

# Bilfinger Berger Capital Markets Day

## Building construction and Facility Services in Germany: Two strong players and a joint market presence

### Bilfinger Berger Building

Dr. Matthias Jacob / Jörg Niescher, Bilfinger Berger Hochbau

November 22, 2007



## Current market situation

- Stronger demand in Germany increasingly led to bottlenecks with subcontractor services
- Unforeseeable cost increases, despite existing agreements
- Shortage of material
- Affected projects relate to incoming orders 2006
- The German Building division will nevertheless break even in 2007
- Back on track in 2008

# Agenda

- **Market structure**
- Bilfinger Berger Building
- Overview i.volution
- Project management
- Strategy
- Conclusion
- Reference project

## Construction market booming

Construction business announces turnaround

Building industry confirms  
market outlook

Building industry  
is alive and well!

Construction industry expects rapid growth for 2007

Construction trade group reports  
14.7% increase in orders

**Construction Group Bilfinger Berger  
announces record earnings**

**Building industry is hiring once again**

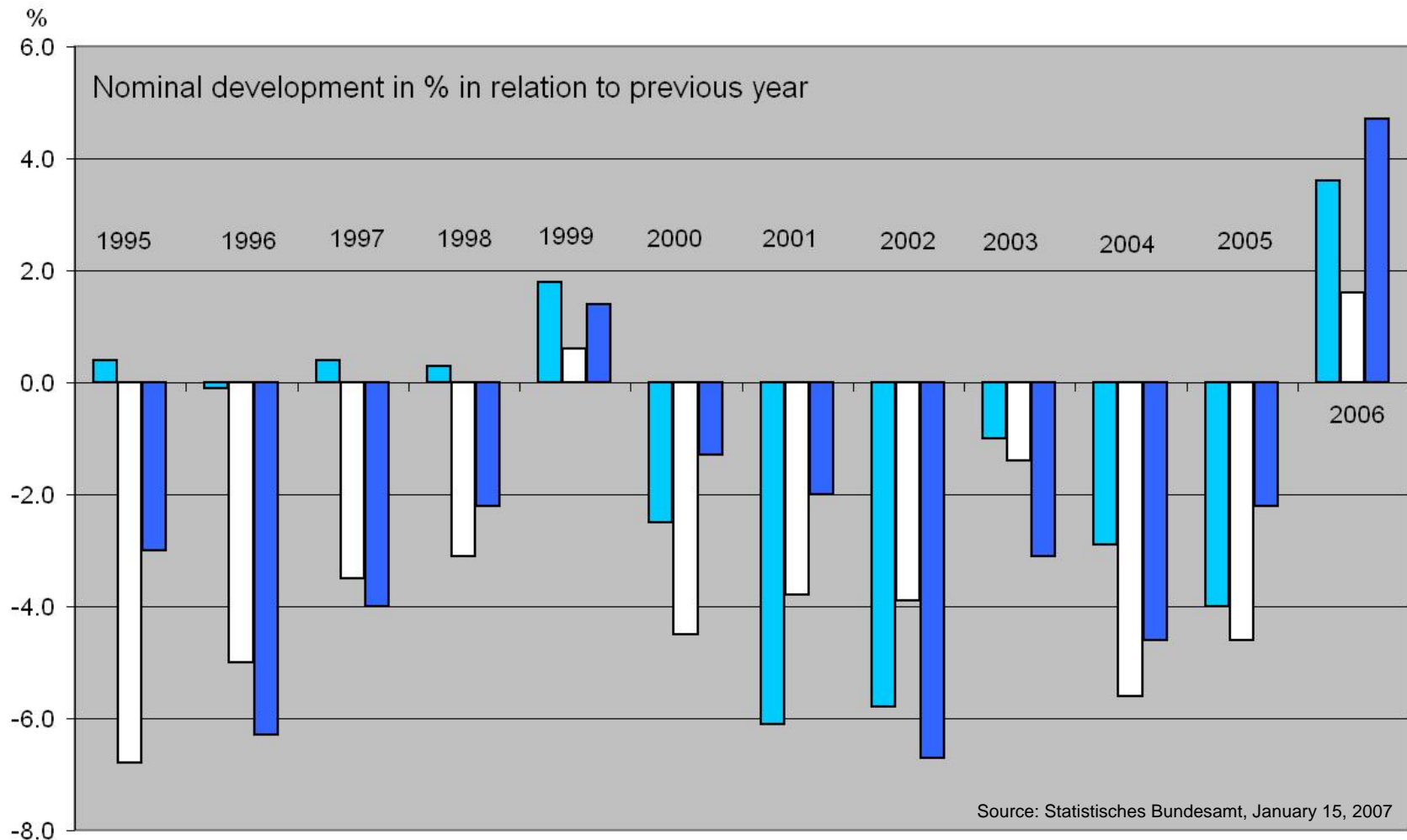
Construction investments in 2006  
show clear growth again

Construction industry:  
Jump in turnover again in 2007

**Construction industry doubles prognosis**

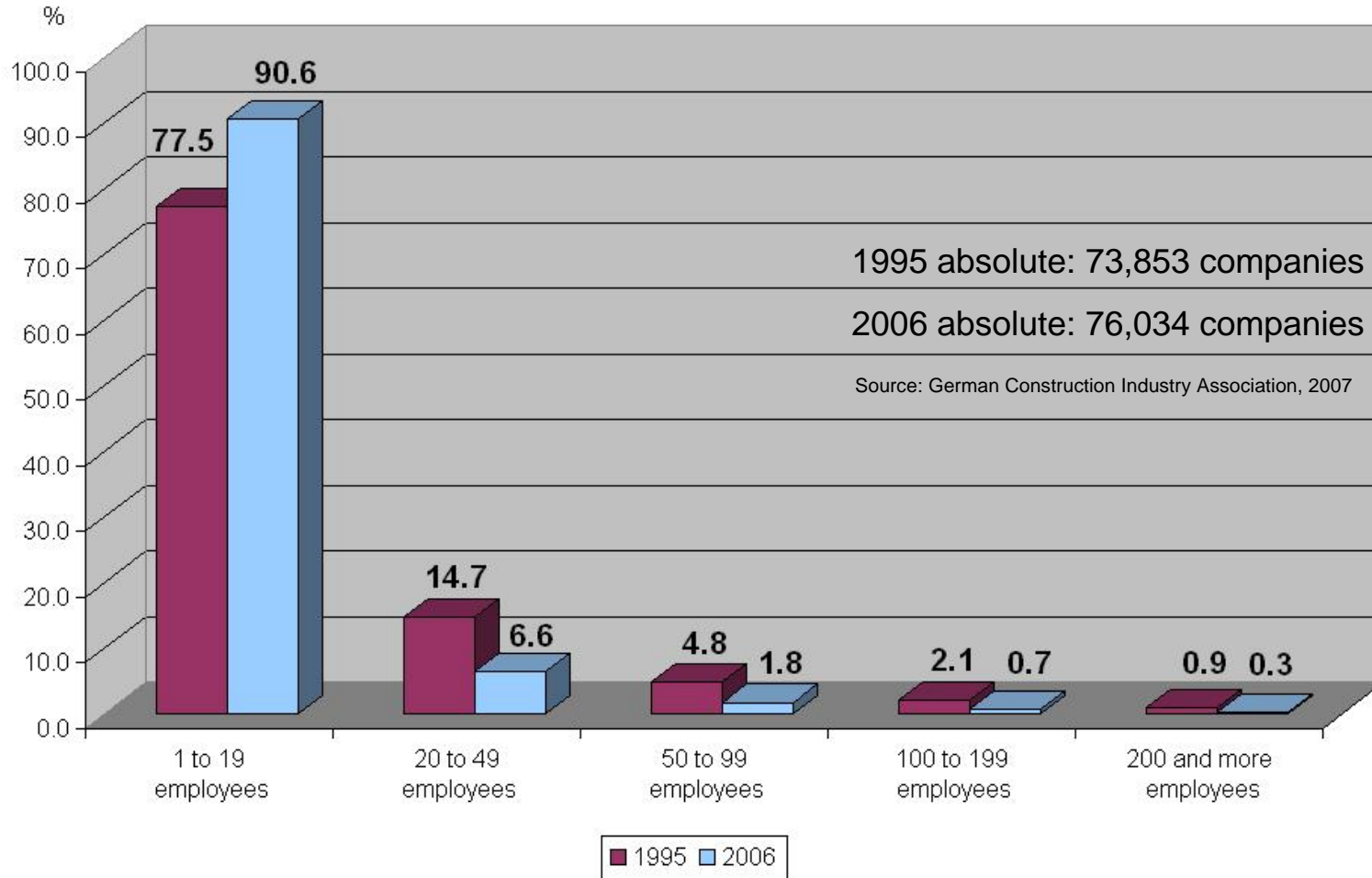
**Construction business finds way out of crisis**

