



# **Evolution of the real estate industry**



# Innovation management integral part of professionalization of the real estate industry

### Professionalization of the real estate industry

before 2000 Government Ownership

- Supply of affordable housing through initiatives of the state
- Instrument for government to create reasonably priced living space

sector

 Poorly managed inadequate returns, bureaucracy and low service orientation 2000 – 2006 Privatization Phase

- Professionalization of the business
- Real estate becoming an asset class
- Attracting international, institutional money (PE money)
- Transformation from state-owned (non-profit) organisations to performance driven corporates
- New operating tools to drive rent growth
- Clear pricing strategy
- Cash flow focused

**2007 – 2014**Restructuring & Growth Phase

- Holistic approach with focus on shareholder value
- Rise of the industry into one of the largest economic sectors in Germany
- Variety of large scale acquisitions and consolidations of companies
- Introduction of powerful IT systems
- Improving the financing structure and significant refinancing of debt
- Increase service levels
- Improved client service at lower cost
- Targeted customer approach
- Drive sustainable value and cash flow growth

**2014+** Innovatior Phase

- Advanced customer orientation
- Diversification (services business) and extension of value chain
- Rethinking of business processes
- Use of technical possibilities towards continuous increase of profitability
- Race towards disruptive innovation

# Megatrends in the German housing industry



# Population changes and societal demands



Urbanization and rural depopulation



**Demographic change** 



Interculturalization



Increased mobilization demand

# Climate change and sustainability



**Energy transition** 



Environmental sustainability



Social sustainability

# Digitization of the society



Computerization



Virtualization and dematerialization



Always-On Society

# Challenges in state finances



National financial problems



Economization of the state



Unemployment of lowskilled workers



# Innovation Management as core of LEG's housing strategy

Innovation management a comprehensive approach – Striving for entrepreneurial excellence

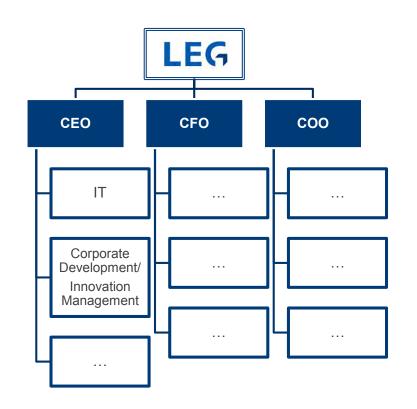
# Focus on customer needs **External** Internal scope scope **Innovation** Innovative services and Corporate culture supporting Management business models constant development / innovation Extensive network State-of-the-art processes Alliances and strategic partnerships Collaboration and communication Transferable innovations and best practices

# **Internal scope – LEG Innovation Management**



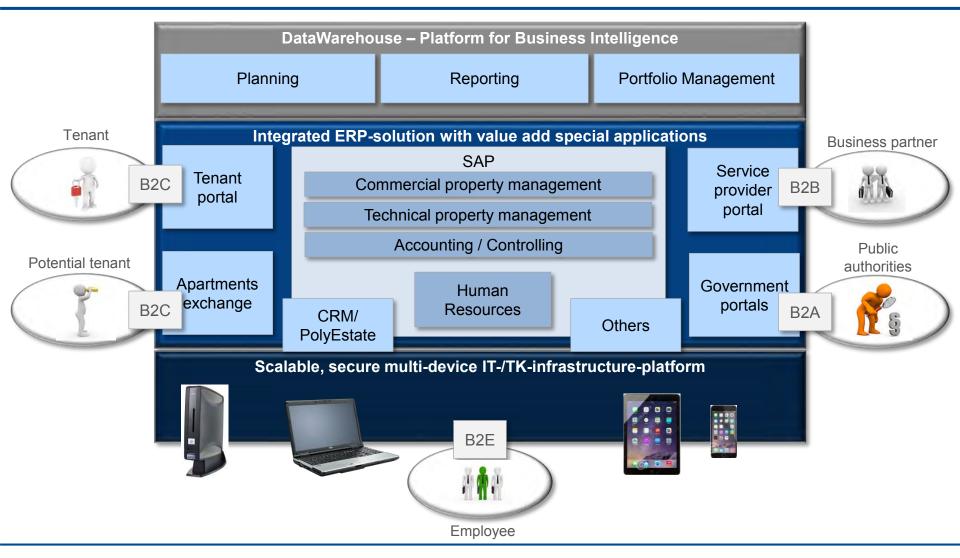
# Innovation management as cross-section organizational unit

- Control panel directly reporting to the CEO to professionalize and institutionalize all efforts towards innovation and forward-looking projects
- Achieve and continuously ensure...
  - Key objective: Securing LEG's status as an innovation leader
  - Linking in-house expertise with external experts
  - Constant analysis of market and business environments
  - A corporate culture supporting constant development and change
- Communication is the key to success
  - Innovation management as part of corporate development
  - Monthly reporting towards the board
  - Coordination: executive roundtable & extended innovation competence network





# State of the art IT platform & expertise basis for digitisation projects



# Comprehensive approach with close involvement of different stakeholder gewohnt gut.

# **Internal scope**

- Strategy process "LEG 2025" with support from **Future Management Group** 
  - Systematic approach to derive a long-term strategy that complies with expected long term mega trends
- Innovative business culture
  - Comprehensive idea management program
- **Workshops / Studies** 
  - Across different functions and entities (executives, young professionals etc. )
- **Data Management / Process Digitalization** 
  - Process automation with artificial intelligence

# **External scope**

**Strategic Partners** Large array of partnerships with leading companies from



various industries









Universities / Institutes Exchange with different universities / institutes to identify future trends







PropTech / PropTech-Booster Support innovative business ideas / approaches

# Nomotekt







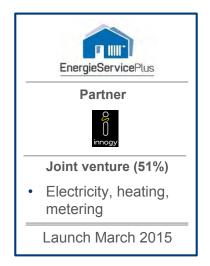


# External scope – Strategic partners



In execution









### Elderly care

- Care services
- Emergency call system

### Health

· Benefits at gyms

Insurance service

Launch in Q1-2018

# Nomotekt

- Digitisation of business process (artificial intelligence)
- · Analysis and implementation of potentially disruptive processes

Decision by year-end



# We achieved a lot but there is still much to be done

### **Services**

# Successfully leveraging our customer base

# **Operation phase**

- Multimedia services (Joint-Venture with Unitymedia)
- Energy services (Joint-Venture with Innogy)
  - Incl. decentralised power generation
- Small repairs management (Joint-Venture with B&O)

