldom represented  
 ++ = averagely represented  
 +++ = strongly represented

I a = Transformation property  
 I b = Manufacturing property  
 II = Multi-tenant-property/commercial zones

III a = Modern logistics property  
 III b = Stock logistics property  
 IV = Research & development

Source: Own estimations

Research and development schemes (type IV) are also characterised by quite homogenous patterns of demand, dominated by enterprises from the services and R&D sectors.

Only transformation property (type I a) and multi-tenant schemes/commercial zones (type II) offer structural conditions favourable for a broad range of potential users, from service providers to minor transportation and retail companies to (light) manufacturing and even leisure facilities (e.g. fitness studio).

It is essential to make distinction between various individual rent ranges, depending on the type of industrial property and diverse types of use, must be regarded .

### 5.3 Rents Acc. to Industrial Property Categories

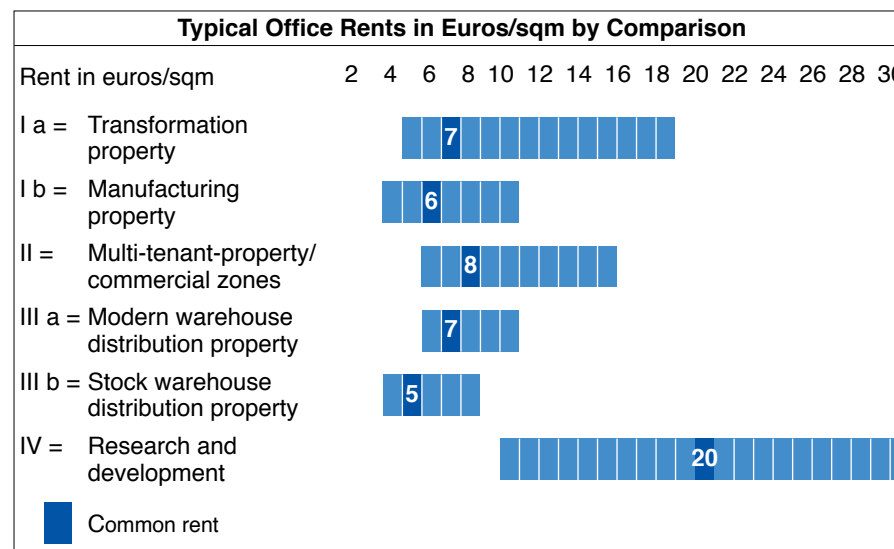
#### Office

For one thing, the possible spectrum of obtainable office rents derives from different location qualities. Furthermore, different quality of equipment and fittings affects office rents. Both factors allow arranging a diversified tenant mix and thus an optimal target group approach. The property's or its location's prestige is also reflected in the obtainable office rent.

Each of the industrial property categories reacts differently to external factors. Manufacturing property (I b), for example, can be affected by other production facilities in its proximity and consequently (temporarily) exposed to noise or olfactory emissions (e.g. glue

factories, breweries, etc.). These circumstances can also influence the rental level.

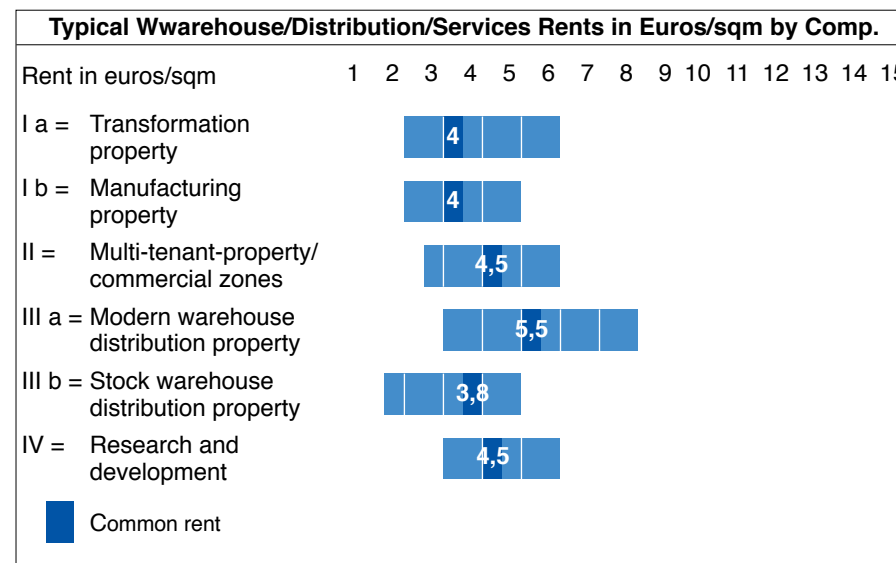
Office buildings situated in commercial zones as well as research & development schemes are equipped with modern IT-infrastructure, whereas stock warehouse distribution properties or manufacturing schemes feature only outdated IT-infrastructure, not up-to-date with latest IT-cycles. The extremely high rent estimated for research & development properties is justified by a mixed calculation comprising office and laboratory use (cf. laboratory space).



*Warehouse/ distribution/ services*

In case of warehouse, distribution and service property, differences between individual rental levels are not as marked as in case of office property. Additionally, it is essential to distinguish between office related warehouse spaces - such as e.g. archive space in commercial parks - and genuine warehouse distribution space. The latter comprises older stock properties - developed for certain users - and modern schemes - optimised for the sake of attracting investors' attention with their focus on high alternative use capacity.

Modern warehouse distribution properties feature load capacity, floor quality, floor layouts and loading configurations satisfying requirements of a large user group. Consequently, they meet particularly stringent quality criteria, which in turn justify higher rental levels. At the same time, warehousing service providers offer, additionally to their consignment and distribution services, final production steps (e.g. with pad printing machines). Special features, such as cool storage cells or hazardous goods warehousing, have also a positive influence on rents in warehouse distribution schemes.

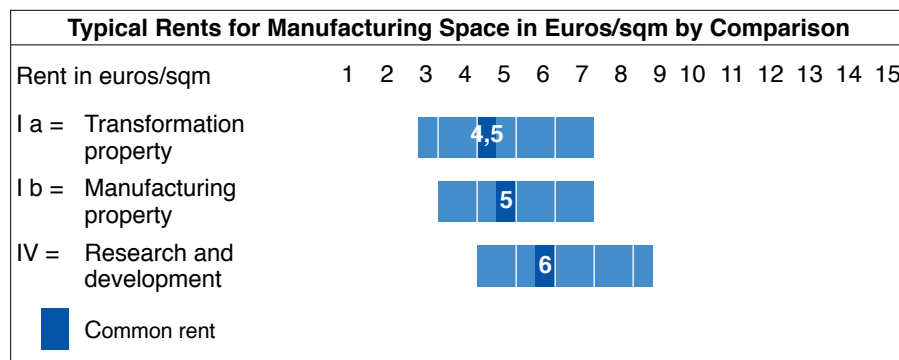


Service areas are often adapted as showrooms and due to their enhanced qualities they obtain higher rents.



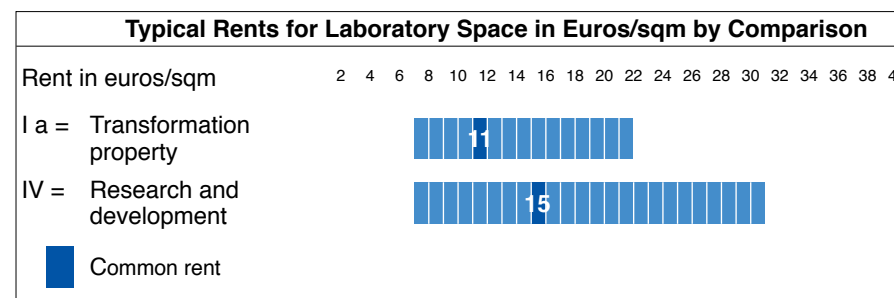
### Manufacturing

Production areas in schemes dedicated to manufacturing - fabrication and processing of goods - are due to their industrial character in a markedly worse position regarding their quality, than production areas situated in R&D facilities. As a result of their research character these feature a high degree of specialisation, accompanied by complex manufacturing processes. The necessary superior equipment leads to higher rents. Because of a variety of product categories and consequently diverse production cycles (e.g. in case of sample production, prototype construction), the property must be flexibly designed. In case of transformation property, higher rental levels can be explained by small-scale floorspace structures.