# Construction investment in Germany 1995-2006



■ Residential construction □ Public sector construction ■ Commercial and industrial construction

## Number of construction companies in Germany by size (in %)



# Biggest building construction companies in Germany

## Reduction in number of competitors

1975	1990	2006 (Group output volume)
<ul style="list-style-type: none"> <li>• Hochtief AG</li> <li>• Bilfinger + Berger Bau AG</li> <li>• Ed. Züblin AG</li> <li>• Strabag Bau-AG</li> <li>• Wayss &amp; Freytag AG</li> <li>• Philipp Holzmann AG</li> <li>• Dyckerhoff &amp; Widmann AG</li> <li>• Boswau &amp; Knauer AG</li> <li>• Thosti Bau-AG</li> <li>• E. Heitkamp GmbH</li> <li>• Heilmann &amp; Littmann Bau-AG</li> <li>• Sager &amp; Woerner KG</li> <li>• Wiemer &amp; Trachte AG</li> <li>• C. Baresel AG</li> <li>• Huta-Hergerfeld-AG</li> <li>• Polensky &amp; Zöllner AG</li> <li>• Beton- und Monierbau AG</li> <li>• Held &amp; Francke Bau-AG</li> </ul>	<ul style="list-style-type: none"> <li>• Hochtief AG</li> <li>• Bilfinger + Berger Bau AG</li> <li>• Ed. Züblin AG</li> <li>• Strabag Bau-AG</li> <li>• Wayss &amp; Freytag AG</li> <li>• Philipp Holzmann AG</li> <li>• Dyckerhoff &amp; Widmann AG</li> <li>• Walter Thosti Boswau AG</li> <li>• E. Heitkamp GmbH</li> <li>• Heilit + Woerner Bau AG</li> <li>• Wiemer &amp; Trachte AG</li> <li>• C. Baresel AG</li> <li>• Huta-Hergerfeld-AG</li> </ul>	<ul style="list-style-type: none"> <li>• Hochtief AG (16.7bn €)</li> <li>• Bilfinger Berger AG (7.9bn €)</li> <li>• Strabag AG / Ed. Züblin AG (7.1bn €)</li> <li>• Royal BAM Group* (8.6bn €)</li> <li>• Max Bögl Bauserv. GmbH&amp;Co.KG (1.0bn €)</li> <li>• Köster-Gruppe** (0.6bn €)</li> </ul> <p style="font-size: small; margin-top: 20px;">* incl. Wayss &amp; Freytag AG / Müller-Altvatter GmbH &amp; Co. KG            ** incl. Wiemer &amp; Trachte AG / Baresel AG / Köster AG</p> <p style="font-size: x-small; margin-top: 10px;">Source: Stiftung Bauwesen, March 9, 2007</p>

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## Bilfinger Berger Building (Germany and Rest of Europe)

Key figures 2004 - 2007

	2004	2005	2006	2007 Plan
Output volume*	845	855	854	900
Orders received*	914	817	1,155	
Order backlog*	603	565	866	
Employees	2,200	2,100	2,000	2,000

\* in million €

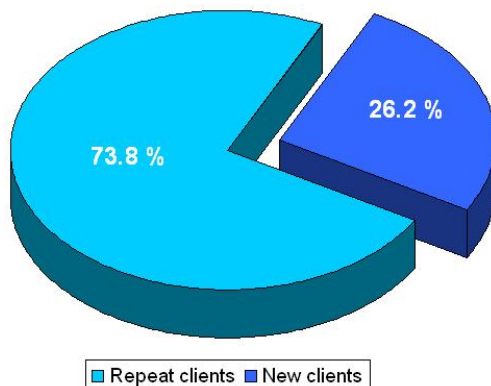
## Client structure

### Bilfinger Berger Building Germany

Orders received 2006



Orders received Jan-Oct 2007



- Our repeat clients trust our reliability and quality
- We can count on fair business conduct and reliable payment morale of our repeat clients
- We want to convince our new clients by providing outstanding services
- We demand adequate payment for our services
- We prefer quality competition over competition based only on price

## Market drivers

### Office buildings



Lufthansa Headquarters, Cologne  
Completion: May 2007

- Increasing demand of modern offices
- Relocation of company headquarters due to centralization
- 30 % more lettings in the big five cities (Frankfurt, Munich, Hamburg, Düsseldorf, Berlin) compared to previous year
- Big companies prefer new buildings to get optimized ground plans and furnishings

## Market drivers

### Industrial buildings



MAN truck assembly plant Niepolomice, Poland (2007)  
Completion: August 2007

- Improving economy in Germany
- Upward trend of industrial production volume
- Increasing investments in production equipment and optimized buildings
- Producers need a reliable partner to ensure construction costs, completion date and quality

## Market drivers

### Retail buildings



Shopping Centre Limbecker Platz, Essen  
Completion: October 2009

- Revitalization and new construction boom of inner-city shopping centers
- Publicly sponsored revaluation of inner-city areas for higher quality and attractiveness (Business improvement districts)
- Execution of construction works during day-to-day retail business frequently required

## Market drivers

### Residential buildings / energetic revitalization



Revitalization Reilshof Quarter, Halle  
Completion: May 2008

- Revitalization boom of residential buildings
- Increasing requirements of building quality regarding energy efficiency
- German action plan “Energy Efficiency” in accordance to the EU directive
- Public promotion programs (e.g. CO<sup>2</sup> building revitalization program)

## Market drivers

### Healthcare buildings



Deaconry Hospital, Mannheim  
Completion: December 2007

- Investment requirements in the health care sector of in total 30–40 billion Euro
- Increasing competition between hospitals leads to targeted investments in new buildings and technical equipment
- Outsourcing or privatization of services
- Legal facilitation for PPP-models
- Cooperation with Bilfinger Berger Facility Services