### **Development phase**

- Elderly care: First pilot projects completed, change of strategic partner (close to signing)
- Insurance service (partnership also close to signing)
- Digital launderettes
- Living for all generations (initiative with Federal Building Ministry)

### **Processes**

# **Key for margin expansion**

# **Operation phase**

- Invoice workflow (Datasec)
- Artificial intelligence: Central customer service (Datasec)
- Turn cost management (Doozer)
- Virtual flat viewing
- Digital bulletin board
- Digitalisation of tenant data (Datasec)
- Tenant portal and tenant app (pilot project)

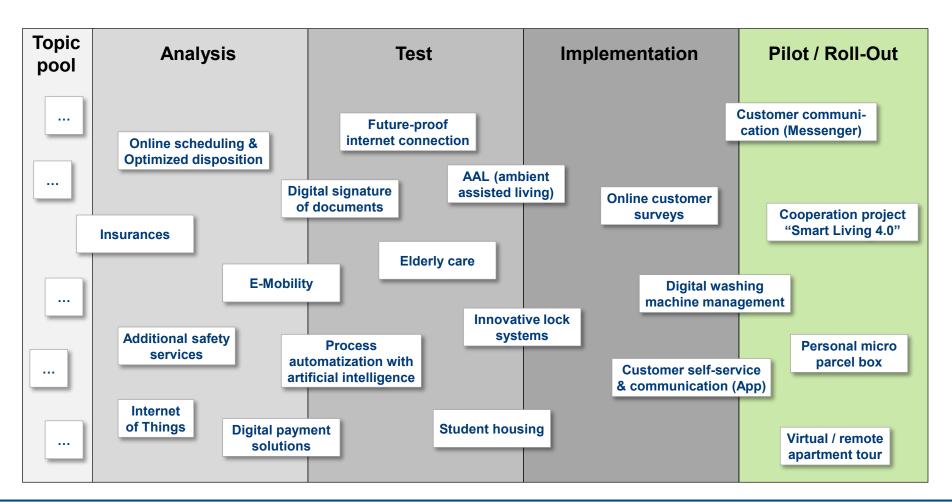
### **Development phase**

 Artificial intelligence: Billing process (utility charges) (Nomotekt)



# Further ideas and projects throughout all development phases

# Topics are guided through development phase by the professional innovation process





# Agenda



- I. DIGITISATION IN THE HOUSING INDUSTRY
- II. DIGITISATION INITIATIVES AT LEG
- III. OUTLOOK

# LEG gewohnt gut.

# **Habemus Papam**



# LEG gewohnt gut.

# 60 seconds on the Internet





# **Digital Markets**



# Digitisation is getting increasingly apparent in every field of our lives



### e-Commerce

Fashion, Electronics & Media, Food & Personal Care, Furniture & Appliances, Toys, Hobby & DIY



# **FinTech**

Digital Payments, Business Finance, Personal Finance



# *eServices*

Event Tickets, Fitness, Dating Services, Food Delivery



# **Digital Advertising**

Banner Ads, Video Ads, Search Ads, Social Media Ads, Classifieds



# eTravel

Online Travel Booking, Mobility Services



# **Smart Home**

Home Automation, Security, Home Entertainment, Ambient Assisted Living, Energy Mgmt.