### Laboratory

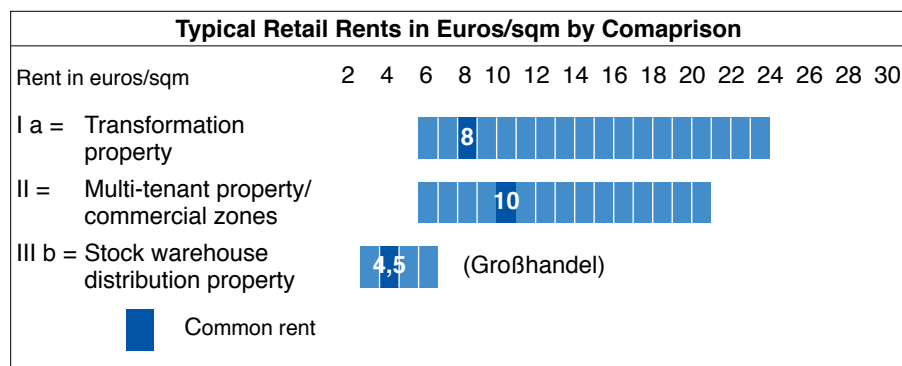
Laboratory space must meet the highest requirements both in terms of technical equipment (e.g. vibration-free floors, clean room conditions, excess pressure units) as well as special safety demands (e.g. protection against industrial espionage) and is consequently much more expensive.



Development departments of large enterprises representing e.g. precision-engineering, electrical engineering, automotive engineering and pharmaceutical sectors count among common users of laboratory space. Laboratory space occupied by elementary laboratory services providers (food chemistry, soil expertise, etc.) are subordinate to quality demands on the part of high-technology enterprises and thus can lease laboratory space in transformation properties. Due to these qualitative differences, rents are lower in these schemes.

### Retail

The spectrum of user groups occupying retail space in industrial properties is wide, and so is the range of achievable rents. Transformation property (type I a) is often occupied - due to its location characteristics (in integrated city locations or within commercial zones) - predominantly by large-scale users (> 2,000 to 6,000 sqm and larger), often present in retail parks. Examples include DIY-stores as well as large toy and furniture dealers. Minor retail units of 800 sqm and more are often occupied by supermarkets and discounters.



Rents differ significantly according to retail unit sizes. However, the maximum value (23 euros/sqm) represents much rather an extreme value and can be achieved only in case of special user groups (e.g. amusement arcades). The common rent amounts much rather to 8 euros/sqm. Retail use is relatively seldom in commercial parks. Predominantly specialty suppliers settle here and pay relatively low rents. The only exception to this involves tenants who are only seldom accepted in other locations (e.g. amusement arcades, erotic shops).

Retail tenants are only rare exceptions in case of stock warehousing distribution property, since - according to development plans and city centre concepts - it is forbidden to allocate urban retailing in commercial zones and industrial parks. In rare cases retail spaces in stock logistics property are suitable for big boxes.

### Hotel

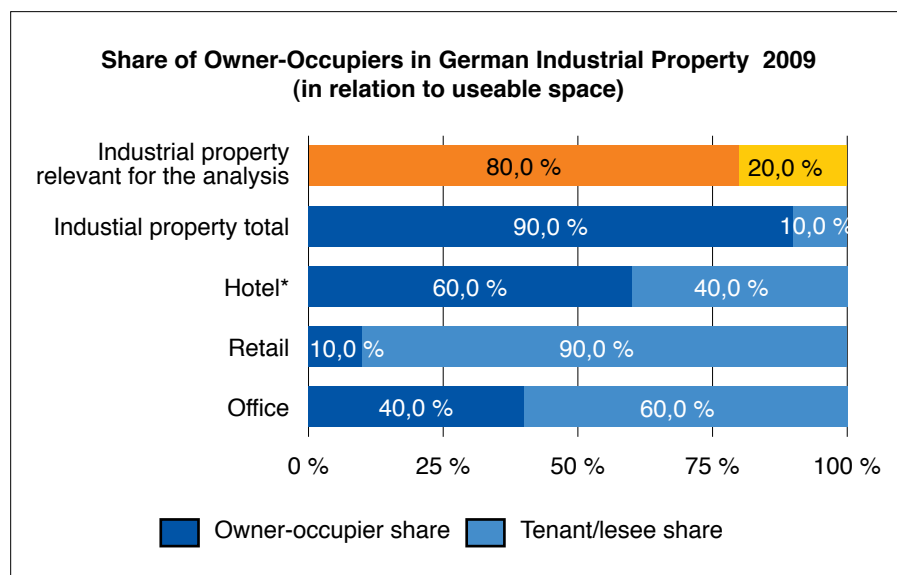
Typical Hotel Rents in Euros/sqm	
I a = Transformation property	cannot be displayed due to a low number of cases

Hotels are very rarely represented in transformation property. Consequently, no general statements can be made and individual property analyses are necessary.

## 6 OWNERSHIP STRUCTURES

### 6.1 Owner-Occupier Ratio

When regarding German commercial property, very different ownership structures emerge in individual asset classes. The owner-occupier share in case of retail property amounts to only roughly 10 %. Consequently, the majority of retail space in both city central location and shopping centres is let to retailers. Retail owner-occupiers are only rare exceptions. Examples to be named include Karstadt department stores (until 2006) and established family businesses, such as Ludwig Beck and Hirmer - clothing stores based in Munich.



\* Share of beds in private hotels  
Source: Own estimations

Relatively high owner-occupier shares are common only for chain retailers in the food industry, especially regarding supermarkets and discounters. However, in relation to the total amount of retail area, this relatively high share of owner-occupiers is only insignificant. We expect a further shift of the tendency towards letting retail space.

The majority of office users in Germany also occupies rented schemes. Only 40 % of all office locations are owned by the respective enterprise/employer. These include predominantly administration and authorities at city, district, state or federal level. Additionally, many headquarters of large DAX-companies, SMEs as well as manufacturing and processing enterprises also count in. Still, the majority of German office space is let/or offered to tenants. On the one hand, the owner-occupier ratio shall decrease in the future due to continuous sale-and-lease-back activities on the property market, on the other hand, though, public administration prefers meanwhile to reside in their own property, for cost efficiency reasons.

Regarding the hotel property segment, an owner-occupier-ratio of roughly 60 % was determined on the basis of the number of beds in privately run hotels. When applying the number of hotels to the calculation instead of the number of beds, the owner-occupier-ratio increases to even 75 %, due to small-sized private hotel structures. The residual 35 % (or 40 % regarding number of beds respectively) are operated by chain hotels. The owner-occupier ratio in cities with a population of less than 120,000 tends to be higher than in larger cities with population exceeding 120,000 residents.

In this respect, industrial properties are unusual. Only 10 % of industrial floor space are let. Thus roughly 90 % of the entire industrial property stock are owner-occupied. When regarding only industrial property categories analysed in this report, a slightly lower owner-

occupier share of approx. 80 % emerges. Finally, when applying values determined in Chapter 4 regarding tradeable volumes of industrial property as a basis for further calculations, a shift in the share of industrial property owner-occupied and let - in favour of space let - towards a proportion of 60:40 can be expected during the next 5 to 15 years. In specific terms, this means that industrial property stock worth roughly 140 billion euros will search for possible investors in the next 15 years. This results in an average annual potential investment volume of nearly 10 billion euros.

## 6.2 Investment Structures

Until now, market participants did not manage to achieve such annual volumes of investment. Ownership structures of tradeable property must and will broaden, new purchaser groups - rather conservative investors from the institutional segment - shall step up their engagement in industrial property.

So far, only few (institutional) investor groups show an above-average involvement in purchasing industrial properties belonging to the analysed categories. The very high market penetration on the part of fund and asset managers (not to be confused with asset managers as service providers) is remarkable. These act in line with the latest developments on the market, purchase and manage property for third parties. Their structures are distinctly heterogeneous and their scope of services includes managing both private equity and capital of institutional investors.

This investor group, including among others Beos, Valad, Sirius, NAI Apollo and Halverton, is particularly committed to all four categories of tradeable industrial property. They have specialised in purchasing and

managing industrial property and gained significant know-how in this field.

Another active group of investors are property companies (*Immobilien AG*), active predominantly in the logistics sector (III a and III b) as well as investing in manufacturing property (I b) and commercial parks (II). Notworthy representatives of this investor category are e.g. DIC-Deutsche Immobilien Chancen AG, Alstria Office REIT AG and IVG Immobilien AG.

Current Ownership Structures by Industrial Property Category Regarding Invested Properties						
Property category	I a	I b	II	III a	III b	IV
Open-ended funds	+	0	+++	++	+	+
Close-ended funds	+	++	+	++	+	+
Special purpose funds	+	+	+	++	++	0
Insurance companies	0	0	+	0	0	0
Pension funds	0	0	+	0	0	0
Fund and asset manager (for third parties)	+++	+++	+++	+++	+++	++
Opportunity funds	+	+	++	+	+	0
Leasing companies	0	0	0	0	0	0
Property companies ( <i>Immobilien AG</i> )	+	+	++	+++	+++	++
Private/family offices	+	++	+	+	+	0
Property developers	+++	+	+	0	+	+

0 = no investment activity

+ = little investment activity

I a = Transformation property

I b = Manufacturing property

II = Multi-tenant property/comm. parks

++ = strong investment activity

+++ = very strong investment activity

III a = Modern warehouse/distrib.

III b = Stock warehouse/distrib.