## Market drivers

### University / school buildings



University of Applied Sciences, Gummersbach  
Completion: September 2007

- Investment requirements of in total approx. 10 billion Euro in university buildings
- Half of 40,000 schools and 50,000 kindergartens in Germany in need of revitalization (double-digit billion Euro figure)

## Market drivers

### Hotel buildings



Lufthansa Training & Conference Centre, Seeheim  
Completion: December 2009

- Boom of 4- and 5-star-hotels in Germany (plus 7.5 % of existing hotels by 2013)
- 180 four-star-hotels (27,700 rooms)
- 50 five-star-hotels (9,300 rooms)
- Especially attractive markets in Berlin (49 hotels), Hamburg (14), Frankfurt (12), Munich (9), Cologne (6), Stuttgart (5)

## Market drivers

### US Armed Forces projects



Enhanced Health Service Center Vicenza, Italy  
Completion: 2010

- Annual contracts for maintenance and repair
- Projected buildings in Germany, Italy and Eastern Europe

## Market drivers












### PPP projects (Public Private Partnership)



Justice Centre, Chemnitz  
Completion: December 2008  
Operation over 20 years, without equity commitment

- Increasing number of PPP projects in Germany
- Eleven selected acquisition projects 2008 with a total construction volume of approx. 470 Mio. Euro
- Target 2008: Acquisition of PPP projects with a total construction volume of 200 Mio. Euro

## Market outlook summary

- Office buildings  increasing market
- Industrial buildings  increasing market
- Retail buildings  increasing market
- Residential buildings / energetic revitalization  increasing market
- Healthcare buildings  increasing market
- University and school buildings  increasing market
- Hotel buildings  increasing market
- US Armed Forces projects  increasing market
- PPP projects  increasing market
  
- General contractor business  selective process
- Other building revitalization  selective process

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## The i.volution brand

**Immobilie**  
(Real estate)

+

**Evolution**

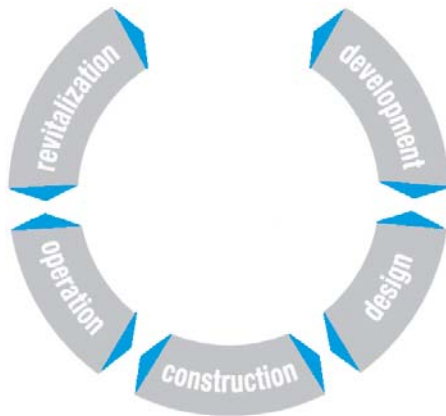
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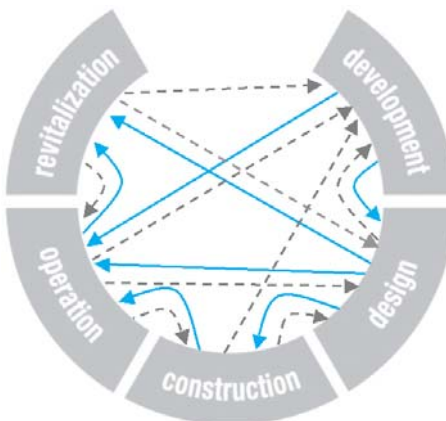
- Comprehensive range of consulting, construction and service offerings for every phase in the real estate lifecycle
- Patented trademark since 2005
- [www.i.volution.bilfingerberger.de](http://www.i.volution.bilfingerberger.de)

# Experience

Single view

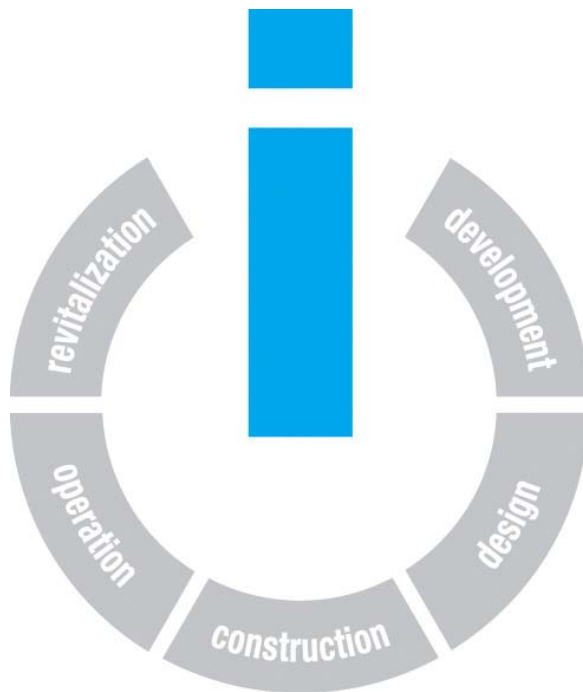


Comprehensive view



- There is optimization potential in nearly all plans for building execution and building operation
- The focus on construction costs often distracts attention from the resulting operating costs
- The effects of the later operating costs are not sufficiently analyzed through the application of design variations
- The important design phase is generally not given enough consideration

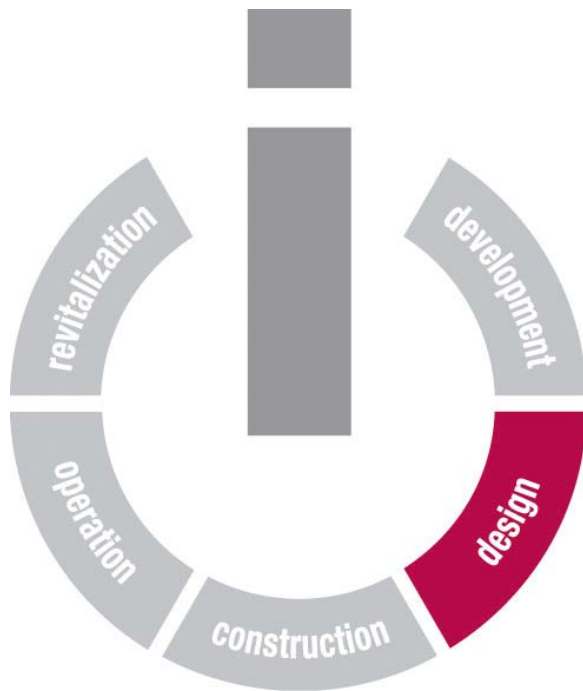
## Lifecycle view



- Longstanding experience in all five lifecycle phases
- Comprehensive services offering from a professional single-source partner
- Increasing of building quality
- Real estate questions? – Ask Bilfinger Berger!