# Digital Media

Video-on-Demand, Digital Music, Video Games, ePublishing

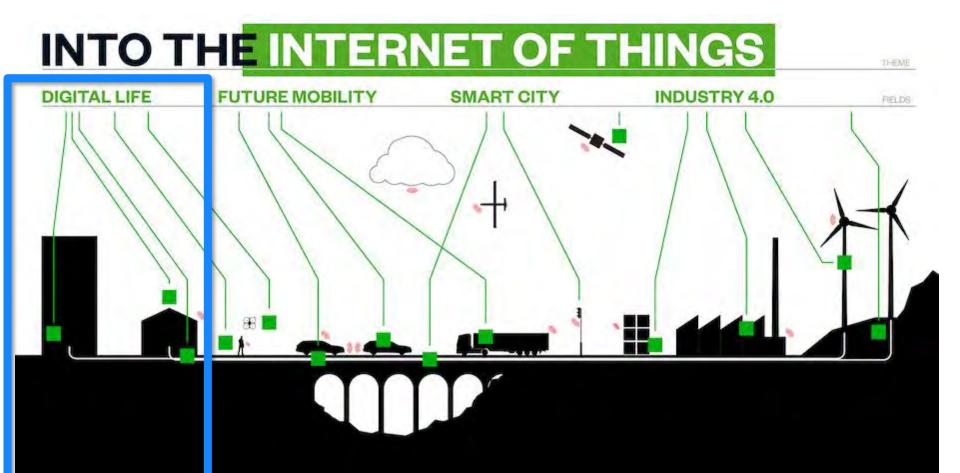


### **Connected Car**

Connected Hardware, Vehicle Services, Infotainment Services





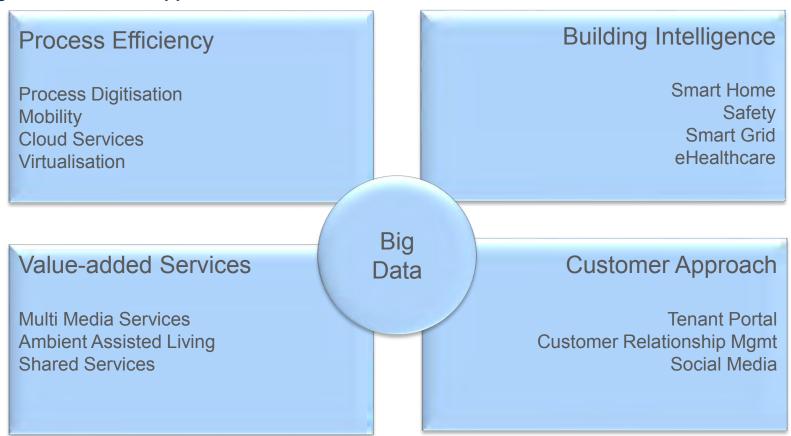


6 I 26 September 2017 Source: code-n.org 01/27/2015

# Digitisation in the Housing Industry Matrix of Innovation



# Targets and fields of application

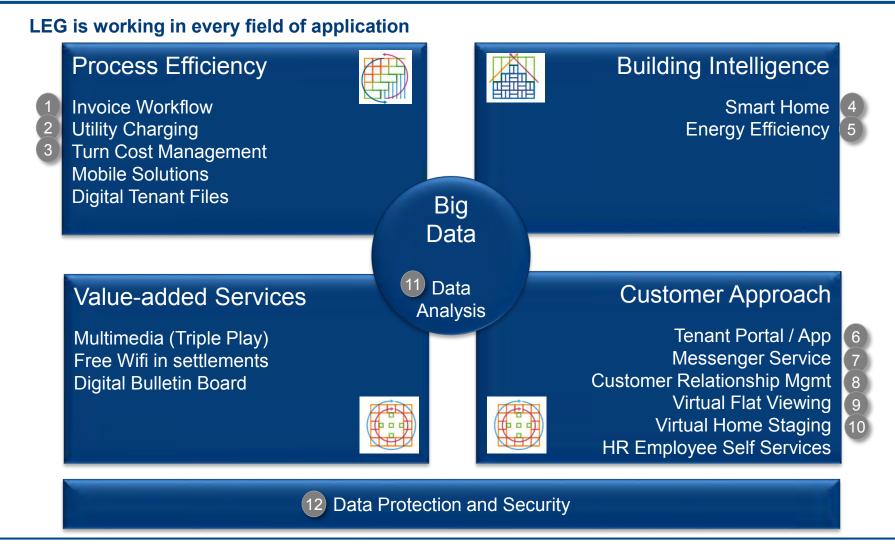




- I. DIGITISATION IN THE HOUSING INDUSTRY
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# **Current projects – overview**













# **Initial Situation**

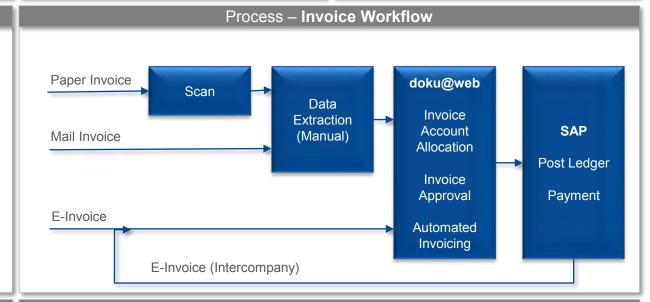
- Decentral invoice receipt
- Complex invoice workflow with SAP introduction in 2012

### Results

- ~250 k€ savings p.a. due to reduced internal capacity and change of service provider
- recurring cost ~ 50 k€ p.a.

# Approach

- Centralised invoice receipt
- Scan and data entry services
- Compliant electronic and paper archiving
- Document management system
- User friendly workflow engine
- Full integration into SAP backend
- Flexible configuration of approval process
- Cloud hosted



# Project Scope

- Timeline: Oct 15 – Mar 16

- Invest: 75 k€

### Partners











### **Initial Situation**

- Implemented workflow process with Datasec
- Still partially manual steps in the process

### Results

- Prototyped automat
- Designed integration architecture
- Tender documents for OCR providers

# Approach

- Feasibility study
- Replacing manual standard mass processes using artificial intelligence
- Use all utility charging invoices of 2014 (electronic and paper) as test case
- Define use cases and processing steps
- Full integration into SAP backend
- Cloud hosted

### Process - Invoice Workflow (Utility Charging) Paper Invoice Nomotekt Data (rough OCR) SAP Extraction **Automated** (thorough Account Mail Invoice Post Ledger OCR) Allocation Payment Automated **Approval** E-Invoice Charging **Automated** Invoicing E-Invoice (Intercompany)

# Project Scope

Timeline: Apr 17 - Jun 17

- Invest: 350 k€

### Partners

# Nomotekt

- LEG is pioneer in housing industry
- Investment for realisation ~ 1.2 Mio. €
- Final decision pending









### **Initial Situation**

- Mobile solution for inspections
- Lack of status transparency
- Several hundred craftsmen
- Complex construction work catalogue

### Results

- Improve letting result / purchase savings ~2.0 Mio. €
- Recurring cost fully re-charged to prime contractors

# Approach

- Change from many individual craftsmen to few prime contractors
- Implement mobile solution to support full process
- Simplify construction work catalogue
- Work packages including standard positions
- Provide work status to renting process

# Process - Turn Cost Management Contract Pre-Main Termination Inspection Inspection Work Work Order Identification **Approval** Placement Work New Renting Execution Contract

# Project Scope

- Timeline: May 15 – Jul 16

- Invest: 900 k€ (Consulting / IT)

# **Partners**



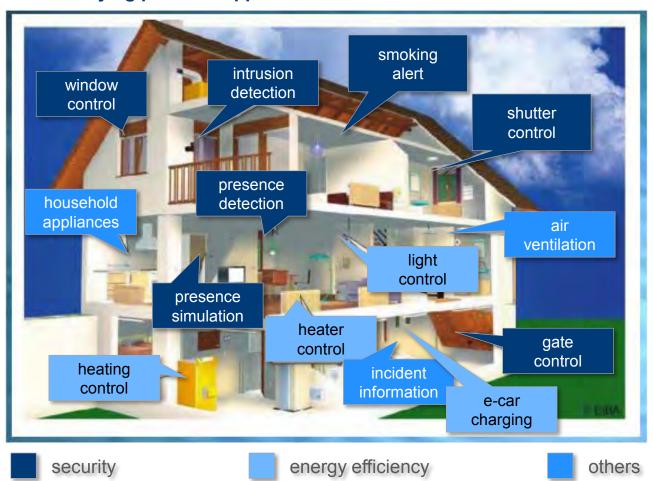




# Digitisation Initiatives at LEG Current projects – building intelligence



# Smart home - identifying potential applications for LEG











### **Initial Situation**

 Identified targets of smart building application (energy efficiency, building safety, electric mobility)

### Results

- To be evaluated after test phase

# Approach

- Joint pilot project with product- and innovation management of innogy SE
- Feasability study adressing technical and commercial issues covering
  - Smart home (light and heating control)
  - Keyless building and flat access
  - Car battery charging station

# Project - Smart Home



- Dortmund, Meylantstr. 17
- 24 flats
- 1.358 m<sup>2</sup> floor size
- 4 storey building
- Year of construction 1959

# Project Scope

- Timeline: Jun 16 – Jun 17 (constr.)

Jul 17 – Jul 18 (test)

- Invest: 35 k€

Recurring cost 2.6 k€ p.a.

