



softorid 索杰

Architecture | Urban Design | Sustainability



Integrated Architectural Design Profile



SoftGrid is a German-led architecture, urban design and sustainability consulting firm in Shanghai. Since 2008, we provide Integrated Design services for office, industrial, hospitality and education projects from start to finish.

We have built our reputation on applying a holistic, big picture perspective:

Looking at the complete building life cycle, we design “future-proof” buildings, that meet China / EU climate targets while creating immediate added value for users, FM and owners.

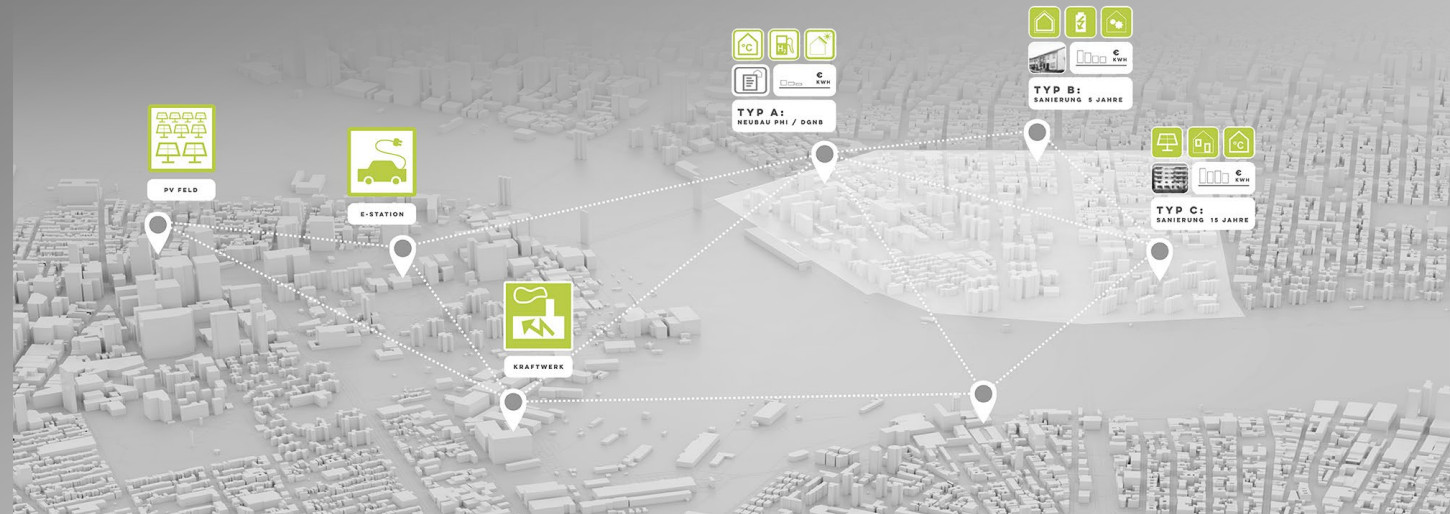
Each of our projects generates a unique identity and follows highly individual KPIs:

Every design creates client-specific performance synergies between functionality, comfort, energy and operation – verified via “digital twin” variant comparisons. A comprehensive reporting facilitates efficient decision-making processes and ESG compliance. Our CO₂-neutral Roadmaps offer strategies for step-by-step implementation.

Pairing a European design methodology and highly flexible network approach with 15 years of local experience in China, SoftGrid is a trusted consultant for international companies like BASF, Disney, Festo, Marriott and VW, as well as Chinese businesses and municipalities.

SoftGrid’s success stories include various “Asia and China First” applications of European DGNB and PHI Passive House sustainability certification systems.