# Comprehensive consulting services

## Target 1



- Early design optimization
- Early construction cost reliability
- Early operation cost reliability

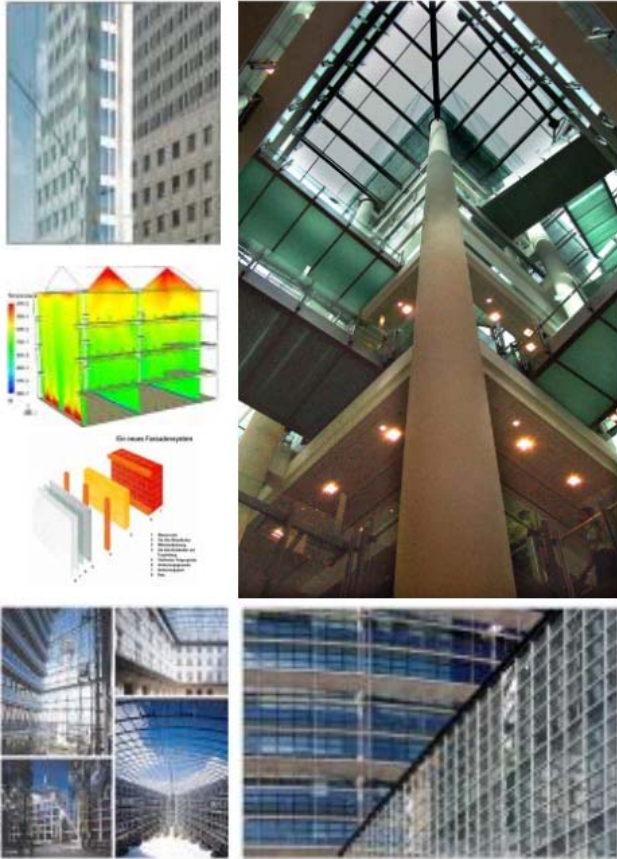
## Target 1: Joint optimization of design

Framework construction / structural analysis / logistics



- Foundation methods
- Structural concepts
- Interfaces between framework construction and technical building equipment
- Construction logistics
- Plausibility testing of scheduling

## Target 1: Joint optimization of design Facade



- Optimum economic interaction between architecture, facade technology, structural analysis, building physics and technical building equipment
- Low operating costs (e.g. cleaning, servicing, heating and air conditioning supply)
- Longevity of materials

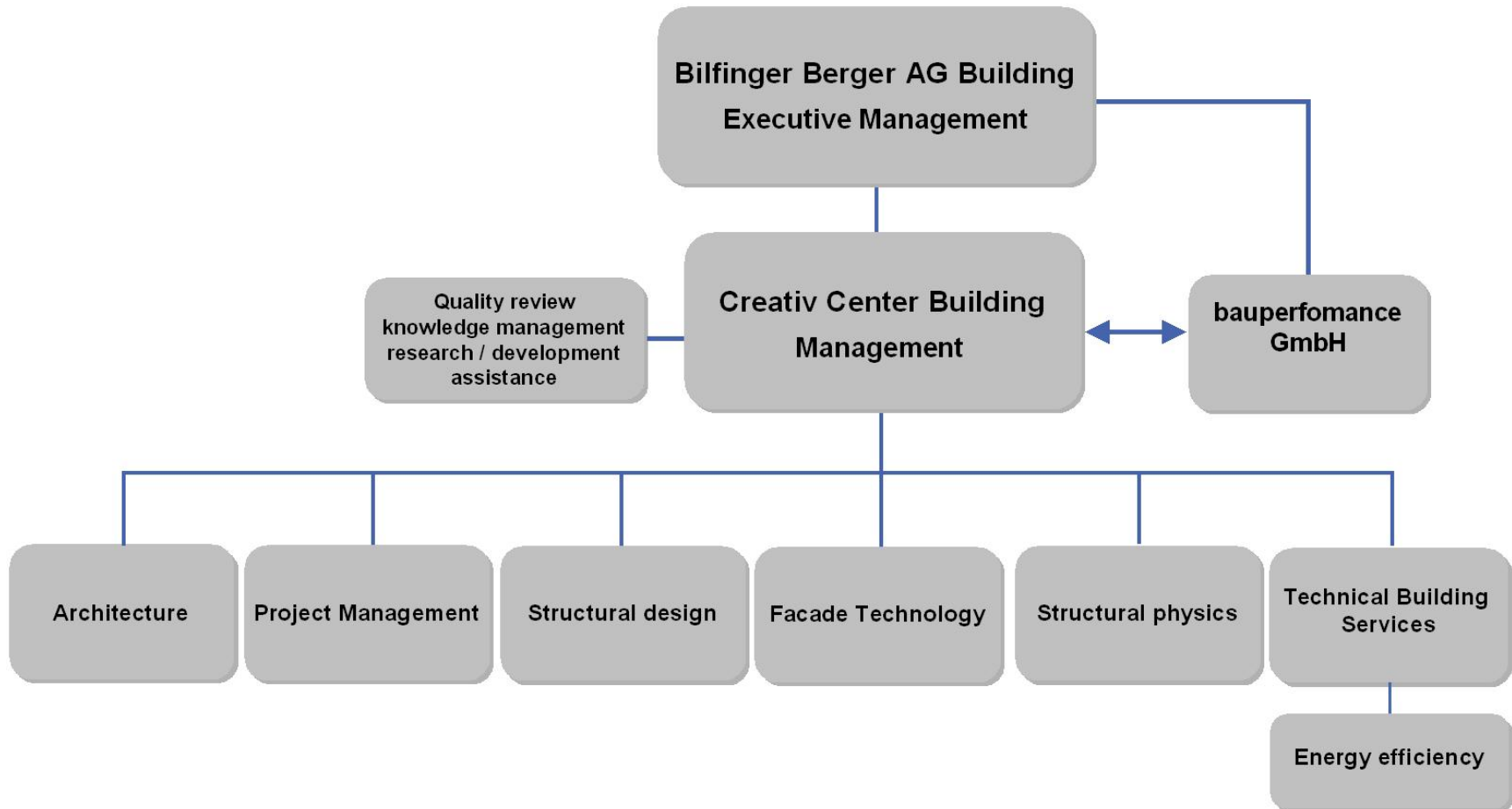
## Target 1: Joint optimization of design Technical building equipment



- Low operating costs / optimized investment costs
- Dimensioning and adjustment of technical components
- Use of innovative and proven room systems
- Use of renewable energies