# **Partners**



### Comment

 Costs still prohibitively high for affordable living segment

# **Current projects – building intelligence**





# Modul I: smart home

innogy-system (light- and heating control)







# Modul III: car battery charging



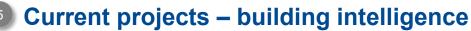
# Modul II: keyless entry

KIWI.KI-System\*) + innogy-ENTR-System















### **Initial Situation**

 Identified targets of smart building application (energy efficiency, building safety, electric mobility)

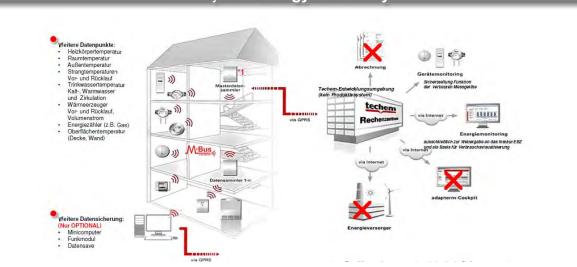
### Results

- Evaluated saving potential
- Findings from energy consumption
- Identified options for energy efficient activities

# Approach

- 50 LEG buildings equipped with hardware components for data measurement and logging
- Data logging for four areas
  - Hydraulic optimisation (for different heater valves)
  - Heating efficiency (heating systems)
  - Tenant assistance (transparency of energy consumption)
  - Energy-efficient ventilation
- Practical experience with scientific prove

# Project – **Energy Efficiency**



# Project Scope

- Timeline: Sep 16 – Apr 18 (logging) Q3 18 (evaluation)

# Partners













### **Initial Situation**

- Lack of modern customer communication channels
- Tenants survey showing high interest

### Results

# 2 weeks pilot:

- 132 registered tenants
- 7.4% of contacted tenants

# Approach

- Design thinking method
- Agile project management
- Prototyping
- Change documents to "digital first"
- Tenant portal as backend
- Apps supporting IOS / Android
- Infrastructure for further services

# Process – Customer Services (Tenant Portal / App)



# Project Scope

Timeline: Mar 17 – Jul 17 (Pilot)

- Invest: 220 k€

- Recurring cost 45k p.a.

# **Partners**













### **Initial Situation**

- Lack of modern communication channel for prospective customers

### Results

- 4 months pilot:
- 21.000 business transactions
- 13.500 new prospective tenants
- conversion rate 67% to CRM

# Approach

- Messenger platform
- Innovative customer communication
- Chatbot
- Automated prospective tenant data collection
- Improvement of data quality
- Relief central customer service
- Accelerate the process time

# Specific Request Request Appointment Status Inquiry WhatsApp Facebook Telegram

**Customer Relationship Management** 

# Project Scope

- Timeline: Mar 17 – Jun 17 (Pilot)

- Invest: 60 k€

# **Partners**













### **Initial Situation**

- New customer relationship management tool due to reorganisation
- Defined new processes

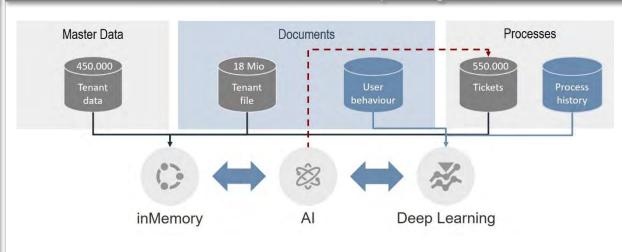
### Results

 Improve availability of customer service by accelerated workflow and optimised document access

# Approach

- inMemory search for tickets and documents
- Introduce Artificial Intelligence components to guide users of customer services to next process steps based on learned previous behaviour
- Move from static to context-dynamic business processes
- Show context-relevenant documents

# Process – Customer Relationship Management



# Project Scope

- Timeline: Jul 17 – Oct 17

- Invest: 110 k€

# **Partners**













# Initial Situation

- Property profile with fotos and floor plans
- Real estate portal as entry channel

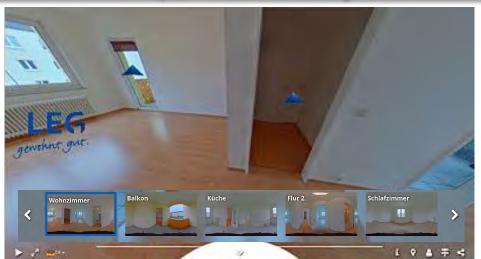
### Results

- Higher object attractiveness
- Avoid long access routes
- Improve pre-selection of customers
- Recurring cost 3.6 k€ p.a.

# Approach

- Individual object landing page
- 360 degree virtual flat tour
- 24/7 availability for customers
- Renter support by telephone, if required
- Statistic reporting
- Standard equipment (e.g. camera) in each branch office

# Project – Virtual Flat Viewing



# Project Scope

- Timeline: Apr 17 (Pilot), Rollout in

progress

- Invest: 25 k€ (Hardware)

# **Partners**











# **Initial Situation**

- Necessity to prepare show apartments
- Home staging with physical equipment

### Results

- Savings ~ 8 k€ per show flat (furniture, cleaning, vacancy etc.)
- LEG has 10 staged apartments

# Approach

- Support prospective customers to imagine a furnished flat
- Furniture arrangement
- Installed equipment
- Floor and wall covering
- Based on existing photos and floor plans
- Reusable for same floor plan flats
- 360 degree virtual flat tour optional
- Pilot project in Gelsenkirchen

# Project – Virtual Home Staging



before

after



# Project Scope

- Timeline: May 17 (Pilot), Rollout in

progress

- Invest: ~ 100 € per room

### **Partners**











### **Initial Situation**

- **Existing LEG Data Warehouse**
- New information objects due to reorganisation
- Continous growth of data

### Results

- Pilot: customer services

# Approach

- Power BI
- New ways to connect and visualise data
- Interactive features for enterprise analytics
- Data-based business decisions
- Mobile reporting
- Cloud hosted

### Process - Big Data Analysis USER ID PROPERTY\_ID POST\_PROPERTY\_FOR PROPERTY ADD ID CITY PLOT\_NUM USERS USER ID PROPERTY\_NAME FLOOR\_NUM USER\_TYPE AREA\_NAME FNAME COUNTRY COUNTRY DOB USER ID PROPERTY PROP\_TYPE COUNTRY PROPERTY ID MIN\_AREA MAX\_AREA PROPERTY\_ADD\_ID MIN\_BUDGET PROPERTY\_DATE MAX\_BUDGET AREA\_SIZE PER\_UNIT\_PRICE FEATURE PROPERTY ID FEATURE NAME PROPERTY ID ROOM NAME

# Project Scope

Timeline: Pilot running

Rollout 2018

- Invest: 100 k€

# Partners











# Initial Situation

### Results

- Increasing cybercrime
- Increasing digitisation and mobility
- New EU privacy requirements

- IT security budget 180 k€ p.a.