Our Mission



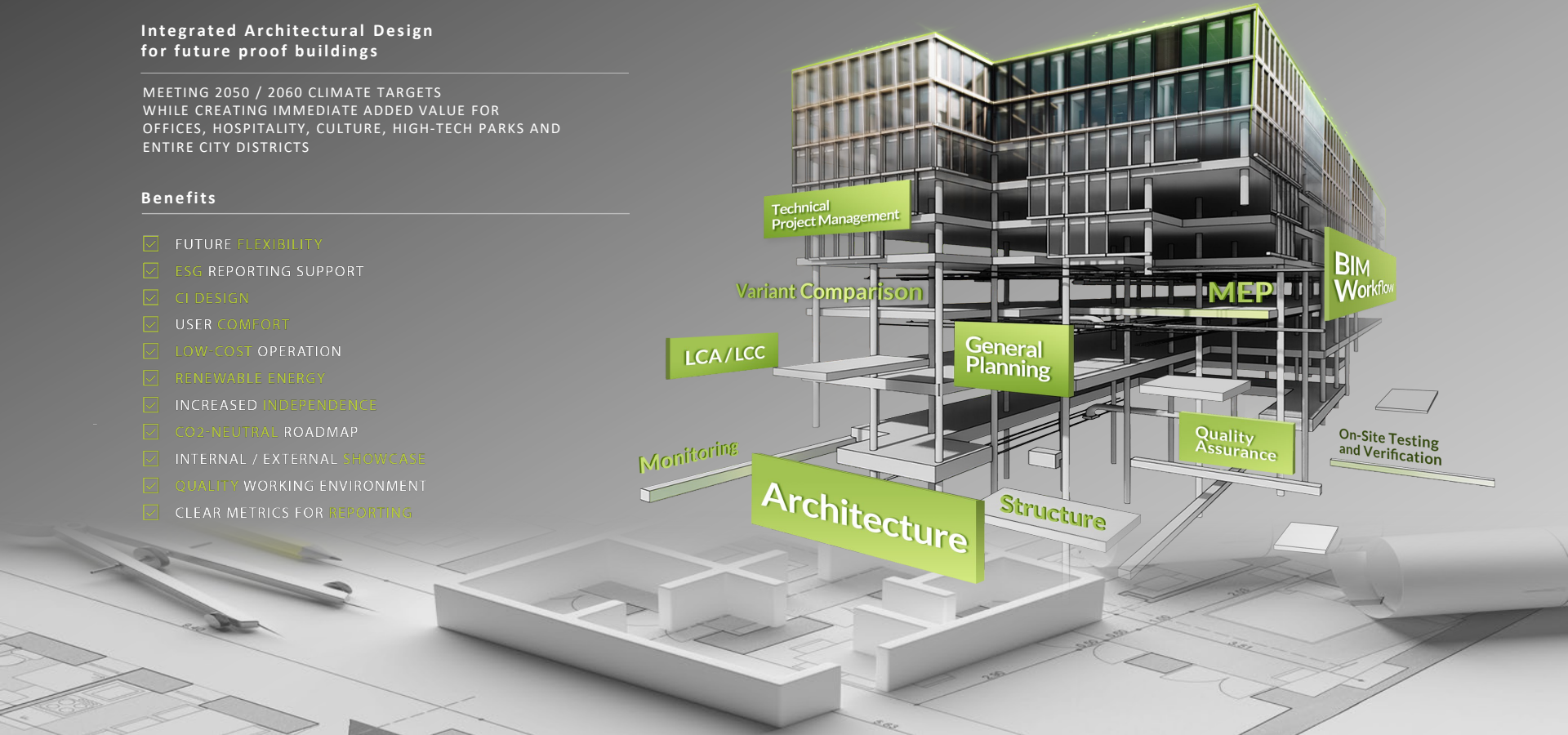


Integrated Architectural Design for future proof buildings

MEETING 2050 / 2060 CLIMATE TARGETS
WHILE CREATING IMMEDIATE ADDED VALUE FOR
OFFICES, HOSPITALITY, CULTURE, HIGH-TECH PARKS AND
ENTIRE CITY DISTRICTS

Benefits

- ✓ FUTURE FLEXIBILITY
- ✓ ESG REPORTING SUPPORT
- ✓ CI DESIGN
- ✓ USER COMFORT
- ✓ LOW-COST OPERATION
- ✓ RENEWABLE ENERGY
- ✓ INCREASED INDEPENDENCE
- ✓ CO₂-NEUTRAL ROADMAP
- ✓ INTERNAL / EXTERNAL SHOWCASE
- ✓ QUALITY WORKING ENVIRONMENT
- ✓ CLEAR METRICS FOR REPORTING

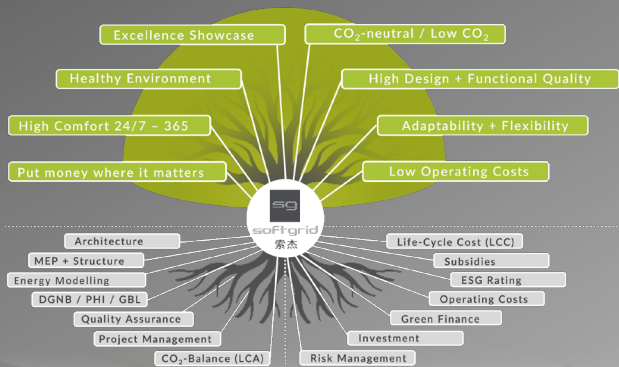


Who is Integrated Design for?

Our **Integrated Architectural Design** approach integrates, connects and **optimizes all aesthetic, technical, functional and economic parameters** in design...

... creating synergistic benefits before the first line on paper!

“Integrated Design Tree”



Companies

Looking to future-proof **new, existing buildings or portfolios** as part of ESG performance

ENERGY – FLEXIBILITY – CO₂ ROADMAP

Departments

Looking to **improve their work environment**

DESIGN – COMFORT – COST – ENERGY
FLEXIBILITY – FUNCTIONALITY

Regional Managements

Looking to create a **Showcase** for marketing and political communication

CERTIFICATION – CO₂ ROADMAP

Building Owners

Looking to optimize and **certify sustainability**

DESIGN – CERTIFICATION – DGNB – PHI
LEED – GBL

Anyone

Looking to **design new or existing buildings to individual KPIs**

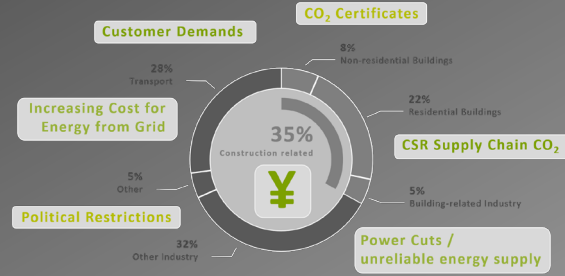
DESIGN – COMFORT – ENERGY – FLEXIBILITY
COST – FUNCTIONALITY – CO₂ ROADMAP

How does Integrated Design support ESG?



With the ESG rating system paradigm shift...