IV = Research & development

Source: Own estimations

Both investor groups mentioned above show similar determination regarding all categories of tradeable industrial property. Individual property categories, though, are characterised by very heterogeneous investment structures:

Additionally to funds and asset managers, *transformation property (Ia)* attracts predominantly property developers as investors. Their increased commitment to this property category results from its characteristics, since transformation schemes imply further development potentials regarding the already existent stock and plots occupied by those schemes. Investors such as Beos often act at the same time as property developers, resulting in a functional coherence between both investor types.

In the past years, *manufacturing property with offices (I b)* was often transferred into closed-end funds (Doblinger, Wealth Management Capital Holding) or purchased by private investors and/or family offices. All in all, this property category features the highest owner-occupation ratio and at the same time the highest market intransparency, due to only minor market activity in this category.

In case of *multi-tenant property and commercial zones (II)* open-end funds have been quite an active market player in the course of the past 25 years. Especially following open-end funds

- SEB ImmoInvest,
- Deka-Immobilien Fonds,
- UniImmo: Deutschland,
- CGi hausinvest europa und
- WestInvest 1

purchased 1st - 4th generation commercial zones as well as new

multi-tenant schemes. Between 2005 and 2007 - at the time when open-end funds revised their German portfolios - numerous commercial parks were sold to opportunity funds, such as:

- Morgan Stanley Real Estate Fund,
- Fortress Investment Group LLC,
- Oaktree Capital Management L.P. und
- Whitehall Funds Goldmann Sachs

which purchased these properties within the framework of portfolio deals. This explains the disproportionately high activity of this investor group.

In the past years, ownership structures regarding *modern warehouse distribution property (III a)* became more and more diversified. Meanwhile, this type of property is as popular among investors as other commercial property asset classes, such as office, retail and hotel.

Additionally to

- open-end property funds, such as:
  - SEB ImmoInvest
  - Deka-Immobilien Fonds
  - UniImmo: Deutschland
  - CGi hausinvest europa, WestInvest 1 and
  - CS Euroreal

modern warehouse distribution properties were purchased by

- close-end property funds:
  - Wealth Cap Immobilien Deutschland 30

- ProLogis European Properties Fonds
- BVT Ertragswertfonds 1

and other, such as:

- special purpose funds, including
  - ERGO Trust Logistikfonds Nr. 1
  - Pan-Europa Fonds-Nr.1
  - Commerz Grundbesitz Euro Logistik 1
  - WestInvest TargetSelect Logistic
  - Goldman European Logistics Fund.

*Stock warehouse distribution property (III b)* features ownership structures similar to the modern logistics property category, yet open- and closed-end funds are not as strongly represented. This property category has been included in special purpose funds for more than a decade.

Finally, sales of *research and development properties (IV)* to third parties have so far been quite rare. The most recent and prominent example is the disposal of the Siemens research and development centre in Munich-Neuperlach to HIH, which initiated the emergence of a closed-end fund. Apart from that, many new owners (e.g. Alstria Office REIT AG) purchase R&D property in the course of portfolio deals, since this category of industrial property often contributes to portfolio's diversification. Open-end property funds purchased R&D property for the last time in the 1990s.

### 6.3 International Review and Outlook

The increasing transparency within the analysed industrial property categories will in the future lead to a shift in ownership structures. Over the next fifteen years, industrial property is expected to establish itself as an asset class among conservative institutional investors, such as insurance companies and pension funds. This tendency has already been evident on Anglo-Saxon property markets, where the demand for industrial property among investors is much higher.

Accordingly, the share of industrial property in the entire invested capital of both American insurance groups Prudential und Anico amounted at the end of 2009 to 21 % and 37 % respectively. In absolute terms this corresponds to \$6.2 billion and \$230 million respectively. Thus, the property portfolio of Prudential represents a well-balanced mix of diverse commercial asset classes: industrial, retail and office.

Invested Property Assets by Types of Use 2009				
	Prudential in billions of US \$		Anico in billions of US \$	
		share		share
Office	6,1	21 %	0,10	15 %
Retail	6,0	20 %	0,19	30 %
Residential	5,2	18 %	–	–
<b>Industrial</b>	<b>6,2</b>	<b>21 %</b>	<b>0,23</b>	<b>37 %</b>
Agriculture	1,8	6 %	–	–
Other	4,2	14 %	0,11	18 %
Total	29,5	100 %	0,64	100 %

Source: Annual reports Prudential and Anico



It remains to be seen, whether an exclusive industrial property REIT shall emerge on the German market. In the USA so far eight listed companies have already taken this step.

<b>Industrial Propety REITs in the USA 2010 (by Property Value)</b>			
REIT-name	Number of properties	Managed volume of space in m of sqm	Property value as at 31.12.2009 in billions of US \$
ProLogis	1.188	17,8	11,545
Duke Realty Corporation	–	8,4	7,304
AMB Property Corporation	1.101	12,3	6,841
First Industrial Realty Trust	783	6,4	3,204
DCT Industrial Trust	375	4,9	2,664
EastGroup Properties, Inc.	–	2,5	1,178
First Potomac Realty Trust	181	1,1	1,074
Monmouth Real Estate Investment Corporation	61	0,6	0,395

Source: 2009 annual report of respective REITs

Additionally to these rather conservative investors, other investors, who are already active on the market, shall seek for investment opportunities regarding industrial property. Special purpose funds are in this context an option. Private investors and family offices could emerge as potential investors as well, provided high transparency of the asset class and security of property/tenants.

On the one hand pioneer investors bear the increased risk - compensated with higher yields - on the other hand though they can count on favourable and profitable exit opportunities as soon as the asset class industrial property has established itself on the market.

## 7 INVESTMENT AND YIELDS

### 7.1 Performance Evaluation and Total Return

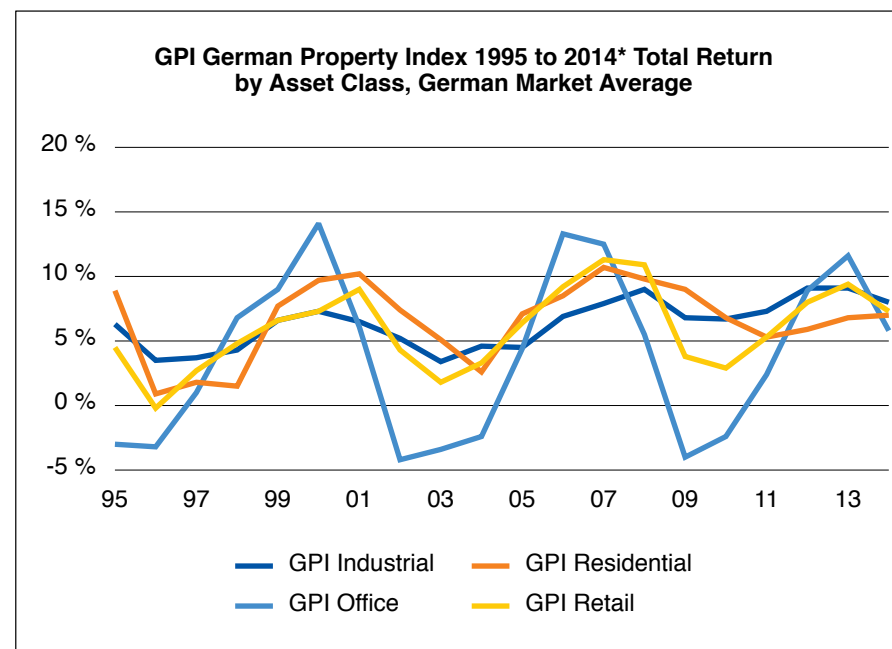
Performance of industrial property compared to other German asset classes can be measured with two different indices: the IPD German Annual Property Index (*DIX Deutschen Immobilienindex*) - measuring ungeared total returns to directly held standing property investments from one open market valuation to the next - and the transaction-based BulwienGesa GPI German Property Index. Both indices deliver statements on the market segment industrial property, yet the DIX is less significant due to the minor number of properties analysed (193) and distorted sample (high share of open-end funds). At the same time though, the DIX allows to compare global data.

With the German Property Index (GPI) BulwienGesa developed a property-performance-index, calculated on the basis of available market data. The GPI displays the total return, according to capital growth return (rental growth) and cash flow return (value growth). The index draws upon market data for 127 German cities, concerning the office, retail, residential and logistics property market. Thus, results can be presented on a regional and sectoral level. GPI can be applied as an analysis tool when e.g. calculating benchmark volumes for German property portfolios. The currently available German Property Index time series is based on market data until 2008 as well as forecasts until 2014.

Each of the analysed category of industrial property is volatile to a certain extent. In the office property segment, the total return is very dependent on the capital growth, thus it fluctuates strongly depending on the economic cycle and during years of poor macroeconomic development it even reaches negative figures. As far as other asset

classes (retail, residential, industrial) are concerned, property market cycles are less pronounced and remain steadily positive. Among these asset classes, industrial property records the lowest volatility for the entire period under review.

When purchasing office schemes, investors must take into account not only the investment's location and tenancy structures, but also the proper time and favourable holding period. Basically, office schemes can be purchased at a bargain price during periods of economic weakness and in times of economic upswings they gain in value and can be sold at a high price during boom phases.