# Approach

- Industry standard components
- Latest security patches
- Mobile device management
- Regular penetration tests
- Regular sensitisation of users
- Encryption of mobile devices
- Rights management
- Information security management system
- Implementation of EU General Data Protection Regulation

# Process – IT-Security **IT-Security** Analysis confidentiality IT-Security integrity IT-Security Run **Policy** authenticity **IT-Security** availability Build IT-Security privacy Plan

**Partners** 

# Project Scope

 No single project, but regular implementation of latest security technologies based on LEG technology roadmap

### .



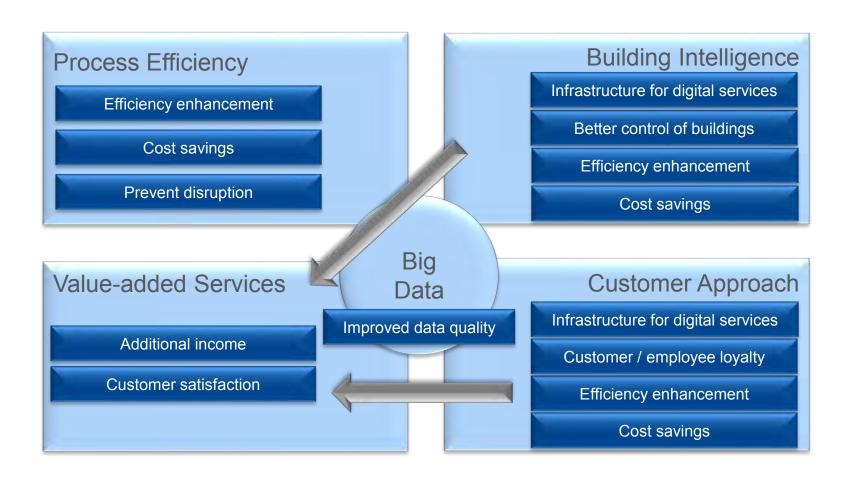
**CITRIX** 



vmware airwatch

# **Advantages and opportunities**







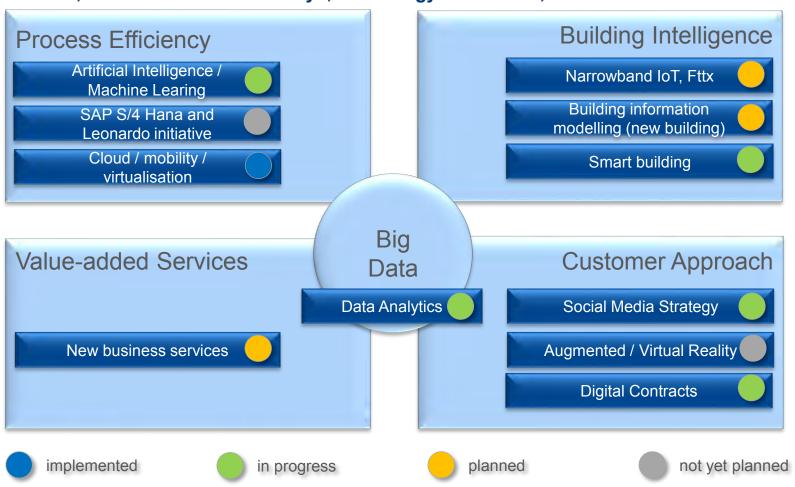
- I. DIGITISATION IN THE HOUSING INDUSTRY
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## Outlook



## Further developments in the housing industry

Observation, relevance for our industry?, technology readiness?, bizcase for LEG?





# Agenda



- I. ENHANCED CAPEX PROGRAMME
- II. MONHEIM



## I. ENHANCED CAPEX PROGRAMME

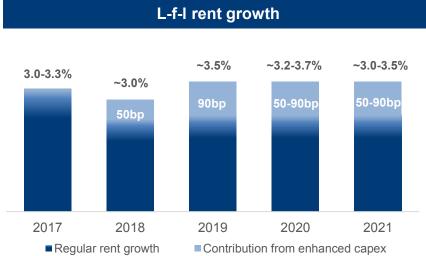
II. MONHEIM

# LEG gewohnt gut.

# Financial impact: Lifting the internal growth potential







#### Strict investment criteria maintained

- IRR hurdle of 6%
  - Sole focus on Yield on Costs can trigger substantial misallocation of capital (NAV dilution)
- Construction work for enhanced capex programme just started
- Improving market conditions allow for larger investment volumes
- Instrument to capture reversionary potential in one step (especially in locations where rental laws prohibit higher onetime rent increases)



## **Capital allocation - Focus on energetic refurbishment**

#### 90% building & 10% apartments

Settlements with potential for re-positioning preferred over standalone buildings

### **Energy-saving measures (75%)**

- Heat insulation
  - Facade, roof, attic, cellar ceiling
- Replacement of doors and windows

#### Other measures (25%)

- Adding or refurbishing balconies
- Modernisation of bathrooms
- Outdoor facilities, staircases, etc.

Investments into buildings ease execution with existing tenants

# **Decision making process**



#### Combined top-down & bottom-up investment process

### **Project portfolio**

Portfolio management compiles a project portfolio that matches requirements regarding return, liquidity management and general asset management strategy.

Analysis by operations. Crosscheck of the assumptions for the specific demand situation (knowledge of micro locations).

**Reality check** 

### **Identifying rent potential**

LEG portfolio management identifies rent potential by comparing in-place to market/reletting rents.