... Sustainability ceases to be a nice-to-have and becomes a core factor for future success



SoftGrid's services link in with ESG Reporting, including:

- Sustainable Project Development
- Sustainable Design and Performance Data
- PHI, DGNB, LEED and GBL Certifications
- Energy Balance to International Standard
- Eco-Balance to international Standard
- ESG-compatible Assessment and DGNB Certification for New / Existing Buildings in Operation
- ESG-compatible Building Portfolio Assessment and Optimization



SoftGrid USPs



SoftGrid in numbers...



15 Years

... of sustainable design experience in China

SoftGrid focuses on architectural integrated design for:

- Project Development
- New Buildings
- Retro-Fitting
- Sites
- Portfolios

>50 Projects

... in Sustainable Design in China

100% Sustainable

SoftGrid optimizes EVERY project holistically:

- Office / Industry
- Hospitality
- Education
- High-End Residential

10 Experts

... leading Integrated Design

10-50 Engineers

At network partners coordinated by SoftGrid for:

- Flexible Setup
- Efficient Support
- High-quality Design
- High-quality Construction
- Sustainability Certification

2 Offices

... for efficient support of projects between China and EU

SoftGrid's holistic bridge for:

- Project Setup
- Project Targets
- Design
- Reporting



Integrated Design



An integrated processes combines all relevant project parameters from the start to identify and use synergies to the fullest potential:

- **Start with Smart and Passive Design Strategies at Project Development / Concept Planning Stage**
- **Identify most cost-efficient solutions**
- **Use synergies to reduce energy consumption and CO₂ emissions as “side effects” to smart design, comfort, functionality and energy / operation cost reduction**
- **Generate flexible, adaptable , future-proof building**



SoftGrid “Firsts” in Sustainable Design



First full-scale Office Retro-Fit in China designed to EnerPHit Standard

Festo, Shanghai, 2022 in planning



... proving our experience and expertise to “get projects off the ground” in China

China First

Asia First

First ever high-rise Passive House PHI-Passive House certified in Asia

Tianjin Eco-City, 2019



One of the first Offices in China as DGNB-certified Pilot Project

Ardex Headquarter, Pinghu



China First

China First

First ever R&D Building DGNB-certified in China

BASF R&D Center II, Shanghai



First integrated deep retro-fit and EPC Project in China

DRC Living Lab, Shanghai



China First

2016

2015

2022

2019

2018



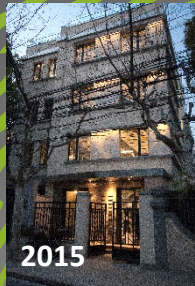
We understand sustainability as a synergetic, project-tailored design optimization over its entire life-cycle. This includes a holistic view of:

- **Economical** (Investment, Operation, Subsidies)
- **Ecological** (Energy Balance, CO₂ Balance)
- **Health** (Harmful Substances, Indoor Air Quality)
- **Comfort** (Thermal, Visual, Acoustic, User Control)
- **Social** (Flexibility of Work Environment)
- **Functional** (Sufficiency, Future Adaptability)
- **Technical** (Building Envelope, MEP Systems)



SoftGrid has designed, realized and certified projects to sustainable German DGNB and PHI standards in China for 10 years...

... creating a KPI-specific **Synergistic Fingerprint** using standards as a flexible design toolbox



2015

Disney DRC Living Lab Retro-Fit (Shanghai)

KPIs:

- Showcase
- Comfort
- Smart Building
- Spatial Efficiency



Silver Certificate



2016

BASF R&D Center II (Shanghai)

KPIs:

- DGNB Certificate
- Comfort
- Operation Efficiency
- Timeline



2016

Sanxiang Headquarter (Shanghai)

KPIs:

- Comfort
- Energy Efficiency
- Investment



2017

Eco-Villa design (Guilin)

KPIs:

- Replicability
- Functionality
- Comfort
- Operation Cost



Silver Certificate



2018

Ardex Headquarter (Pinghu)

KPIs:

- Formal DGNB Certification
- Future Adaptability
- Workplace Quality



2019

VW MEP Plant Feasibility Study (Shanghai)

KPIs:

- DGNB Certification Strategies
- Cost
- Timeline



PHI Certificate



2019

Eco-City Apartments (Tianjin)

KPIs:

- PHI formal Certification
- Showcase
- Energy Reduction
- Timeline



2022

Festo Headquarter (Shanghai)

KPIs:

- Comfort
- Energy
- Operation Cost

Passive Design as scalable Sustainability

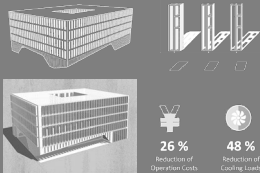


We use low-to-no-cost Passive Design optimization in each and every project ...

... simply creating better projects, independent of their level and location.



2016 Gold Trading Sq. (Shenzhen)



Design + Performance

- Optimized Daylight Façade
- Efficient Shading by Façade Design
- 26% Energy / Cost Reduction
- Reduced Investment in MEP System
- Perfect 24/7-365 Comfort



2018 Marriott Hotel (Beihai)



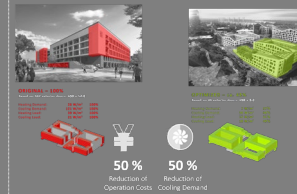
In Construction...