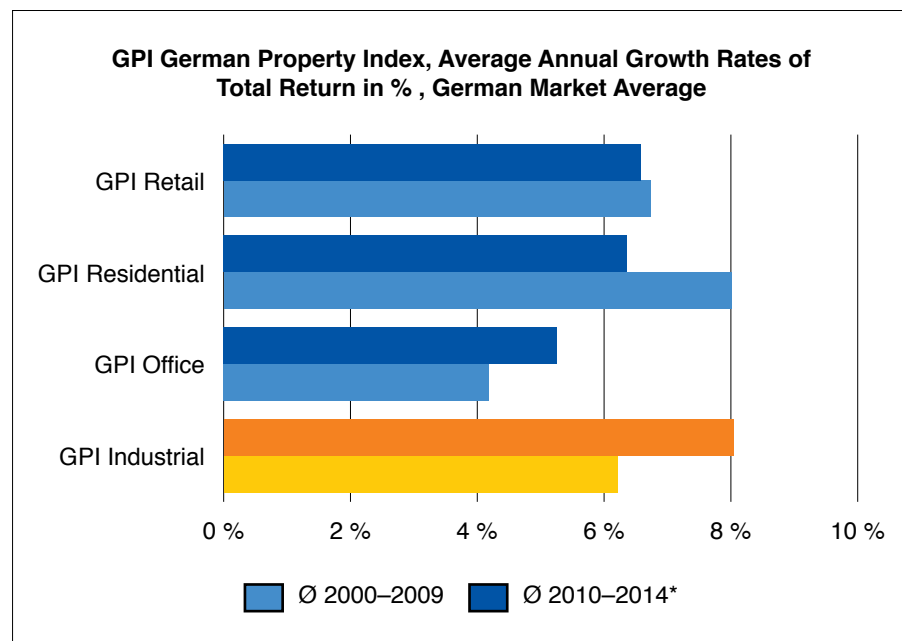
\* from 2010 forecast (as at May 2009)  
Source: RIWIS

Regarding other asset classes, and especially industrial property, the time of purchase is not the crucial factor, since only cyclical fluctuations occur due to only minor volatility of rents (capital growth return).

When comparing the compiled average annual total return growth rates for individual asset classes between 2000 - 2009 and 2010 - 2014, it can be seen, that the total return for industrial property performed on average roughly 6.2 % per year, compared with 4.2 % in the office segment as a reference figure.

The differences are even more striking when analysing the forecast period 2010-2014: with 8 % the highest average annual total return growths are assumed for industrial property, whereas remaining commercial property asset classes record only 5.3 % (office) and 6.6 % (retail). These positive outlooks highlight the attractiveness and sustainability of the analysed asset class, embraced at present to only an insufficient extent by the German property market.

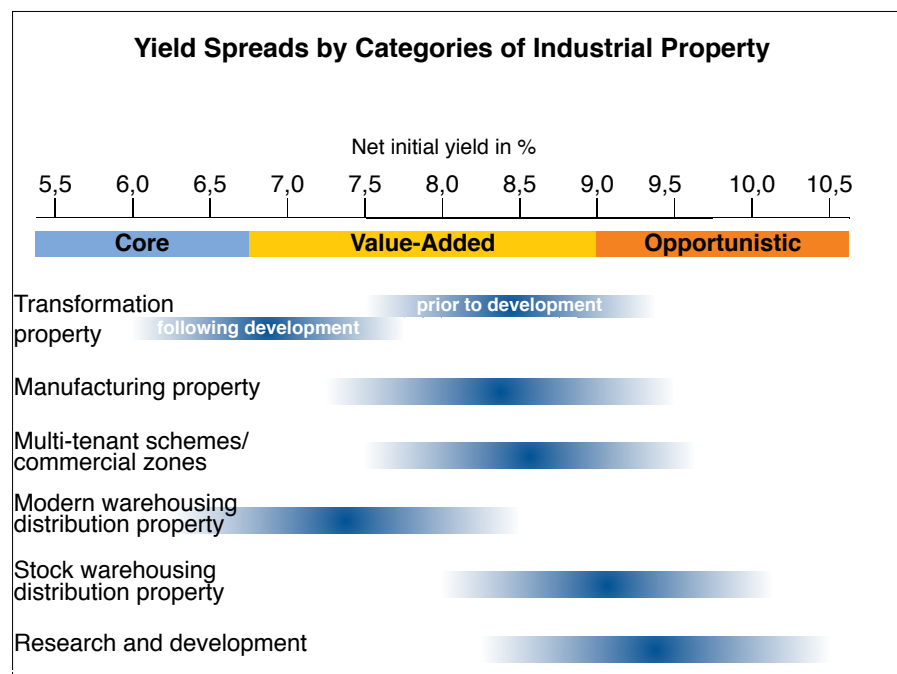
The regional comparison of total returns at German federal states level allows a look at the average annual total returns from a different perspective. As already mentioned in Chapter 2 (Trade and Industry in Germany), the most prosperous German regions, featuring at the same time the highest demand for industrial space, are principally more suitable for investments in the industrial property than regions showing significantly weaker economic activity. Both Baden-Württemberg and Bremen stand out with the highest total return of 9%. Average annual total returns in other federal states amount to between 8 and 9 % or below 8 %. These values represent an initial indicator of investment's sustainability in a specific region yet they cannot substitute a detailed due diligence audit of a specific building.



\* Forecasted values (as at May 2009)  
Source: RIWIS

## 7.2 Yield-Risk-Profile by Industrial Property Categories

Property categories analysed in this report demonstrate different yield-risk-profiles as well as different net initial yield spreads.



Source: Own estimations

### *Transformation property (I a)*

Compared to all other categories of industrial property, transformation property (type I a) is an exception, due to the continues development process of the site. When transformation property is purchased by a

project developer, some of the already existing buildings are occupied by their current tenants, still significant development potentials exist by redevelopment, conversion, supplementation and refurbishment of a single-tenant or single-use scheme into a multi-use property with a multi-tenant structure.

The development risk elevates net initial yields to between 7.5 and 9.75 %. However, after the transformation process - comprising vacancy reduction, lease contract extensions, expanding the tenant mix and property upgrades (e.g. redeveloping storage space into offices) - has been accomplished and a stabilised and expanded cash flow sets in, net initial yields amount to 6.25 und 7.75 %. Thus for end-investors, transformation property counts no longer among value-added or even opportunistic investment, but it much rather resembles the situation of modern logistics property.

### *Manufacturing property (I b)*

According to the yield overview by industrial property categories, manufacturing properties feature net initial yields slightly lower than those of transformation property (prior to development). They range between 7.25 and 9.5 % and can be classified as value-added and in some cases opportunistic investments. The low number of tenants causes a strong dependance of the cash flow on lease contract periods and tenants' credit standing. Compared with other categories of industrial real estate - e.g. warehouse distribution property - location and accessibility are less relevant.

### *Multi-tenant property/commercial zones (II)*

From today's perspective, different generations of traditional commercial zones are oversized and regarding their floor composition and distribution as well as accessibility by means of transportation (greenfield sites) they can to some extent be classified as no longer in line with current market requirements. Such properties are characterised by increased vacancy risks and net initial yields at the upper end of the indicated range, amounted to between 7.5 and 9.75 %. The lower end of the yield range is occupied by small to medium-sized commercial zones in favourable locations as well as multi-tenant schemes (e.g. developed by Segro), often in central urban locations. These types of property are less affected by vacancy risk.

Principally, in case of multi-tenant schemes, a broad mix of tenants and types of use guarantees a stable cash flow. However, the general vacancy risk and location are the key factors, whereas lease contract periods and tenants' credit standing are less significant.