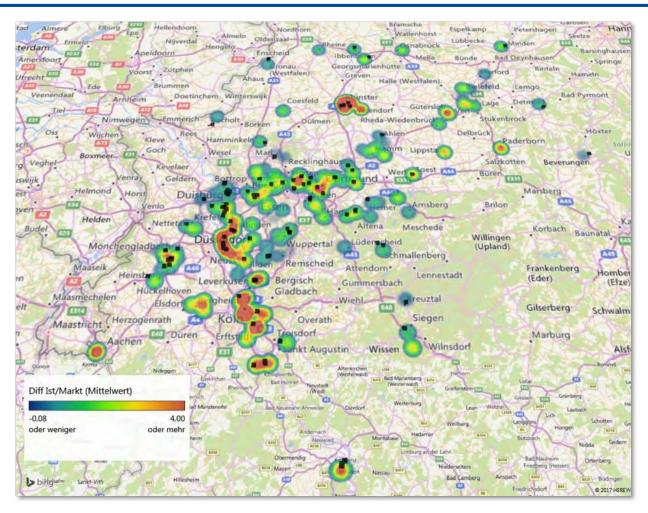
**Process** 

Analysis by technical department. Creating a long list of possible measures.

In-depth analysis

# Enhanced Capex Programme Capital Allocation



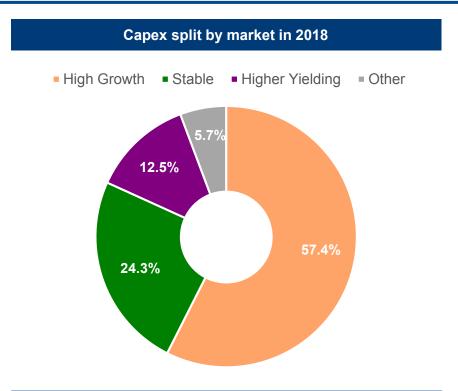


- Heat map shows delta between in-place rent and upper level (75% percentile) of re-letting rent level
- Black dots indicate locations of planned modernization projects for 2018

# Enhanced Capex Programme Enhanced Capex 2018 (€80m) – Regional distribution



Capex split by location in 2018 <sup>1)</sup>		
Location	%	
Monheim	18%	
Cologne	11%	
Münster	9%	
Bonn	7%	
Dortmund	7%	
Koblenz	6%	
Düsseldorf	6%	
Mönchengladbach	5%	
Essen	5%	
Bochum	4%	
Duisburg	3%	
Solingen	3%	
Herne	2%	
Iserlohn	2%	



Comparatively high share of Green and Purple markets due to quality of micro locations

 Reversionary potential after acquisitions (e.g. Mönchengladbach, Vitus NRW portfolio)



## Financial performance: Strong focus on IRR

#### Yield compression becomes an important performance driver

Example: New bathroom, invest of €5,000 with a lifetime of 30 years

Unlevered yields						
<u>IRR</u>		Yield on Cost (%)				
$\widehat{\times}$		7.0%	6.5%	6.0%		
ble (	22 x	13.1%	10.1%	7.5%		
Multi	20 x	10.4%	8.1%	6.2%		
Rent Multiple (x)	18 x	8.4%	6.6%	5.0%		
Œ	16 x	6.8%	5.3%	4.0%		

 Additional positive impact from multiple expansion of entire building (not only on the investment) not yet taken into account

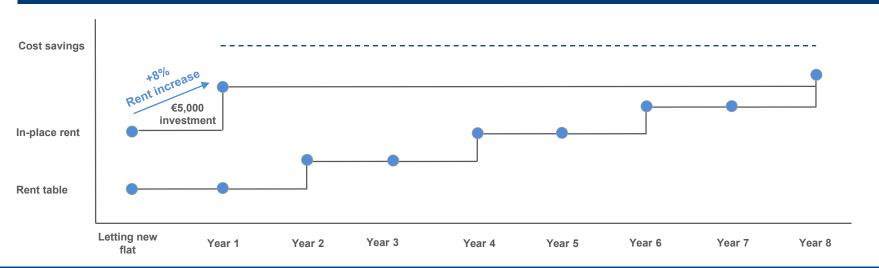
Levered yields				
FFO	I			
Yield		Yie	eld on Cost (%)	
(%)		7.0%	6.5%	6.0%
rate	2.0%	12.0%	11.0%	10.0%
Interest rate (%)	1.6%	12.4%	11.4%	10.4%
Inte	1.3%	12.7%	11.7%	10.7%

# Why don't we invest more?



- Expansion of enhanced capex programme (+€80m p.a. or +50%) to 2021
- Exploitation of rent potential without capex
  - Analysis of the real incremental impact of capex
- Drag on future rent growth (§ 558 Civil Code, Mietspiegel adjustments)
- Costs associated with tenant turnover
  - Vacancy, marketing, admin. costs
- Others: execution risks, maintaining a lean organisation
  - E.g. qualified staff/craftsmen increasingly become a bottleneck







- I. HIGHLIGHTS CAPEX PROGRAMME
- II. MONHEIM

# Monheim City Profile





1) As of 31.12.2015 Source: Stadt Monheim am Rhein, LEG Housing Market Report, it.NRW

#### **Key facts**

- Monheim is located at the river Rhine between Düsseldorf (20 km) and Cologne (25 km); Rhineland area belongs to the most dynamic regions in Germany
- 4<sup>th</sup> smallest city in NRW: 42,914 inhabitants<sup>1)</sup>, increase of 2% (2015/2013)
- High population density: (1,862 citizens/km² in Monheim vs 524 citizens/km² in NRW)
- High affordability: purchasing power/household of €3,823 compared to €3,828 in Düsseldorf or €3,692 in Cologne; gross rent ratio with 18.9% well below those cities<sup>1)</sup>
- Unemployment rate with 7.1% below 7.6% in NRW (03/2017)
- One of Germanys youngest and economically most successful mayors (D. Zimmermann) repositioned Monheim
- Number of employees subject to social-security contributions increased by 22% (2015/2011)
- Lowest trade tax in NRW attracting new businesses from future industries like pharmaceutical, chemical and IT, e.g.
   Bayer CropScience, Bayer Intellectual Property, BASF
   Personal Care and Nutrition, EPLAN Software & Service, OXEA, UCB S.A. (former Schwarz Pharma)
- Creative Campus Monheim home of biotech and pharmaceutical companies and start-ups

# Monheim City profile



#### Strategic goals - municipality of Monheim

#### Strengthen profile as business location between Düsseldorf and Cologne

- Keeping trade tax low and attracting new businesses
- Airports Cologne/Bonn and Dusseldorf within approx. 30-45 minutes drive; motorway A3, A529 and A59 nearby

#### Improve social structure and residential environment of Berliner Viertel

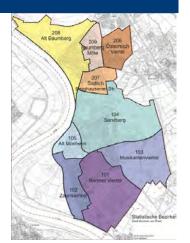
- Repositioning Berliner Viertel and improving tenant structure
- Improving the settlement by substantial investments (leading to a change in tenant structure and higher rents)