Design + Performance

- Façade Design for Image, Views, Balconies and efficient Shading
- Envelope Design to reduce Energy Demand and Operating Costs
- Last Resort to start design, first to receive planning permission



2020 GuangXi Inst. of Technology



Design + Performance

- Envelope Design to reduce Energy Demand and maximize Comfort
- Optimization of Circulation results in better Functionality and Energy Demand
- Nearly 50% Energy Savings by Smart Design of Façade and Zoning



2021 Hi-Tech Park (Guigang)



Design + Performance

- Design Typologies create Co-Creation Environment based on "On Demand" Use of shared Facilities
- Extensive Use of PV on Workshop Roofs covering up to 40% of Demand.
- P2P (Peer-to-Peer) "Energy Community"

Flexible Paths to formal Certifications

New Project: New Construction / Retro-Fit / Existing Building in Use



PHI Passive House

PH Classic, Plus, Premium

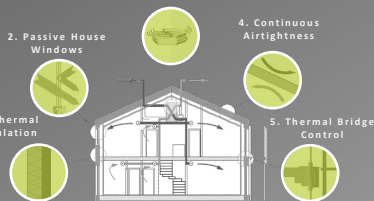
Comfort Benefits

- 20-25°C all year
- 40-60% rel. humidity all year

Energy Benefits

- Low energy demand / operation costs
- Low CO2 footprint

3. Comfort Ventilation with High Heat Recovery



Passive House Design Principles



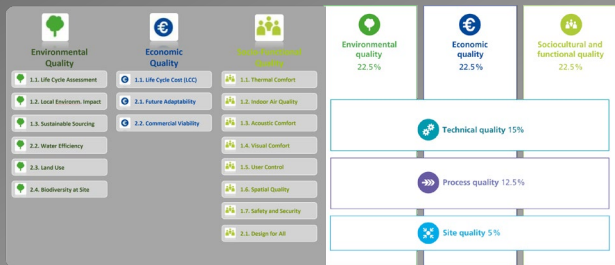
Old Buildings: approx. 275 [kWh/m²a]
 New Buildings: approx. 80 [kWh/m²a]
 Passive House: approx. 15 [kWh/m²a]

Passive House Performance Benefits



DGNB New Construction / Retro-Fits

Version 2020, New Construction International
 Version 2022, Building Renovation International



DGNB Buildings in Use

Version 2020, International



DGNB CO₂-Neutral

Version 2020, International
 Buildings in Use



ESG Verification for EU Taxonomy

Associated synergies with
 Version 2020, International Buildings in Use



ESG-VERIFIKATION ZUR EU-TAXONOMIE

Ergebnisse im Detail

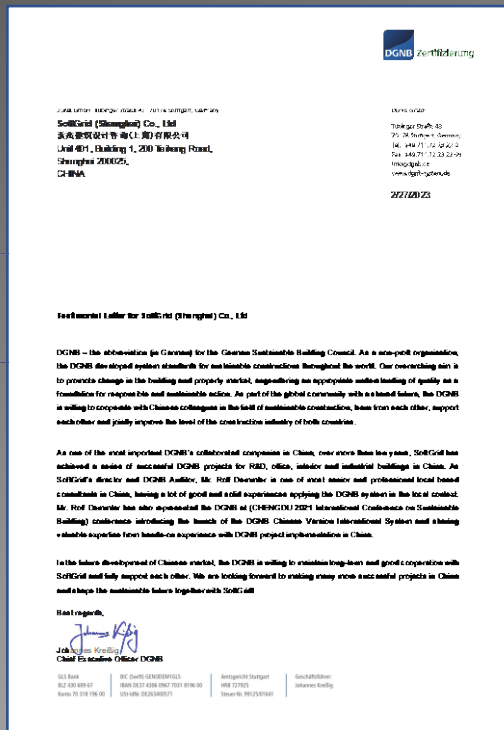
ANFORDERUNGEN DER EU-TAXONOMIE	ERFÜLLUNG	DATENQUALITÄTS-INDEX
Mindestanforderungen		
Erfüllung der Mindestanforderung	●	2
Klimaschutz		
Vorbereitung des bedarfsorientierten Energieausweises	●	2
Energieeffizienz 3 oder Bestanden der Top 10% gemäß Einschätzung des Prüferangebots	●	3
Emissionsmanagement	●	2
„DOH“ Anpassung an den Klimawandel		
Identifikation der Klimarisiken und Analyse der Klimarisikofreiheit	●	3
Definition von Maßnahmen zur Reduktion der Klimarisikofreiheit	●	2
Keine Beeinträchtigung von Klimarisikofreiheiten	●	1
Klimarisikoprüfung/-maßnahmen in Abhängigkeit von regionalen und nationaler Strategien	●	2
Datenqualitätsanforderungen		
Wie wird erfüllt was der Daten ist und dass es von der DGNB im Datenprüferangebot ist.		

Legende:
 ● Anforderung erfüllt | ● Anforderung nicht erfüllt
 ● Anforderung nicht erfüllt, die Daten nicht verfügbar sind



DGNB
German Sustainable
Building Council

SoftGrid Endorsement by DGNB



Testimonial Letter



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DGNB Project Expertise

“As one of the most important DGNB’s collaborated companies in China, ... SoftGrid has achieved a series of successful DGNB projects for R&D, office, interior and industrial buildings in China.”

DGNB Auditing Expertise

“SoftGrid’s ... DGNB Auditor, Mr. Rolf Demmler is one of most senior and professional local based consultants in China, having ... solid experiences applying the DGNB system in the local context.”