### *Modern warehouse distribution property (III a)*

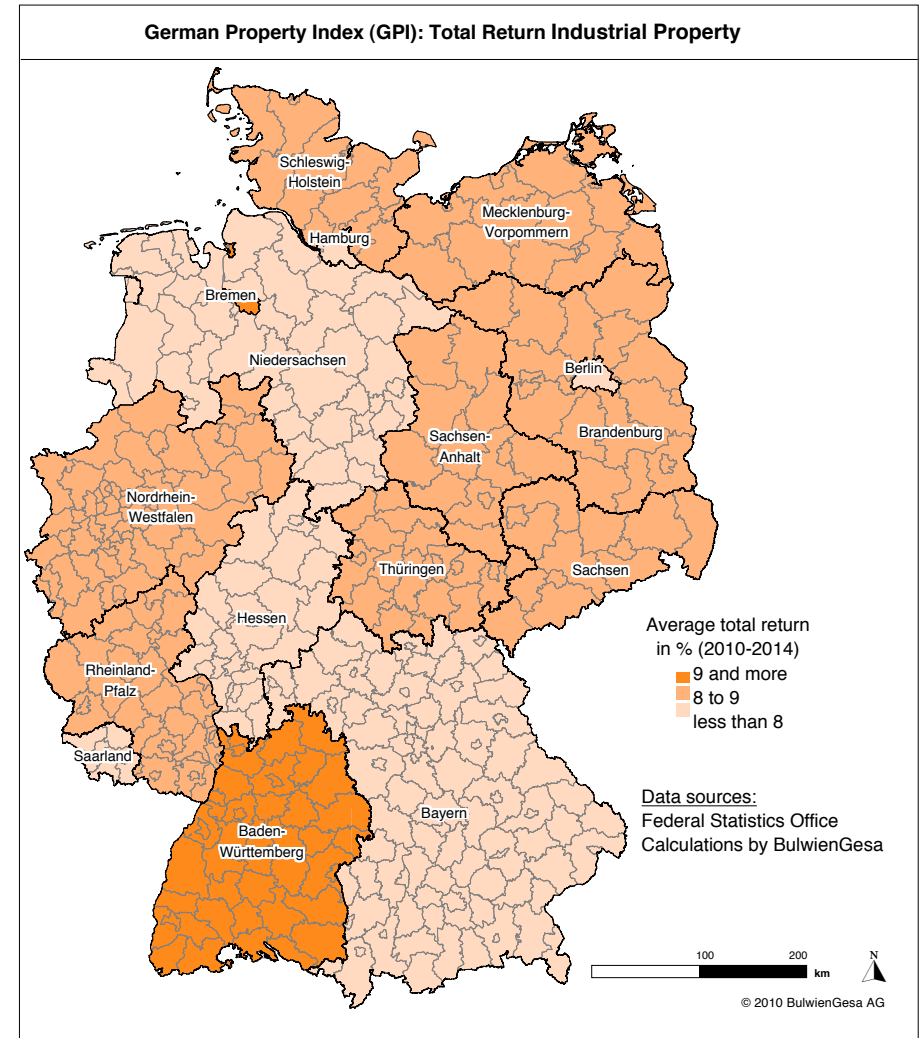
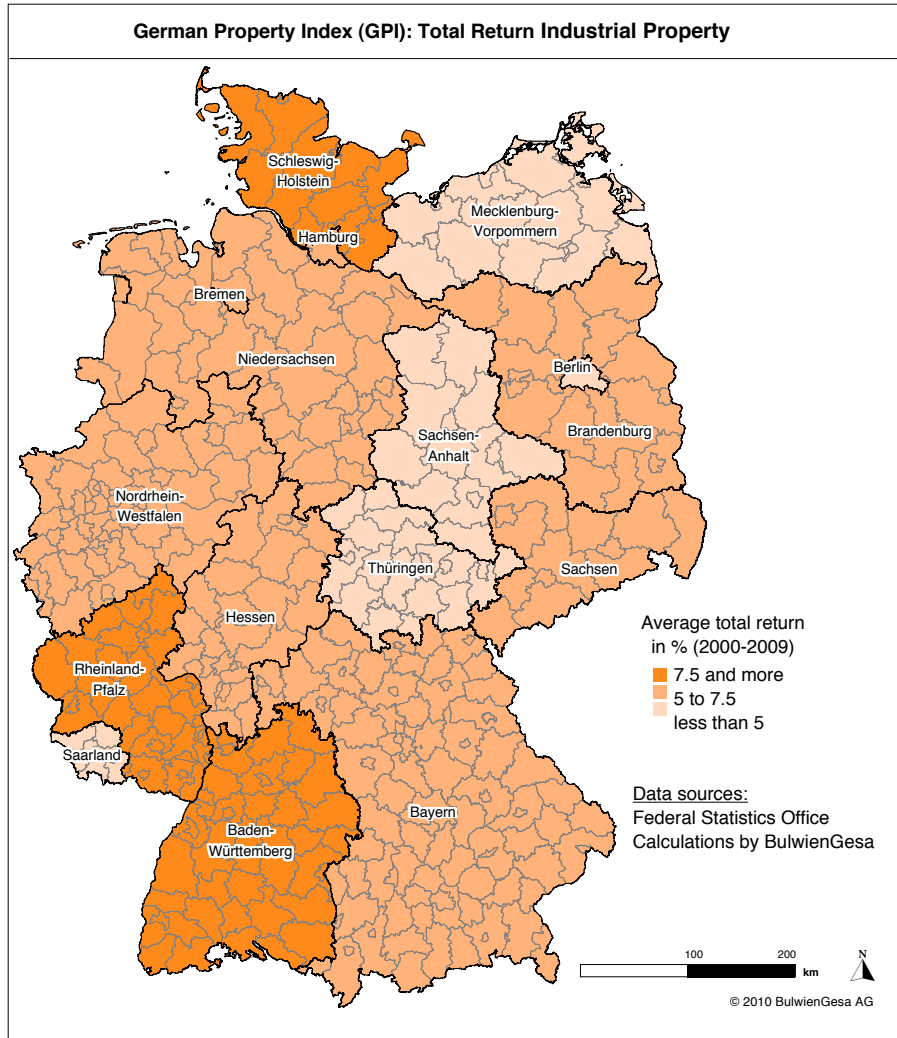
Similarly to fully let single-tenant office buildings, modern logistics schemes are very popular among investors. The large number of investments made by institutional investors, such as numerous open-end and closed-end funds show this clearly. As a consequence of the high investment activity regarding modern logistics property, this category has been enjoying the highest level of market acceptance. Together with the increased pressure to invest, these circumstances lead to a rise in prices for modern logistics property and consequently, declining yields. During the boom phase between 2005 and 2007, in case of some investments net initial yields of 5.25 % were achieved.

Such exceptional deals are no longer possible in the current market situation, still net initial yields as regards modern, fully let logistics property are the lowest, compared with other industrial property categories. Tenant's credit standing and lease contract periods, together with alternative use capacity/divisibility are the key criteria. Depending on these criteria, net initial yields range between 6.25 and 8.5 %. In the end, the investor purchases a long-term lease contract with a solvent tenant securing the cash flow and not only a building.

The main risk of logistics properties lies in their alternative use capacity. The property must exhibit some alternative use capacity from the very beginning, in order to react to latest market requirements as soon as the current tenancy contract expires.

### *Stock warehouse distribution property (III b)*

Stock warehouse distribution real estate is exposed to a greater vacancy risk. Reasons for this are: location and property equipment often no longer in line with current requirements, old building fabric (in some cases eliminating the possibility to redevelop the property into a multi-tenant scheme) and often short lease contract periods. Consequently net initial yields are relatively high and range between 8.0 and 10.25 %. Thus, among all six analysed categories of industrial property, stock logistics schemes feature the second highest investment risk and consequently the second highest yield range.





*Research & development (IV)*

Regarding their equipment/fittings and location, some research and development property can be classified as special purpose property. R&D properties are often assigned to certain enterprises (e.g. research departments of pharmaceutical or chemical companies) and thus dependant on them. Furthermore, the demand for floorspace in R&D schemes is relatively low. Consequently, purchasing a research & development scheme can be regarded as relatively risky. Depending on lease contract terms and the tenant's credit standing, net initial yields range between 8.25 and 10.5 %. The relatively low alternative use capacity (e.g. high costs of converting laboratories into offices and vice versa) and high maintenance and investment costs regarding media (gas, double door systems, heavy current etc.) have also been taken into account.

## 8 ASSET AND PROPERTY MANAGEMENT

### 8.1 Operating and Managing Property

Additionally to the already mentioned intransparency of the market, hindering a broader acknowledgement of the analysed asset class in portfolios of institutional investors and funds, the alleged higher management effort represents another investment restraint.

At present, institutional investors expand their portfolios with office and industrial property occupied by only one or at the most few tenants. Properties occupied by a larger number of tenants are considered unattractive, since an increased management effort and higher costs are suspected. This applies especially in case when individual lease contract periods are relatively short and do not comply with the usual five- to ten-year lease periods, common for modern office, retail or logistics property.

However, these limitations apply to many asset classes within the real estate industry. Ideal-typical examples are residential or retail portfolios. Up to several ten thousands of flats within a portfolio are not an infrequent example. Some shopping centres as well comprise more than 200 retail units, which need to be managed and supervised individually. Nevertheless, despite the increased management effort, both property segments are considered attractive investment objectives.

*Professional asset-management is essential*

The difference between residential and retail schemes on the one hand and industrial property on the other hand lies often in a

comprehensive and efficient facility and asset management. It can, for example, have the form of a specialised centre management in case of shopping centres or rather of a general nature in case of sustainability management for large residential portfolios.

It should be noted that individual asset classes require differentiated treatment on asset-specific grounds and these must be taken into consideration when planning the management strategy. At present, such customised management strategies for industrial property is rather an exception. Thus it can be regarded as the key to improving the attractiveness of industrial property in the eyes of potential investors. Introducing a centralised, (pro)active management and supervision of the asset portfolio, addressing specific needs and characteristics of this asset class can become a vehicle for activating its future investment potentials. Selecting suitable property management and defining its tasks provides a solid basis for these measures.