## Target 1: Joint optimization of design

### Bundling of technical knowledge



# Comprehensive consulting services

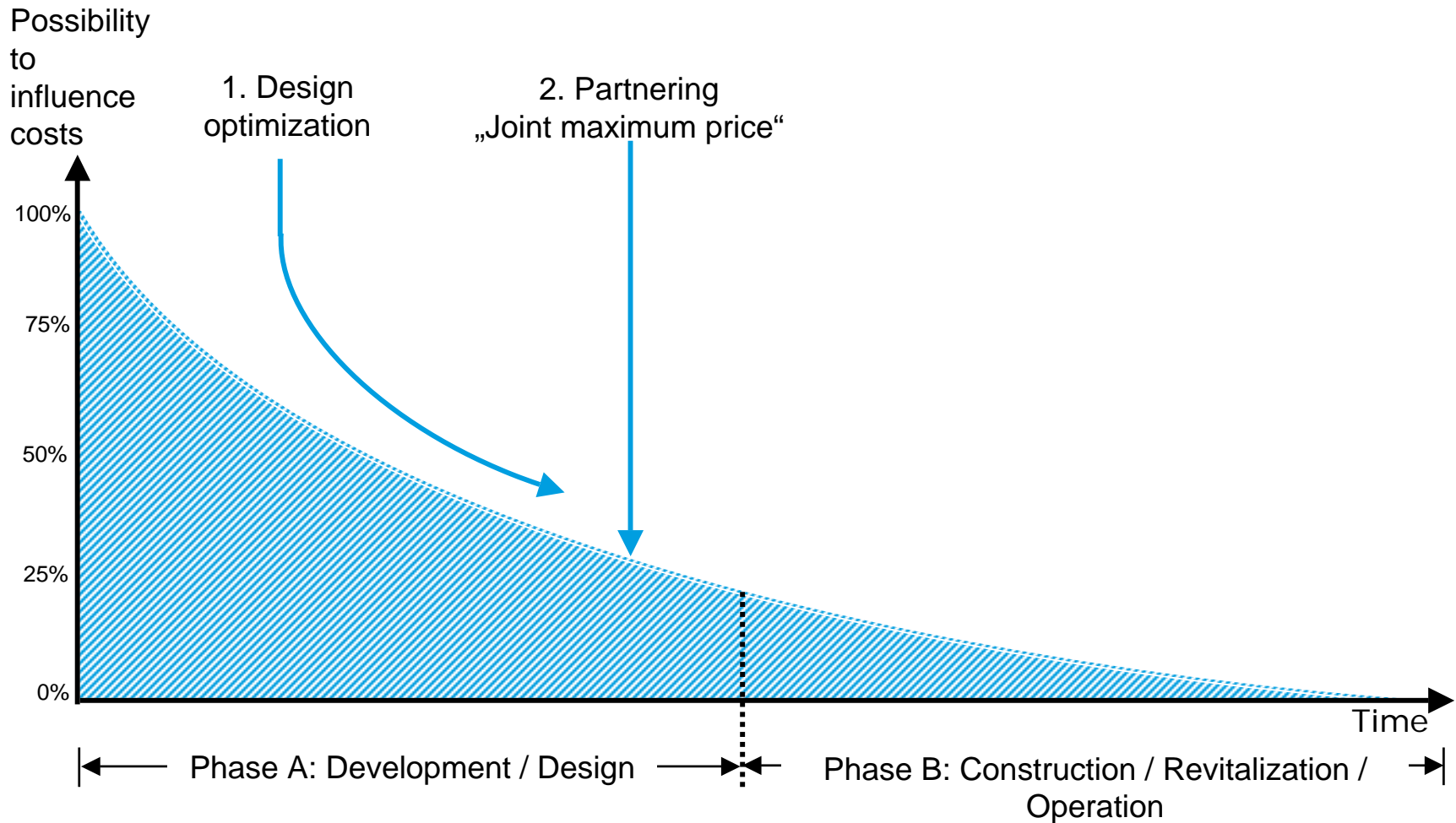
## Target 2



- Early design optimization
- Early construction cost reliability
- Early operation cost reliability

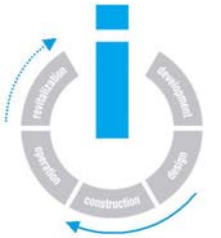
## Target 2: Early construction cost reliability

Ideal development of a partnership model

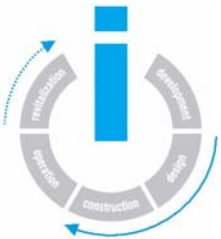


# Bilfinger Berger's project partnership model

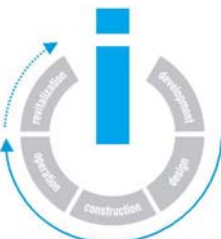
## Partnering



- **Minimum Package**  
Design (Consulting & Design) and Construction / Revitalization



- **Combination I**  
Design (Overall Design) and Construction / Revitalization

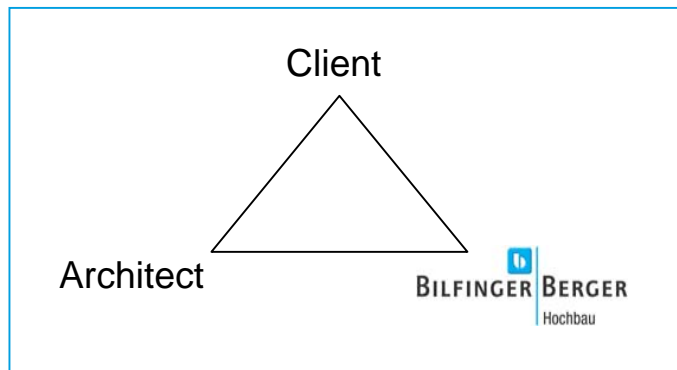


- **Combination II**  
Design (Overall Design) and Construction / Revitalization and Operation



- **Combination III**  
Development, Design (Overall Design) and Construction / Revitalization and Operation

## Advantages of project partnership models for the client



- Maximum cost and deadline reliability due to comprehensive consulting as well as transparent presentation of consequences from execution alternatives for costs and deadlines
- Clear reduction of design and construction phase
- Creation of a property which is optimized in terms of construction and operating costs
- Awarding of optimum prices due to competition over all trades as well as joint selection of subcontractors
- Compliance with projected budget

## Advantages of project partnership models for Bilfinger Berger

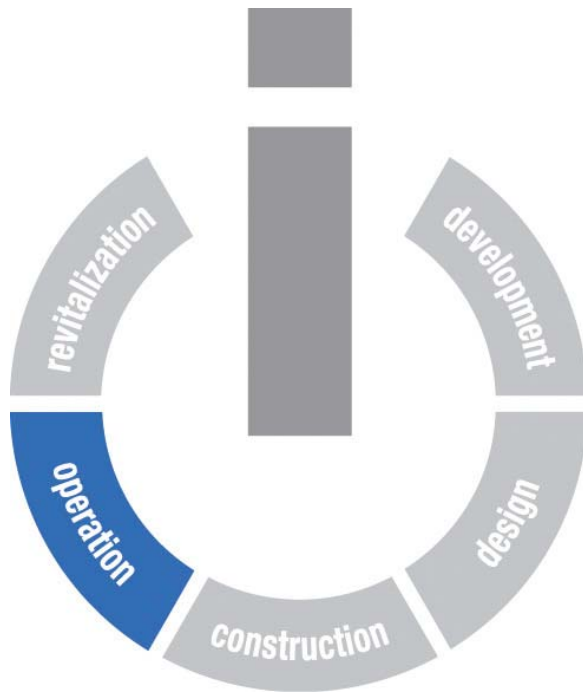
Statement  **BILFINGER BERGER** :

**"By providing outstanding services, we aim to become our clients' preferred partner."**

- Calculation reliability stemming from early involvement in design phase
- More intensive project design in the beginning guarantees smooth implementation
- Resource planning can be optimized
- Decreasing risks through early involvement
- Share in potential cost savings
- Satisfied client due to customized concept, high execution quality and completion within budget