#### Become a role model for successful integration

Chance for Berliner Viertel with many different cultural backgrounds

#### Monheim - Berliner Viertel

- Approx. 25% of Monheims population lives in the borough "Berliner Viertel"
- People from more than 100 nations live in Monheim, most of them in this district (30% non-Germans)
- Majority of buildings built end of 1960's in mass-construction, attracting economically weaker households
- Positive economic development and improving image providing the opportunity to re-develop the neighbourhood
- Strong population growth +3.4% vs +1.8% for Monheim (2015 vs 2011) underpins strong demand
- Positive trend in age structure: 20% are younger than 15 years and 13% are older than 65 years in Berliner Viertel (compared to 14% younger 15 years and 21% older 65 years in Monheim itself)



Source: Stadt Monheim am Rhein

### **Berliner Viertel – LEG units**



#### **Key facts**

- Residential complex with large playing areas and open spaces
- LEG owns around 3,500 units in Monheim and a market share of ~25% with approx. 11,000 tenants, of which 2,768 units are located in Berliner Viertel (~188,000 sqm lettable area)
- Buildings predominantly built end of 1960's, pre-fabricated construction (mainly 3-4 storeys)
- 68 sqm average apartment size, mainly spread over 2-3 rooms
- More than 90% of all units are free financed (224 units are subsidised)
- In-place rent currently at €6.12/sqm, already increased by 20% since January 2013 (vs. €6.24/sqm in Berliner Viertel)
- Vacancy around 1%
- Tenant turnover well below 10%
- Supported by municipality in repositioning the Berliner Viertel





## **Berliner Viertel – LEG units**



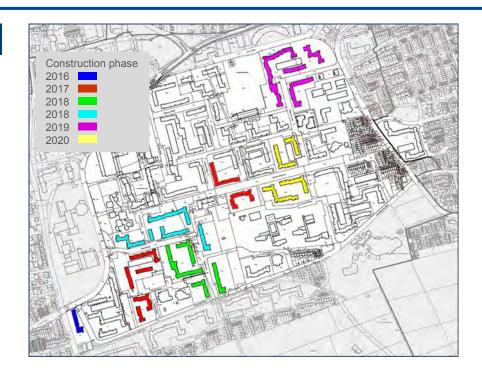
#### District with significant upside potential

## Key fields of activity

- Heating costs with €1.56 /sqm per month well above LEG average; potential for energetic refurbishment
  - Heat insulation (facades, roofs, basement ceiling)
  - Replacement of windows (incl. ventilation system)
- Modernisation of bathrooms
- Adding or refurbishing balconies
- Barrier-free entrances and bathrooms
- Residential surroundings
  - Redesigning outdoor facilities, avoiding fear causing spaces and optimizing exterior lighting
  - New waste storage locations
  - Repair of parking spaces / letting to tenants

### **Targets**

- Value appreciation (yield + capital growth)
- Product upgrade attracting new tenant groups
- Image improvement

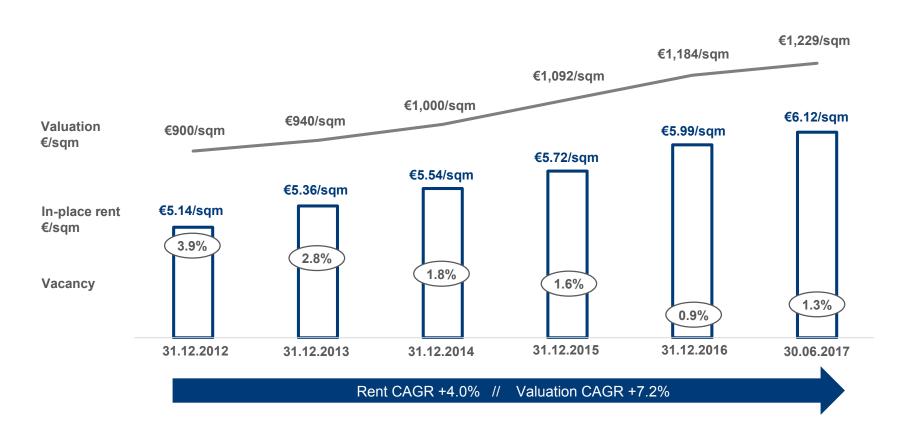


#### Invest

- Since 2013, 200 units have been modernised (€4.1m)
- H2 2017 until 2020, further investments of ~€25m affecting one third of all units

## **Berliner Viertel – LEG units**





### Potential for further yield compression

IFRS book value ~€288m or €1,229/sqm

In-place rent multiple of 16.5x or 6.1% gross yield

# Case Study Monheim

## **Berliner Viertel**



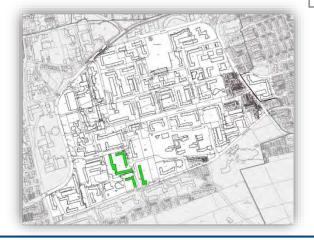
Construction phase	# house entrances	# units	Total invest	In-place rent before modernisation	In-place rent after modernisation	Rental yield on total costs Year 1	FFO I yield on investment Year 1	NAV effect (estimate)	IRR
I.	4	48	€1.4m	€5.46	€7.93	6.7%	12.2%	€0.6m	12.5%
II.	20	163	€4.4m	€5.42	€7.83	7.3%	13.0%	€1.8m	13.8%
III.	22	265	€7.0m	€5.41	€7.30	5.4%	9.6%	€2.2m	9.6%
IV.	24	268	€7.2m	€5.41	€7.30	5.6%	10.7%	€2.9m	10.1%
V.	29	322	€2.7m	€5.99	€6.70	7.0%	17.2%	€1.5m	14.7%
VI.	25	220	€1.7m	€5.94	€6.70	7.7%	18.5%	€0.7m	15.9%
	124	1,286	€24.5m	€5.65	€7.15	6.6%	13.5%	€9.8m	12.8%



Overview			
Section III. BA			
Year planned	2018		
ID	6578		
Address	Tegeler Str. 12-20 Grünauer Str. 15 Steglitzer Platz 2-22 Steglitzer Platz 7-13 Lichtenberger Str.19		
# stairway	22		
# units	265		
Lettable area (sqm)	17,467		