Future Cooperation

“The DGNB is looking forward to cooperate closely with SoftGrid for a sustainable future in China.”



AHK

German Chamber of
Commerce in China

SoftGrid Partner of ESG Alliance



ESG Service Provider



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ESG Founding Alliance Partner

Since beginning of 2023, SoftGrid is a first-minute partner in the newly founded ESG Alliance by German Chamber of Commerce AHK in China.

Technical Project Management



In the ever-changing Chinese market environment, any truly successful project is based on the immaculate management of required processes. We have developed successfully tested strategies to:

- **Ensure a robust Project Setup**
- **Provide a Single-Point-of-Contact**
- **Pro-active Integration of (local) Third Parties**
- **Lead and implement “Big-Picture” Visions**
- **Ensure Qualities are met across GC(s)**
- **Ensure comprehensive Reporting**



What are Integrated Design Benefits?

Each building component acts as a part within a parametric system: windows, air-cons, exterior walls, floors, lights, even furniture and facade design elements.

In a smart design, they all play together in synergistic relations, **creating a perfect daily work environment, an easy to operate location and a future-proof asset to manage.**

Typical Examples of Synergistic Benefits:

- Shading / Light reducing Energy Demand and raising Work Space Comfort
- Green Roofs social spaces improving also PV Efficiency
- Envelope Quality creating a comfortable, low-noise interior ambient
- Envelope / HVAC optimization letting ventilation systems run low, quiet, draft-free and respond fast
- Ventilation system, envelope and low VOC surfaces creating a constantly healthy, fresh air environment
- Envelope Quality reduces need for replacements and maintenance
- All of above works towards a minimized Operating and Life-Cycle Cost

You can't feel CO₂ ...
**... but you will feel great
in a low CO₂ / CO₂-neutral building.**

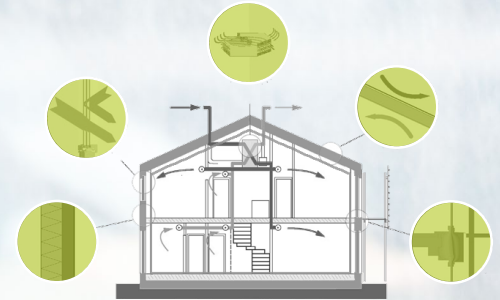


What are Passive Design Benefits?



Optimizing Comfort and Energy starts with ...

No- and Low-Cost Solutions



Passive House Design Principles

Resulting Energy Reduction



approx.
275 [kWh/m²a]
Old
Buildings



approx.
80 [kWh/m²a]
New
Buildings



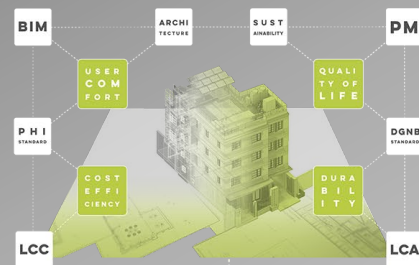
approx.
15 [kWh/m²a]
Passive
House

The Passive House standard is based on 5 core design principles based on smart integration of technical properties and building components.

... Passive Houses offer high energy and operation cost reductions while providing impeccable 24 / 7 / 365 comfort.

- Much lower energy consumption / operation costs
- Much lower CO₂ footprint
- 20-25°C Indoor Temperature all year
- 40-60% Indoor Humidity all year

Our Services



SoftGrid's Services

SoftGrid's **Scope of Integrated Design Services** are committed to realizing short / medium and long term benefits. SoftGrid's services cover:

- **Integrated Project Development** (Building, Sites and Portfolios)
- **Integrated Architectural Design** (all Design Phases)
- **Sustainability Consulting and Certification** (incl. DGNB, PHI Passive House, LEED, GBL)
- **General Planning and Turnkey Solutions** (in flexible models with Network Partners)

Project Development

- Option Analysis
- Variant Assessments
- Parametric Potential Analysis
- Requirements Planning
- Implementation Roadmap
- Comprehensive Reporting
- **Synergistic Solutions**

Sustainability Consulting

- Comfort and Performance Optimization
- CO₂-neutral Roadmaps
- LCA / LCC
- Financial Subsidies
- Sustainability / ESG Verification
- **Economic, Environmental, Socio-functional Benefits**



Architecture / Master Planning

- Integrated Design
- Variant Comparisons
- Construction Quality Control
- BIM / Digital Twin
- Samples / Mock-Up Rooms
- Replication Guidelines
- **Realized Success Stories**

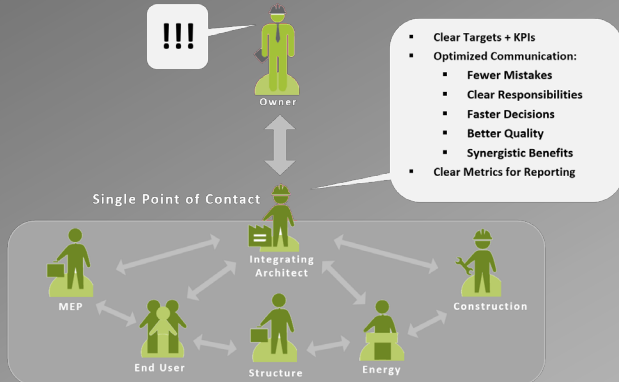


Our consulting models are structured to provide **maximum flexibility** for our clients in how to set up projects, timelines and targets.