# Comprehensive consulting services

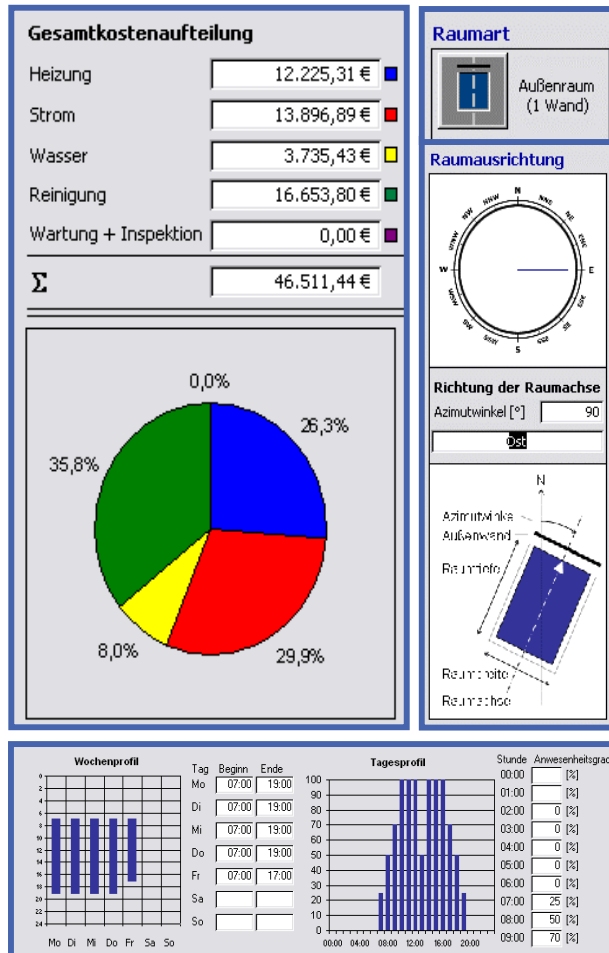
## Target 3



- Early design optimization
- Early construction cost reliability
- **Early operation cost reliability**

## Target 3: Early operation cost reliability

### Simulation-Tool



- Calculation of volumes used and costs for heating, air conditioning, electricity and water, based on a precise hourly method
- Assessment for variants of different structural and technical systems
- Confirmation of energy volumes at takeover of building operation

## Target 3: Early operation cost reliability

### Energy certificate

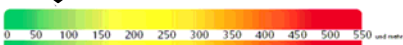
**zukunft haus**  
Energie sparen. Wert gewinnen.

ENERGIEPASS

Nummer dena 99-999-AMUV3
Erstellt am 10.01.2006

**Gesamtbewertung**

Dieses Gebäude  
↓  
**96 kWh/(m²a)**




Weiterbildungseinrichtungen [166 kWh/(m²a)]  
Verwaltungsgebäude [128 kWh/(m²a)]

Gebäudetyp/Nutzungsart	Büro- und Verwaltungsbau/ Wohnen
Adresse	Musterstraße 91, 44222 Musterstadt
Eigentümer	Asset Management GmbH
Baujahr Gebäude	2006
Bruttogeschossfläche (BGF)	3.575 m²
Energiepass erstellt mit	Ausführlichem Verfahren <input type="checkbox"/> Kurz-Verfahren <input checked="" type="checkbox"/>

Aussteller  
Bilfinger Berger AG  
Goldsteinstr. 114  
60528 Frankfurt / Main  
CCH-TGA

Unterschrift

  
Deutsche Energie-Agentur

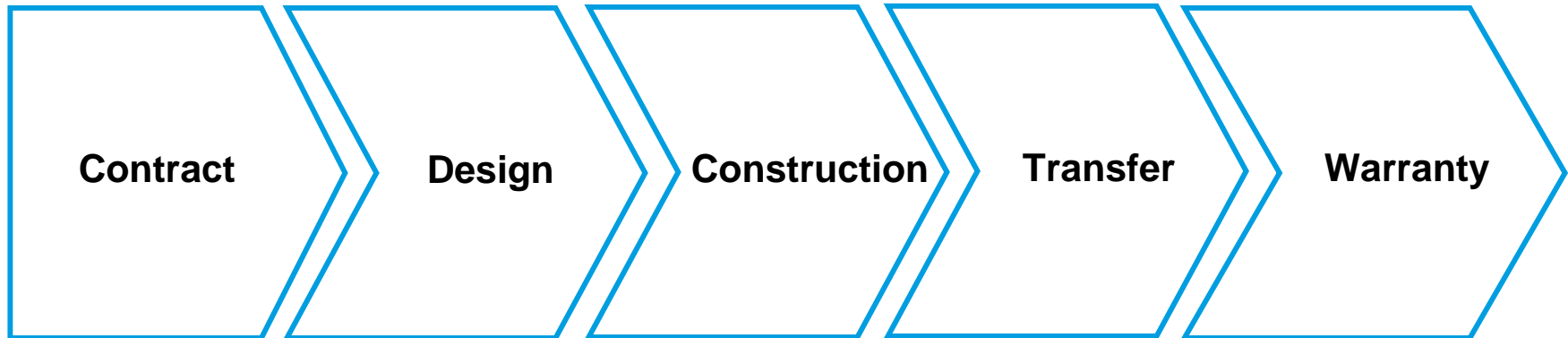
- Economical general systems (e.g. large share of nascent cooling, calorific value technology, circulation systems with variable volume via measurement of air quality)
- Modern control technology
- Calculation of energy requirements
- Issuing the energy certificate

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## Typical project process

Risk management and quality control in five important areas ...



# Contract Management



- Best knowledge and action in accordance with the contract
- Cardinal error list
- Calculate or eliminate risks, otherwise exit
- Target: Balanced and fair contracts

 **Contract is essential part of risk management**

# Supplier Management



- Early selection of competent subcontractors and exclusive commitment from subcontractors prior to contract close
- Premium partnership with carefully selected suppliers
- Target: Early securing of resources for the execution of the project



**Higher reliability of calculation, design and execution**

# Design Management



- Implementation of optimized and structured design processes
- Design handbook / Design error checklist
- Ongoing training for technical employees
- Target: Securing a thorough and coordinated design

 **No bad surprises!**

# Construction Management



- Quality offensive b.best (mandatory staff training)
- Regular internal control meetings (technical and commercial sales force)
- Project review through quality audit
- Target: High level of construction quality

 **Minimization of remedy deficiencies costs**

# Transfer management



- Systematic finishing with enough time for transfer and start of operation
- Finishing guidelines / Transfer handbook
- Target: Defect-free transfer for the start of operations of a building



**Efficient time management leads to early completion and final account**

# Warranty Management

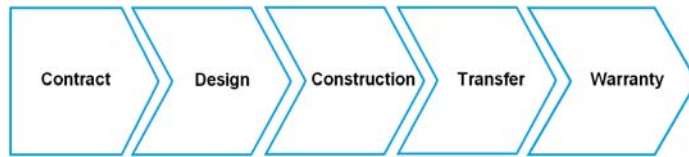


- Structured and focused customer service
- Rapid correction of appearing defects
- Target: High degree of customer satisfaction

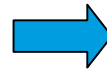


**High probability of follow-up contracts**

# Quality Management



- Training of nearly 700 employees
- Knowledge-bundling by Creativ Center Building
- Brand / certificate of quality



**A consistent quality management leads to better predictability and therefore to lower costs**

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## Bottlenecks in the procurement market

- Rise in procurement prices due to increased demand for material
- Constant reduction in production capacity in the last 10 years
  - Insulation
  - Steel
  - Glass
  - Copper etc.
- Shortage of capacity from subcontractors
  - Subcontractors looking for other markets in Europe
  - e.g. UK, Norway, Ireland etc.
- Increase in subcontractor insolvency risk
  - Breaking contract conditions
  - Lack of capital cover
  - Depletion caused by 10 year recession