### 8.2 Management Designs Activating Investment Potentials

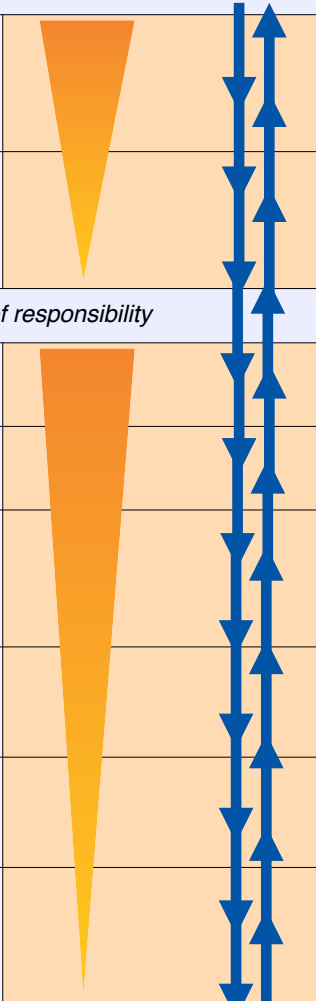
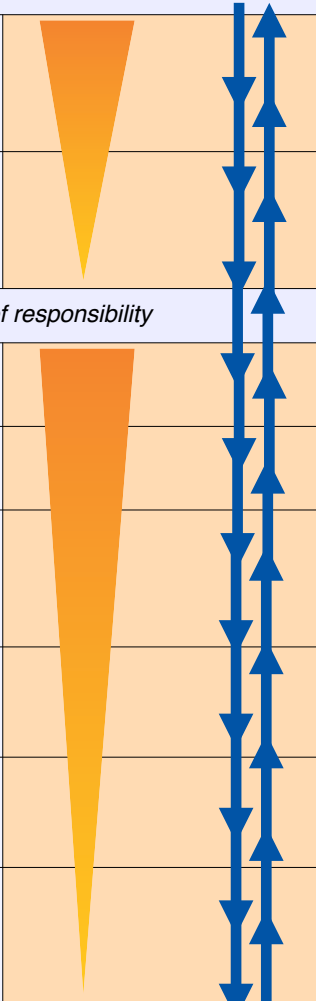
Designing property management happens to be an inconsistent and complex procedure. So far, there is no uniform definition of the spectrum of tasks or fields of activity of asset and property managers on the German property market. In order to standardise the understanding of asset and property management, we adapted the "Real Estate Investment Management" definition by gif e. V. (German Society for Real Estate Research) for the sake of this report. This relatively superordinate definition foregoes any explicit mention of "asset management" and refers to "comprehensive property owner

representation, according to investor's guidelines, regarding property assets in terms of capital investment<sup>5</sup>.

*Focus on asset/property management*

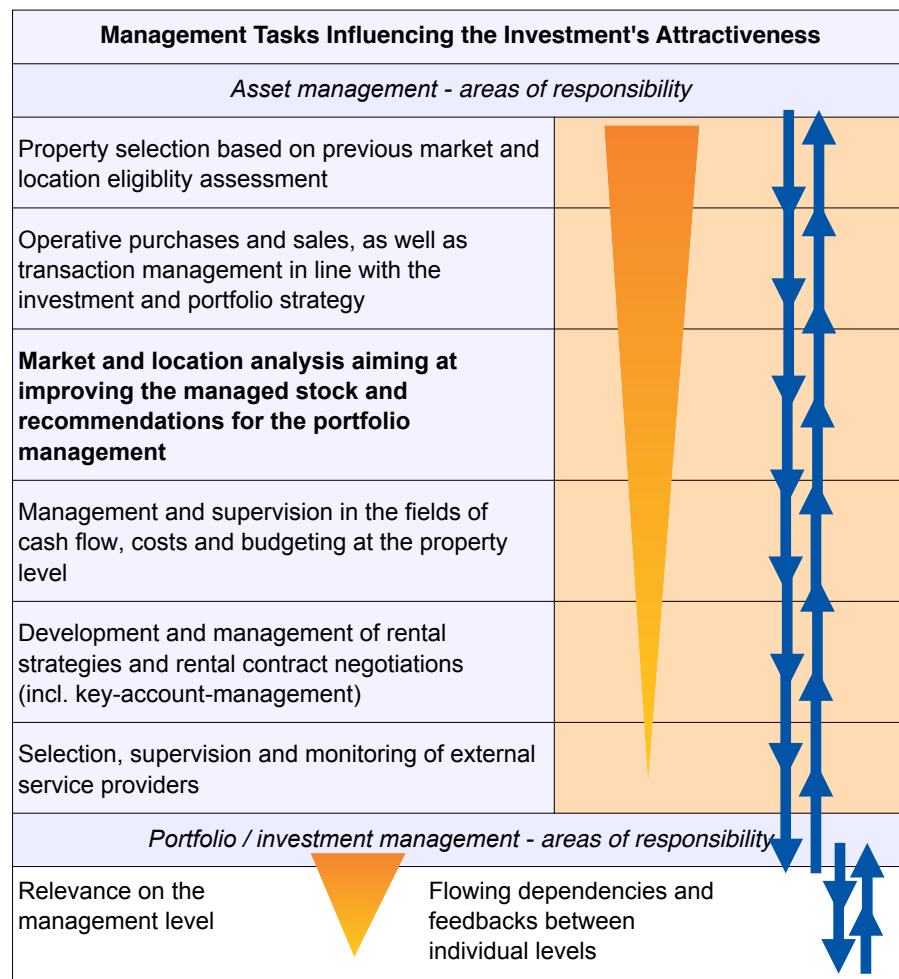
The quite abstract view on the real estate investment management presented by the gif e.V. usually differs somewhat from the everyday practice. Transitions between individual management hierarchies are often blurred and optimisation potentials can be generated much rather from interactions among portfolio, asset, and property management. The portfolio management is responsible for choosing attractive investment objectives for an optimised portfolio composition and thus it is the addressee for an active and value optimising management. Value creation at an individual property level is generated predominantly in the scope of asset and property management, which, in turn, builds on functionally optimised facility management. The gif e.V. drafted also ideal-typical professional profiles for all those areas of responsibility, including drafts of respective areas of responsibility and requirements concerning market players involved.

A summary of facility and property management areas of responsibility is presented in the following table. It comprises key elements that, according to BulwienGesa, can contribute to increasing the cash flow and optimising side costs and thus increasing the tradeable property's attractiveness. These key elements are essential for activating investment impulses in the context of industrial property<sup>6</sup>. Elements in bold are of particular relevance.

<b>Management Tasks Influencing the Investment's Attractiveness</b>	
<i>Facility management - areas of responsibility</i>	
Planning, management and implementation of all supporting processes, in order to achieve maximum profitability and efficiency in the process chain	
Provision, improvement and exploitation of space, infrastructure and working environment to tenants/users according to their requirements	
<i>Property management - areas of responsibility</i>	
<b>Individual and personal support of property's tenants/users</b>	
<b>Effective lease contract management (controlling of terms, indexation, options)</b>	
Coordination and supervision of rental and property accounting including payments and dunning procedures (rent, side costs, security deposits, insurance, taxes)	
<b>Selection, assignment and management of external service providers (cost-effective and quality-conscious)</b>	
Ensuring and supervision of repair, maintenance and refurbishment measures, aiming at maintaining or increasing the property's value	
Budgeting and budget control at property level as well as controlling in the course of process management	

<sup>5</sup> cf. gif-guideline "Definition und Leistungskatalog Real Estate Investment Management"

<sup>6</sup> cf. job descriptions - Facility-, Property-, Asset- und Portfolio-Management by gif e.V.



Source: Presentation in accordance with diverse gif-guidelines and job specifications

### 8.3 Relevant Asset Management Market Players

The organisation form of a managing institution can be just as varied as the specific structure of the management design and its areas of responsibility. Managing units can be embedded in corporate groups or they can at the same time act as project developers, operators and investors. A former property developer can become portfolio holder. There is no clear-cut dividing line here. Thus, presenting a comprehensive overview over all market players offering management services - including property, asset and portfolio managers - would go beyond the scope of this report.

We distinguished between two perspectives: the vertical arrangement of fields of activity of the asset management - representing the manager's specific operative service areas - and the horizontal arrangement of the management from the perspective of the managing unit. It is possible to outsource asset management or to integrate it into the investing company's structures. Yet again, no clear-cut dividing line can be clearly defined here either.

#### *Asset management on the global market*

Nevertheless, the following section outlines that the field of global management is already of great importance and it supervises a great deal of capital. In 2009, the 50 largest property and asset managing companies supervised investments of approx. 397.2 billion euros in individual portfolios<sup>7</sup>.