... offering a risk free Step-by-Step Approach

- Flexibility for our client in (re-)aligning project targets and processes according to changing circumstances during the course of the project (especially important in China)

Integrated Design Process



Ongoing Projects

FEWER OPTIMIZATION POTENTIAL
progressed to SD/DD, contracts in place

Step 1: Pre-Assessment

- Variant Analysis
- Synergies
- Investment
- Benefits

Model 1a:
Sustainability Consulting

New / Retro-Fit Projects

MAXIMUM OPTIMIZATION POTENTIAL
actual project start at concept stage

Model 1b:
Integrated Concept Design

... if feasible

... if feasible

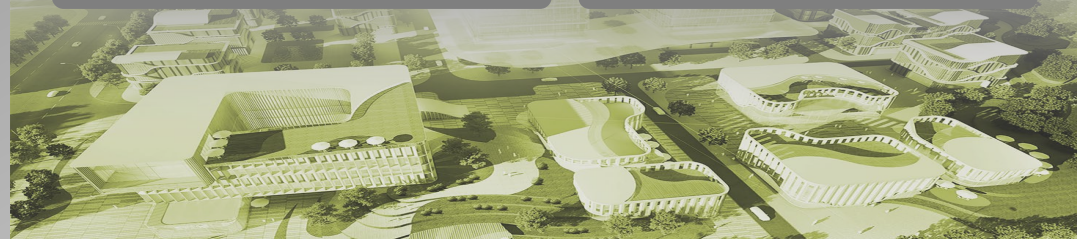
Step 2: Design, Construction, Verification

- Optimization
- Implementation
- Certification (if applicable)

Model 2a:
Sustainability Consulting

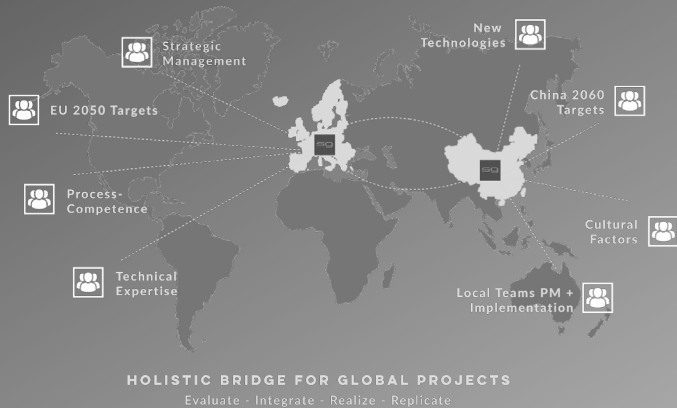
Model 2b:
Integrated Design

Model 2c:
General Planning



SoftGrid is a **trusted consultant** who's list of clients includes global and European "Mittelstand" companies as well as mainland China developers and communities...

... combining international and local expertise seamlessly



Strategic Partnership Luwoge Consult (2013-2018)

SoftGrid acted as official Chinese Representative of BASF Subsidiary Luwoge Consult GmbH in Ludwighafen.

Strategic Alliance – Scope and Benefits



Subsidy Package

- Subsidy Policy Evaluation
- Target Definition
- Performance
- Calculation & Evaluation

Certification Package

- Pre-evaluation
- Relevant Calculation
- Relevant Simulation
- Quality Control
- Documentation
- Formal Submission

ESG Package

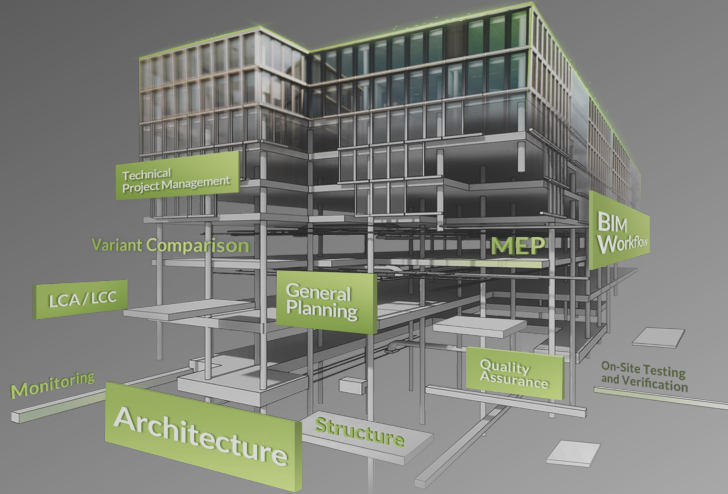
- CO₂ calculation
- CO₂ optimization
- LCC/LCA
- ECO-Balance report
- ESG Verification EU

Integrated Design Package

- Target Definition
- KPI Definition
- Assessment of Rent / Retro-Fit and New-built Options
- Schematic Design / DD / CD Design
- Design Variant Comparisons and Evaluation
- Key Components & Specifications
- Comprehensive Reporting and Support in internal / external technical and strategic management communication

Integrated Construction Package

- Construction
- Quality Control
- Detail Construction Review Protocols
- Performance Reviews
- Updated Calculations
- Mock up room
- Comprehensive Documentation
- Comprehensive As-Built Record
- Monitoring



Significant Reduction of Energy Demand + Operating Cost

Healthy, Functional and Comfortable Work Environment

Highly visible Low-CO₂ / CO₂-neutral ESG Showcase and Bargaining Chip

“Future-Proof” Building Life Cycle in Performance, Durability and Adaptability

Our Design Process



How does Integrated Design work?