## Bottlenecks in terms of personnel

- Lack of qualified managers
- Number of engineering graduates has been falling for years
- Lack of skilled labor
- Growing risk of losing managers to competitors

## Strategy of Building (1)

- Clients
  - Strict selection of clients and contractor projects
  - Key customer care – also in economic boom periods
  - Quality competition instead of price-only competition
  - Increasing amount of PPP projects
  
- Real estate lifecycle view
  - Consistent further development of i.volution
  - Development of holistic project management and design management
  - Consistent involvement of Creativ Center Building
  
- Personnel
  - Targeted management development and promotion of high potentials
  - Expansion of programs to retain managers

## Strategy of Building (2)





- Procurement market
  - Early relationship to suppliers and subcontractors
  - Early commitments with suppliers
  - Premium partnerships
  - Negative product list
  
- Construction market
  - Opening up selected markets
  - Follow your friends to Europe

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## Conclusion

### Bilfinger Berger Building ...

- has developed against the negative industry trend 
- will be back to growing margins in the upcoming year 
- has a strong market position 
- is well-positioned 

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# Lufthansa Conference and Training Centre, Seeheim-Jugenheim



## Key figures

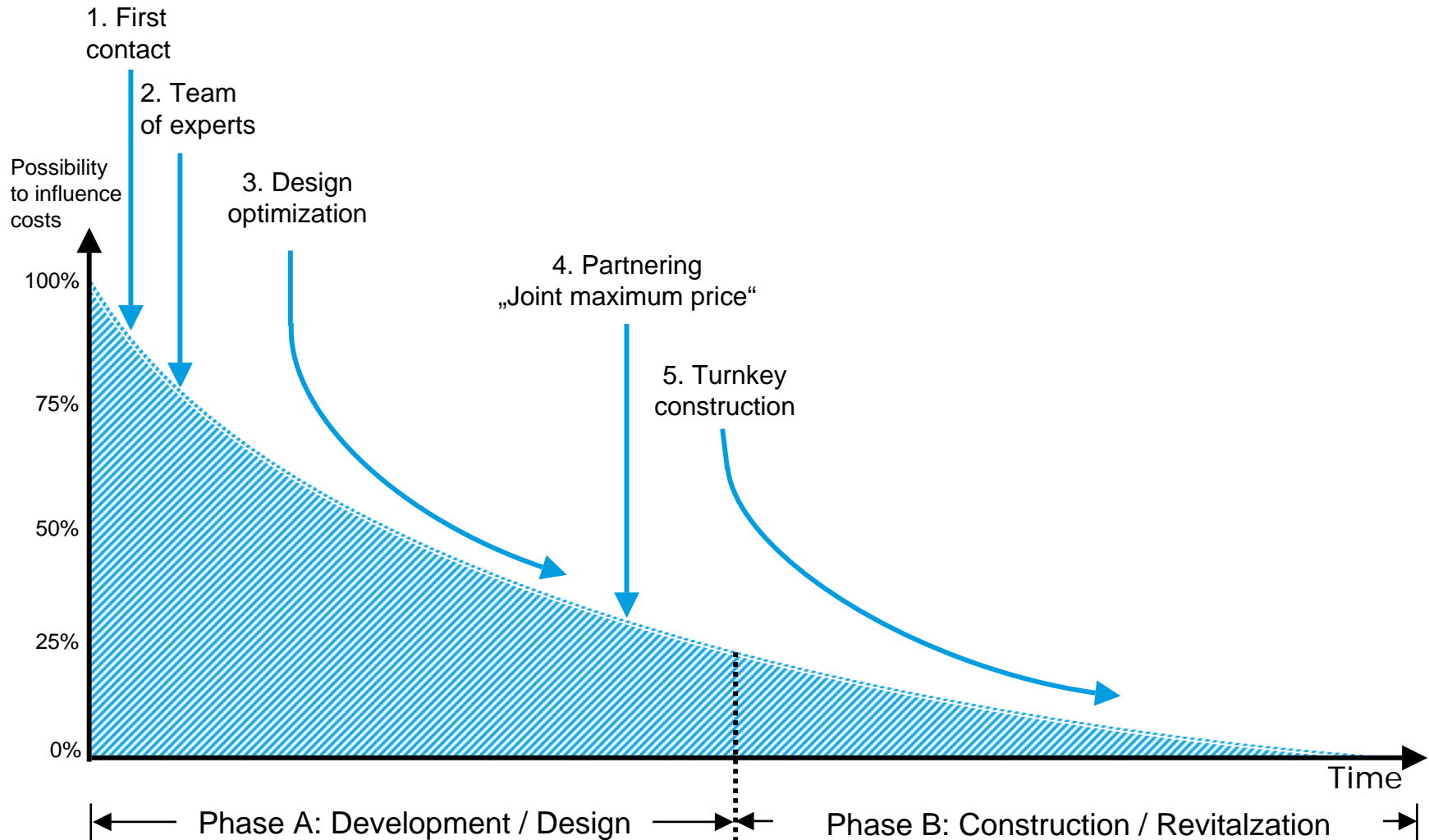
- Client: Lufthansa AG
- Construction volume: €86 million
- Construction period: 11/2006 – 12/2008

## Detailed information

- Project partnership contract
- Total demolition and new construction of a modern conference and training centre (583 rooms)
- Construction and operation cost optimized building



# Timeline

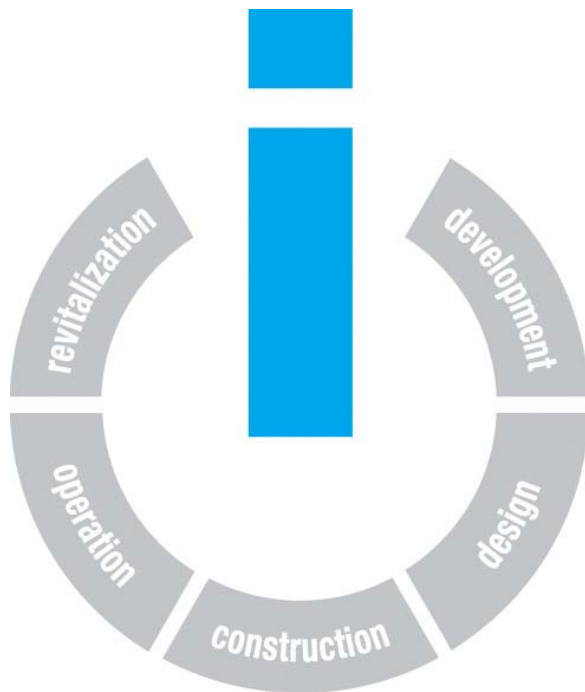


# 1. First Contact



- Acquisition campaign i.volution
- Direct contact to clients at the highest management level in May 2005
- First information about planned project

## 2. Team of experts



- Building, Creativ Center Building, Facility Services
- Presentation of Bilfinger Berger's comprehensive service offer in July 2005
- Sound and informed response to the client's questions (competition prices, exit strategy, cost controlling, workflow processes etc.)