<sup>7</sup> Watson Wyatt Worldwide July 2009: Global Alternative Survey. Including the Top 100 asset managers

<b>25 Most Important Global Asset Managers in the Real Estate Segment</b>			
Position	Company	Country of Origin	AuM <sup>1</sup> (bn euros)
1	ING Real Estate Investment Management	Netherlands	32,9
2	Morgan Stanley	USA	31,3
3	RREEF Alternative Investment	USA	26,8
4	JPMorgan Asset Management	USA	25,9
5	CB Richard Ellis Investors	USA	21,3
6	AEW Capital Management, LP	USA	21,0
7	LaSalle Investment Management	USA	20,2
8	The Principal Financial Group	USA	18,6
9	UBS Global Asset Management, Global Real Estate	USA	14,8
10	BlackRock, Inc.	USA	14,7
11	Heitman	USA	14,0
12	Invesco Ltd.	Bermuda	13,1
13	Hines	USA	12,7
14	Prudential Real Estate Investors	USA	10,8
15	Aberdeen Property Investors	Sweden	10,1
16	Hermes Fund Managers Limited	UK	9,7
17	Tishman Speyer	USA	9,6
18	Standard Life Plc.	UK	8,2
19	Colonial First State Global Asset Management	Australia	8,7
20	AMP Capital Investors	Australia	7,1
21	Rockspring Property Investment Managers, LLP	UK	5,6
22	Macquarie Group Limited	Australia	5,4
23	GE Asset Management Incorporated	USA	4,6
24	Barclays Global Investors	UK	4,3
25	QIC	Australia	4,1

<sup>1</sup> AuM = Assets under Management (Werte der gehaltenen bzw. betreuten Objekte)  
Source: Watson Wyatt Worldwide July 2009: Global Alternative Survey. Including the Top 100 asset managers

Many asset managers listed in the table operate not only in the real estate sector. They consider property an integral element of their entire volume of investment. Since the majority of professional asset managers have for decades had their main domiciles in Anglo-Saxon countries, these markets also lie in their focus in terms of regional asset allocation. There are only few companies from continental Europe among the top 25 and top 50 asset managers though not a single German company is listed among the largest global players, even though some German asset managers have been managing portfolios worth several billions of euros. Thus, a listing of asset managers operating in Europe and Germany follows hereafter, complemented with information on the amount of assets under management as well as the amount and value of property supervised.

#### *Local asset management as a performance driver*

Asset management as regards industrial property is usually more comprehensive than in case of other asset classes, since the majority of industrial schemes are larger and their structures are more complex. Under these circumstances, activities of many asset managers involve decentralized working practices (office on site). Furthermore, some services cannot be delegated. Thus, asset managers working in the industrial property segment are much more involved in the entire value chain of assets managed by them, incl. services in the field of project development (transformation) and commercial property management. Services provided by them are less standardised and it is hard to present any general statements (economies of scale). Consequently the relation manager:assets is rather 1:1 than 1:20. This requires certain affinity to interdisciplinary

working methods as well as pronounced generalist and management skills.

Additionally to leading global top asset managers, several companies focusing partly or even predominantly on industrial property have established themselves on the German market. International asset managers also operate on the German property market, yet industrial property does not lie in their focus.

Due to their global activity and administration centralised in their original domicile or single national branch offices, global asset managers can only supervise their assets from a certain distance. But, as outlined above, the local know-how and direct supervision of assets on site represent crucial elements of an active and integrated asset management in case of industrial property for the sake of exhausting its value-added and cost-saving potentials. Close proximity to customers and service providers is also a prerequisite for enhancing the performance of facility management and implementing cost-efficient constructional measures.

<b>Selection of Asset Managers Operating in Deutschland and Europe</b>		
Company	AuM (bn eu- ros) <sup>1</sup>	Managed properties/area <sup>1</sup>
Corpus Sireo Asset Management GmbH	19,4	16,5 Mio. qm
ECE Projektmanagement G.m.b.H. & Co. KG	18,0	116 (3,6 Mio. qm)
Deka Immobilien Investment GmbH	14,5	276 (in 22 Ländern)
SEB Immobilien-Investment GmbH	13,8	260 (in 21 Ländern)
Commerz Grundbesitz - Spezialfondsgesellschaft mbH	13,0	76
Henderson Global Investors <sup>2</sup>	11,0	–
Union Investment Real Estate AG <sup>3</sup>	7,3	93 (2,0 Mio. qm)
Credit Suisse Asset Management Immobilien Kapitalanlagegesellschaft	6,6	114
Valad Property Group	5,6	860 (7,0 Mio. qm)
IVG Institutional Funds GmbH/IVG Asset Management	4,5	750 (6,0 Mio. qm)
Generali Investments Deutschland Kapitalanlagegesellschaft mbH <sup>3</sup>	4,5	–
Eurocastle (Fortress Europa)	3,7	553 (2,1 Mio. qm)
Hansainvest Hanseatische Investment-GmbH	3,0	–
DIC Onsite GmbH (DIC Asset AG)	2,2	330 (1,3 Mio. qm)
Internos Real Investors	2,1	–
Resolution GmbH (Asset Manager Colonia Real Estate)	1,8	62 (1,5 Mio. qm)
Tamar Capital Partners	0,9	–
Dibag	–	90
Beos GmbH <sup>3</sup>	0,5	20 (750 Tsd.)
Priam Asset Management	0,4	56 (400 Tsd. qm)
hansteen Holdings <sup>3</sup>	0,2	50
LHI Leasing GmbH	–	–
NAI Apollo (apollo asset management)	–	–
sirius facilities GmbH	k. A.	k. A.

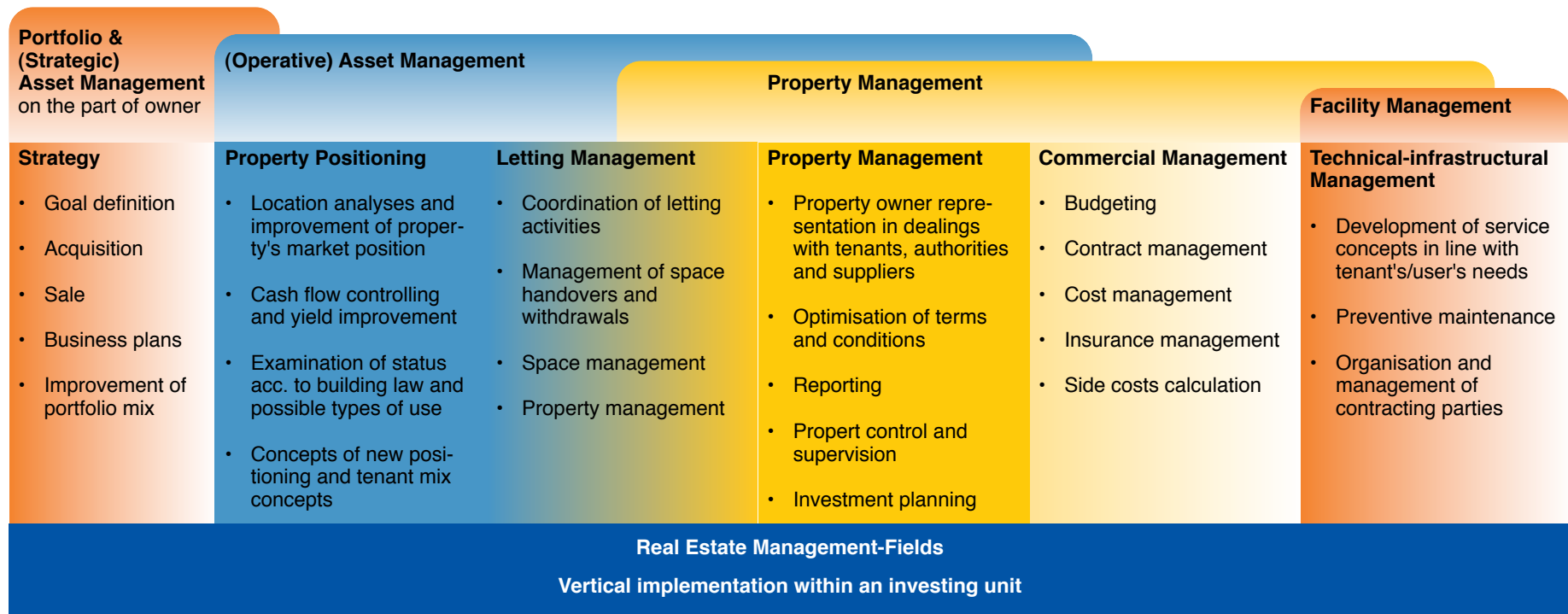
Source: Own survey

1 Information comprises, unless otherwise noted, partl other asset classes (residential, retail) and investment types (indirect or direct, real estate securities, wtc.) and refer to entire portfolios. Rregional property management is (unless otherwise noted) not necessarily limited to Germany.

2 Data refer to continental Europa (= Great Britain excluded)

3 Data refer to Germany





Source: Own presentation based on the asset-management by DIC Asset AG/DIC Onsite GmbH

## 9 MARKET POTENTIALS AND OUTLOOK

### 9.1 Key Statements

Following key statements can be derived from the presented analysis:

1. Urban development policy, typical for Germany, has a great influence on the shape of industrial property market in Germany. In particular older stock logistics property and transformation property - former company premises with a heterogeneous property stock, converted usually in central urban location - play a much more significant part on the German industrial property market than in Anglo-Saxon countries, where this type of industrial property does not even exist.
2. In case of German industrial property, vacancy risk is a key factor regarding nearly all property categories. The alternative use capacity depends predominantly on the property's location. However, quick development of floor requirements and building types is accompanied by high requirements as regards asset management - the more so as rental incomes/sqm are relatively low.
3. Poor location mobility of industrial property - meaning, that it is quite difficult to move a R&D or a minor manufacturing property from one location to another makes an investment securer compared with e.g. an office scheme.
4. Increasing market transparency and property investment pressure concerning industrial property shall in the upcoming years lead to an expansion of the market for industrial property. Numerous industrial schemes - at present owner-occupied - are well-tradeable.