INDIVIDUAL TARGETS

Using PARAMETRIC DESIGN to generate realistic, tailor-made performance targets as project KPIs



IMMEDIATE ADDED VALUE

Using VARIANT EVALUATION to identify the most economical and purpose-driven implementation



CLIMATE / CO₂ ROADMAP

Resulting medium / long term PERFORMANCE provides for powerful political communication



Optimization Potential: Project Development + Requirements Planning



Project Development + Requirements Planning

Assessment of available principal options, such as:

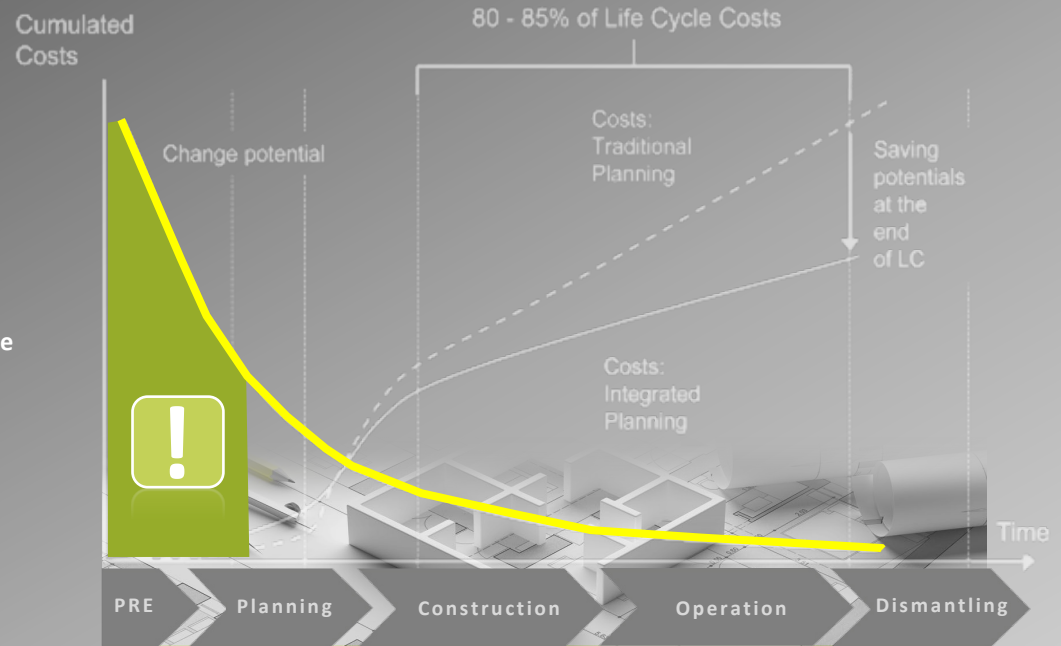
- Ownership or Rent
- Different Sites, Sizes and Urban Context
- New-Built or Retro-Fitting of Existing Structure

... creating a “big picture” view on a potential performance roadmap: today, tomorrow and the day after tomorrow.

Looking at KPIs in an Integrated Variant Comparison of principal options:

- Functionality and Building Operation
- Sizing, Sufficiency and Future Flexibility
- Energy and CO₂ Balance, Decarbonization Path
- Operation Costs and LCC (Life Cycle Costing), Subsidies
- Implementation Roadmap and Critical Dead-Ends
- Potential Certification for Political Communication

... creating a quantifiable base for internal / external reporting and decision-making.



The **Potential** for synergistic, low-cost **Optimization** is **highest in Pre-Planning Phase**, starting even before the “first lines on paper” in the conventional design process.

Future Adaptability

Replicability

Comfort

Health

Design Quality

Life Cycle Cost

User Experience

ESG

BIM Digital Twin is MORE than CO₂.

Parametric Design

- Façade Design
- Building Geometry
- Building Components
- Building Materials
- Climate Data
- Functional Zones
- Technical Systems
- Usage + Operation



BIM 3D "Digital Twin"

Performance Results

- Design Quality
- Functional Quality
- Smart Building System
- Interior Climate
- Interior Comfort
- Energy Demand
- CO₂ Emissions
- Durability
- Operation Costs
- Investment Cost



CO2 Roadmap

Start-to-Finish Process

Replication

6



5



4



3



2



1

Reporting

- All quantifiable Data
- All qualifiable Aspects
- Confident Decision-Making
- Base for Turnkey Bidding

Integrated Design

- Holistic Design Variant Comparison
- Performance Evaluation in regard to KPIs
- Actionable Design Package (permitting, certification, sustainability, performance)
- Implementation Roadmap
- Hand-Over to downstream process for Turnkey Bids

Project Kick-Off

- Target Workshop with all Stakeholders
- Integrated Sustainability 101 for FM and management
- Definition of project-specific KPIs
- Comprehensive Requirements Planning
- Integrated Project Development

Documentation + Certification

- Formal Sustainability Certification
- CO2 Roadmap
- Comprehensive Project Documentation, As-Built Sets, Manuals

Construction Quality Control

- Technical PM
- Pro-active, solution-driven support
- Verification and Sign-Off procedures
- Support for On-Site Testing (BDT, TVOC, etc.)
- Ongoing Reporting and KPI tracking

1



Project Kick-Off

We have built our reputation on applying a holistic, **big picture perspective from the very first Design Idea** being able to quantify performance from the **first line on paper**.