### 3. Design optimization



- Feasibility study of revitalization concept
- Design optimization from January 2006 until November 2006
- Pre-contracting payment for comprehensive consulting services

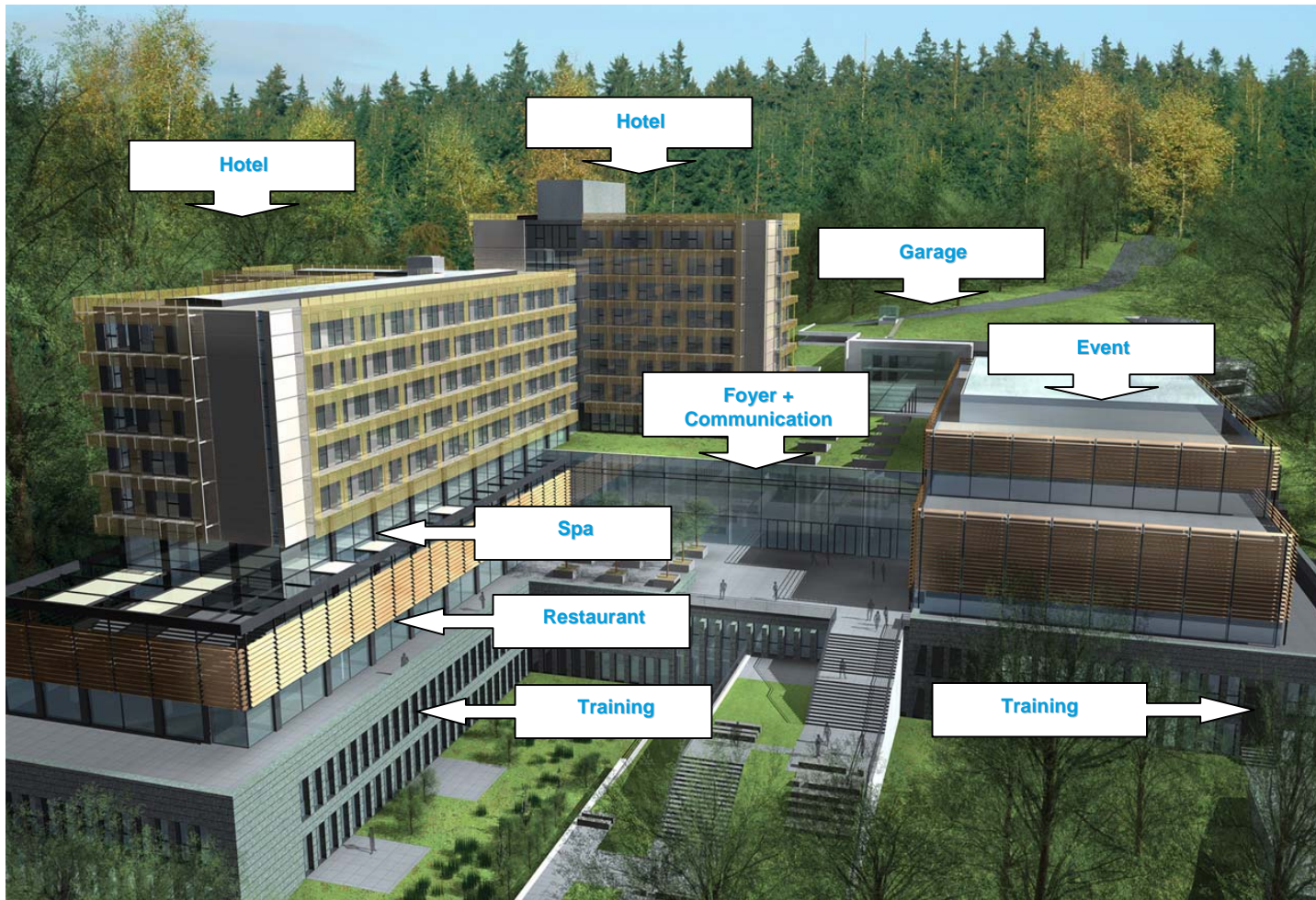


### 3. Design optimization (examples)



- Framework construction
- Facade technology
- Technical building equipment

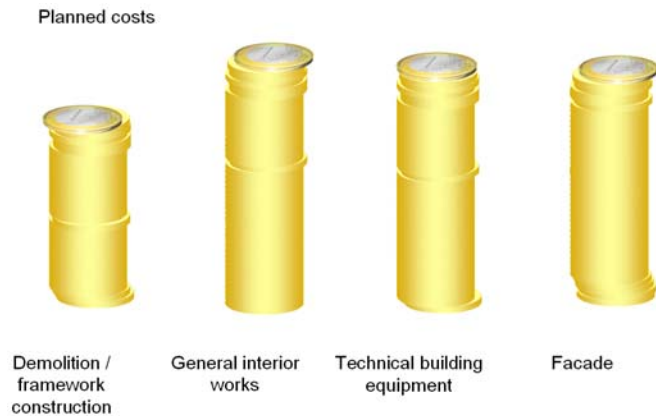
# Building Structure



## 4. Partnering

### Joint Maximum Price

- Calculation of costs und risks
- Joint maximum price in November 2006
- Open book
- Kick-off meeting



Completion date: 12/2008

## 5. Turnkey construction



- Demolition works from December 2006 until April 2007
- Working out the detail planning
- Framework construction until April 2007
- Topping-out ceremony in June 2008
- Completion in December 2008

## 5. Turnkey construction Old building



## 5. Turnkey construction

### Demolition



## 5. Turnkey construction Earthworks



## 5. Turnkey construction Sheeting



## 5. Turnkey construction

### Structural work



## 5. Turnkey construction

View of a single room 2008



## Success factors for Bilfinger Berger

- Direct contact to clients at the highest management level
- Early knowledge of the client's project plans
- Presentation of tried-and-tested instruments of cooperation, design optimization and cost reliability
- Permanent client orientation
- Transparent presentation of our interests
- Share in potential cost savings

## Advantages for the client

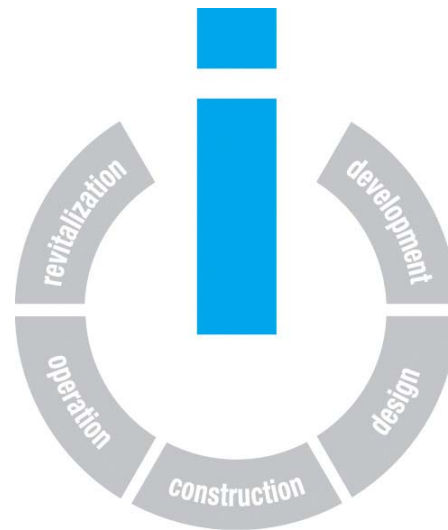
- Assessment of the planning with regard to the complex combination of architecture, structure, facade design, technical building equipment, structural physics, interior works and operation of the building
- Evaluation of planning variants regarding deadlines as well as investment and operating costs
- Exit option after finishing the design phase
- High degree of detailed expertise before the start of construction reduces the danger of cost-causing changes (early problem solution)
- Transparent presentation of Bilfinger Berger's indirect costs as well as overheads before entering into the contract
- Share in potential cost savings

## Advantages for Bilfinger Berger

- High probability to acquire the contract
- Wide influence to optimize the construction processes
- Reduced risks during the whole project process in comparison to conventional contracts
- Higher overall returns

 **Optimized risk-and-reward profile**

**Thank you for your attention!**



**Are there any questions?**