5. The performance of industrial property is far less volatile than the performance of other commercial asset classes. Consequently, when analysing average total returns during the next five years, industrial property offers significantly higher annual growth potentials than other asset classes.

### 9.2 Advantages of the Asset Class

Investors, finance providers and project developers, who have already invested in industrial property, learned to be aware of certain risks but also to appreciate the advantages of this asset class:

- Compared with other asset classes, the potential market volume of tradeable industrial property is much bigger, even though volumes of investments made so far were much smaller than in other asset classes.
- Industrial property is often occupied by SMEs, whose medium- to long-term corporate strategies are more sustainable than those of DAX-listed enterprises.
- Investments in this asset class reflect the economic and industrial stability of the German economy
- Compared with other asset classes, forecasted industrial property yields are higher, yet accompanied by corresponding risk.
- Just like other multi-tenant schemes, the asset class industrial property requires an efficient management. When outsourcing management tasks to professional asset managers with relevant core competences, only minor rental loss risks occur (no risk of

total loss as in case of single-tenant schemes) and the cash flow is secured by the optimal tenant mix and diversified types of use.

### 9.3 Perspectives

#### *Time horizon*

In the next five years, a moderately increasing volume of investments in the industrial property segment is expected, due to the pressure to invest. In the future as well, attractive yields will be achieved in the already established commercial asset classes. However, the competition for the few relevant office and retail investments is great and leads to stable or even increasing purchase prices accompanied by stable or even declining yields. In this context, industrial real estate represents an attractive alternative investment during the next five years. Provided tenants with sound credit standing, industrial property could offer higher yields than the established asset classes: office and retail. Individual industrial property categories, which are defined in this report, must be viewed in different ways.

The increasing transparency on the market for industrial property supports the positive trend. The tendency reminds of the turn on the office property investment market at the beginning of the 21st century. The intensive exchange among the most relevant market players concerning tenancy data and investment comparables will noticeably facilitate optimising due diligence processes in the segment, regarding their promptness and quality.

In the next period of five years to follow, a further increase of the industrial property investment volumes is anticipated, resulting in in-

dustrial property achieving a de facto equal status as office and retail real estate.

This estimation of industrial properties continuously increasing their attractiveness in the nearest future is supported by guidelines issued and efforts undertaken by planning authorities at local and regional levels. These aim at reducing land use and promoting the development and conversion of the existing industrial stock. Significant support potential emerge here in particular for transformation property, whereas the sustainability of real estate investments is an increasingly relevant factor.

#### *Investment volume*

The monetary volume of industrial property available to investors in the middle term in the course of sale-and-lease-back procedures as well as investing in the existing SME-structures in suitable locations, can be estimated at roughly 310 billion euros. Industrial property categories analysed in this report account for nearly 250 billion euros, distributed predominantly among:

- Manufacturing property with roughly 118 billion euros and
- Logistics property with roughly 88 billion euros.

Following categories have a significantly lower share in the investment volume:

- Transformation property (approx. 21 billion euros)
- R&D property (approx. 13 billion euros)
- Multi-tenant schemes (approx. 6 billion euros).



In the course of the years, the respective shares of different property categories in the entire investment volume may change, yet it remains to be seen to what extent.

#### *Investor groups*

We consider the following market players the most relevant investor groups for industrial property (in descending order):

- Special purpose funds
- Open-end funds
- Family offices
- Opportunity funds
- Property companies (excl. REITs)
- Closed-end funds
- Insurance companies
- Pension funds

In the short-term their focus shall lie on logistics property. In the medium term - as a consequence of public discussions on sustainability - transformation and manufacturing property shall both become equally relevant categories of industrial real estate.

It remains to be seen, whether industrial property REITs will gain a foothold on the German market, just like they already did in the USA. After all, REITs - allowing indirect investments in real estate - have been present on the American property market for more than 40 years. A law concerning G-REITs (German REITs) was enacted in 2007, putting into place the necessary legal preconditions for this product. At present there are only two German REITs operating on the property market (Alstria Office REIT AG and Fair Value REIT AG).

Due to the still prevailing intransparency of the industrial real estate market as well as the insufficient market experience in this field in Germany, it is still an obstacle to create a product specifically geared towards industrial property. However, we expect the first special purpose funds for industrial property to emerge on the German market in the short term. These will be put up only for institutional investors and will feature specialised asset management, able to satisfy the demands of this segment.

However, special property companies (*Immobilien-AG*) offer principally a quick and comparatively easy way of increasing the share of industrial property in portfolios of institutional investors, which shall become even more important in the future.

# APPENDIX

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### *Scoring Model*

There are many alternatives for evaluating a property investment with regard to its opportunities and risks. They range from intuition to experience to statistical methods and econometric models. A reliable property evaluation and risk adjustment implies an analysis of a large number of influencing factors. At quality (grades) of a property or site exist in the real estate business.

Location assessment in particular is accomplished in the course of a series of quantitative methods, including diverse forms of property scoring and rating. The scientific literature uses scoring predominantly as a generic term for the checklist method, the ranking order method and the cost-utility analysis. The main goal of all these variations is to provide an as detailed evaluation as possible and compare alternative property or locations.

Providing a consistent database for all indicators used is essential for the approach in order to guarantee comparability. The presented report is based on an analysis of the currently valid structure of German districts.

Our approach pursued for this property market segment calculates three components: "historical development", "current situation" and "future perspective" from a cluster of individual indicators. These are weighted in order to reach the final result.

The historical market analysis focuses on analysing and evaluating the development and volatility of individual indicators. On this basis, estimations regarding the market's sustainability, location's future development guidelines as well as estimations of fluctuation risks are derived.

An evaluation of current market chances and risks is the result of a "current situation" analysis. The most relevant current indicators are analysed and evaluated for core markets. Last but not least, statements on general conditions for investments and on the current situation in the context of a portfolio valuation can be derived. The "current situation" is the most strongly weighted element of the final score.

In the third step, an analysis of the future development of respective regions follows. The scoring model allows appraising locations for planned investments and their attractiveness in the context of the analysed market segment in the short term (until next year) and in the medium term (for the next five years). The final score comprises previous partial results. Performance profiles (strengths and weaknesses) can be presented for individual locations. Furthermore, locations can be compared on the basis of partial results achieved over time. This scoring model provides a valuable aid for evaluating market chances and risks as well as for preparing investment decisions.

In order to evaluate the market segment, a broad spectrum of demographic, sociological and economic features can be applied. For the sake of presenting a systematic structure, we arranged all features into a hierarchy, gradually condensing the information. The selection of indicators in each group - in topical order - focuses on the most relevant and meaningful features.

Simple plausibility considerations lead in the initial step to identifying relevant features in each group of indicators, with the apparently highest significance and information content for a profound market assessment. Following the preselection of features, precise key figures can be generated, which must be examined for mutual correlation.



Interdependent key figures lead usually to undesired redundancies. However, high correlations not necessarily have factually logical origins. Therefore factually logical deliberations must complement a purely statistical approach. Only then, a targeted selection of features is possible. Thus, when assessing possible investment decisions, a complex process is performed, resulting in following key data.

It is crucial, especially when selecting the sociodemographic and economic features, to use statistical data which - according to the current state of knowledge - is comprehensibly collected, documented and reliable. However, data provided by official statistics is available only with certain delay. This disadvantage, though, can be to a large extent compensated by a thorough and consistent revision.

Variables used:

Scorings variables		
Variable	"Historical development" component	"Future development" component
Change in employees - manufacturing 2002–2007	X	
Change in labour force (in %) 2002–2007	X	
Motorway accessibility	X	
Airport accessibility	X	
IC/EC/ICE railway station accessibility	X	
SME (share of enterprises)	X	
Change in GVA manufacturing sector 2008–2014		X
Change in labour force manufacturing sector 2008–2014		X
Employees telecommunication/ media/technology 2002–2007	X	
Employees telecommunication/ media/technology 2008–2014		X
Employees Logistics 2002–2007	X	
Employees Logistics 2008–2014		X
Gross value added 2007	X	
Change in population 2008–2020		X

## PROPRIETARY INFORMATION

The results and figures presented in this survey have been conducted on the basis of existing and compiled sources according to the best of our knowledge and with appropriate care. A guarantee for factual accuracy can only be made with regard to information and data that has been elaborated by BulwienGesa AG themselves. A guarantee for the factual accuracy of data and information of a third party cannot be made.

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Berlin 8 June 2010