Measures			
Part	Costs	Costs per sqm	
Roof incl. Insulation	1,009,750	58	
Insulation facade	2,149,902	123	
Windows	1,305,000	75	
Entrance area	37,800	2	
Balcony refurbishment	779,700	45	
Insulation cellar ceiling	226,700	13	
Electrical installation	316,410	18	
Internal Costs & Fees	343,193	20	
Exterior & Interior	413,469	24	
Total construction	6,581,924	377	

Assumptions			
IPR	Pre Mod	5.96	
IFK	Post Mod	8.00	+2.04
	Pre Mod	2.1%	
Vacancy	Year 1	2.0%	-0.1%
	Stabilized	2.0%	-0.1%
	Pre Mod	10.6%	
Fluctuation	Year 1	15.0%	4.4%
	Stabilized	10.0%	-0.6%
Turn Cost /	Pre Mod	3,500	
unit	Post Mod	2,000	-1,500





Yields			
Rent Yield on total costs	Year 1	6.5%	
FFO I Yield on investment	Year 1	11.9%	



Overview			
Section	IV. BA		
Year planned ID	2018 6578		
Address	Tempelhofer Str. 1-9; Tegeler Str. 1-19; Tegeler Str. 2-4; Tempelhofer Str. 2-6; Tegeler Str. 22; Steglitzer Platz 1-5		
# stairway	24		
# units	268		
Lettable area (sqm)	18,606		

<u>Measures</u>			
Part	Costs	Costs per sqm	
Roof incl. Insulation	1,154,400	62	
Insulation facade	2,361,500	127	
Windows	1,455,000	78	
Entrance area	86,400	5	
Balcony refurbishment	1,169,850	63	
Insulation cellar ceiling	255,700	14	
Electrical installation	329,992	18	
Internal Costs & Fees	397,135	21	
Exterior & Interior	394,947	21	
Total construction	7,604,923	409	

Assumptions			
IPR	Pre Mod	5.99	
IL IX	Post Mod	8.00	+2.01
	Pre Mod	2.0%	
Vacancy	Year 1	2.0%	0.0%
	Stabilized	2.0%	0.0%
	Pre Mod	10.6%	
Fluctuation	Year 1	15.0%	4.4%
	Stabilized	10.0%	-0.6%
Turn Cost /	Pre Mod	3,500	
unit	Post Mod	2,000	-1,500





Yields			
Rent Yield on total costs	Year 1	6.0%	
FFO I Yield on investment	Year 1	11.4%	







































**Appendix** 

## **City Profile**



#### **MONHEIM (2015)**

<b>Strong</b>	demographic fur	ndamentals
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Population 42.914 Person/household 2.15 Households 18,620 Population density (Inhabitants/km²) 1,862

+2% population growth (2015/2013)

4TH smallest city in NRW

#### Strong economic fundamentals

Purchasing power/household €3,823 Purchasing power index (NRW=100) 104.1 Employees paying social security contribution 13.220 7.1%<sup>1)</sup> Unemployment rate

Gross rent ratio with 18.9% well below Düsseldorf and Cologne

> +22% increase of employees subject to social-security contributions (2015/2011)

#### Housing market data

Number of apartments 19,780 Share of multi-family buildings 87% Asking rent/sqm (median) €7.31

Unemployment rate below NRW with 7.6% (03/2017)

Statistical data as of 2015 unless otherwise stated 1) As of March 2017 Source: Stadt Monheim am Rhein, LEG Housing Market Report, it.NRW

# Dusseldorf and Cologne City Profile



	DUSSELDORF	COLOGNE	
Strong demographic fundamentals			
Population	612,178	1,060,582	
Person/household	1.85	1.90	
Population density (Inhabitants/sqm)	2,816	2,619	
GNP per capita	€78,504	€40,246	
Strong economic fundamentals			
Income per household / month	€3,257	€3,060	
Purchasing power index (NRW=100)	107.4	101.3	
Employees paying social security contribution	63.5%	49.2%	
Unemployment rate	7.2% <sup>1)</sup>	8.5% <sup>1)</sup>	
Housing market data			
Housing market data  Number of apartments	326,861	534,957	
Share of multi-family buildings	86%	81%	
Vacancy	1.5%	1.1%	
Asking rent/sqm (median)	€9.86 <sup>1)</sup>	€10.38 <sup>1)</sup>	
Asking renusqiri (mediari)	69.00	€10.30	
Important business sectors	#1 in Germany in consultancy, mobile	automotive, insurance, media,	
	communication, advertising;	logistics/distribution, trade	
	other top sectors: finance, fashion &		
	beauty, trade		
Top companies (selection)	Metro, Henkel, BBDO, Grey, McKinsey,	Ford (since 1930), Toyota, Volvo, Citroën,	
(incl. German HQs of int. companies)	Vodafone, Ericsson, L'Oréal, Toshiba	Axa, Barilla/Wasa, Pernod, Toys "R" Us,	
		German Aerospace Center (DLR)	
Statistical data as of 2015 unless otherwise stated 1) As of June 2017			
1)718 81 8418 2817			

Source: LEG Housing Market Report, it.NRW



# Capex – Watch the value traps

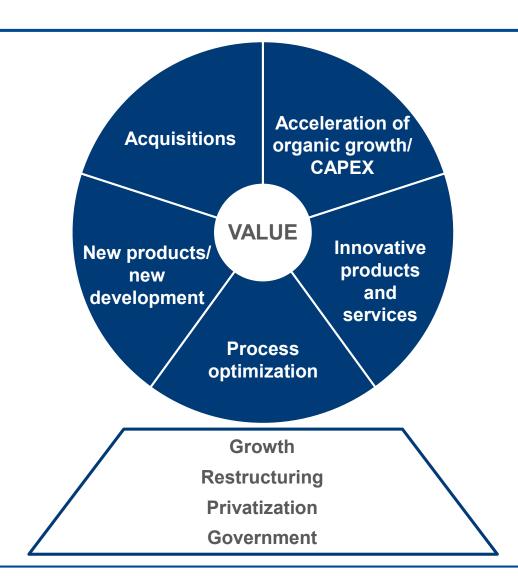
Measure	Life cycle	Investment / apartment (in €)	IRR at 7% yield on costs	Required yield on costs (6% IRR)	Rent increase in %
Floor covering	15 years	1,100	0.1%	10.3%	2.6%
Bathroom	30 years	5,000	5.7%	7.3%	8.5%
Kitchen	10 years	3,000	negative	13.6%	9.5%

#### **Conclusion for LEG:**

- Bottom-up investment approach with strict IRR targets
- Capital displine is key not overpaying for growth







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