The „digital twin“ is an exact, **parametric digital version** of the physical building to be designed or retro-fitted.

KPI Tracking

This is the basis to efficiently and reliably include and track:

- **Defined Project Targets**
(Image, Economic, Social, Functional, Environm. etc.)
- **Performance Targets**
(Comfort, Functionality, Operation, Flexibility etc.)
- **Sustainability Targets**
(Energy, CO₂, Future Adaptability, Health, etc.)



2



Integrated Design

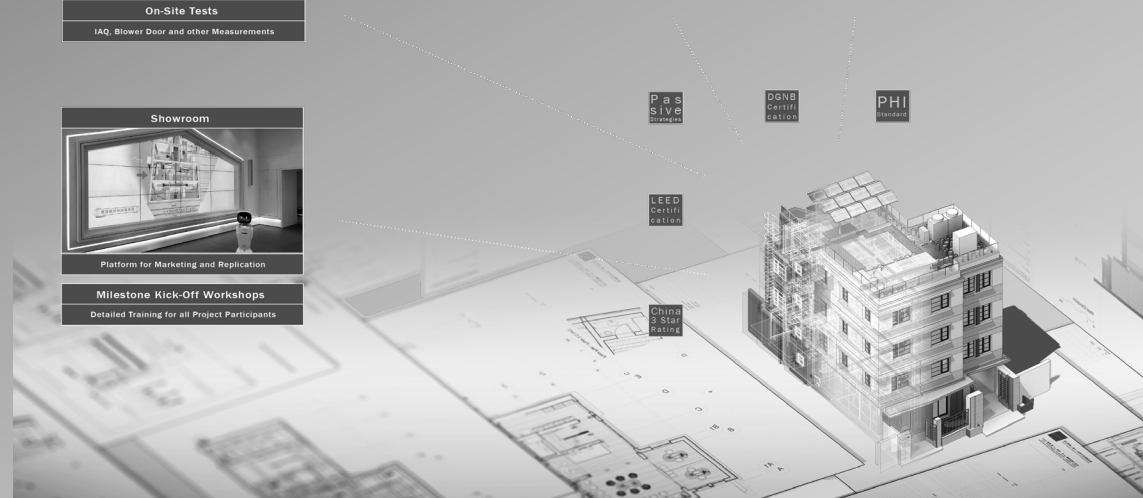
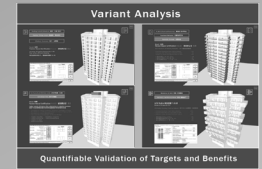
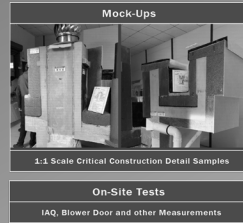
Having the aesthetic and functional design (soft parameters) linked with hard performance parameters allows for a **truly synergistic optimization process**:

Parametric Design Variants evaluate and identify synergies between aesthetics, functional quality, comfort, energy demand, technical investment and operation costs as well as CO₂ Footprint in “real time” throughout the creative process.

Facilitating Confident Decision-Making

In each design phase we develop planning variants with:

- Clear verification of KPIs
- Quantifiable Performance Matrix
- Comprehensive Assessment and Comparison
- Comprehensive Reporting at every Milestone

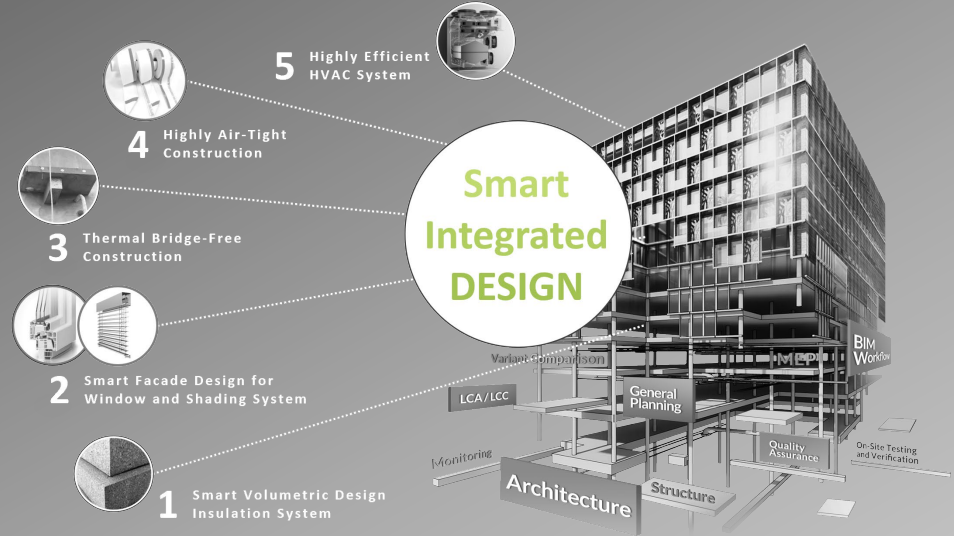


Passive Design Strategies

Simply based on a smart architectural design of volume, orientation, geometry, shading and other aspects according to specific climate and context, **dramatic comfort benefits and energy / CO₂ reduction can be achieved.**

We always start with Passive Strategies, because...

... Passive Design focuses on implementing no- and low-cost optimization strategies first.



Typical Benefits

Depending on climate region and local context, realistic benefits from low-cost strategies in past projects include:

- Individual Design and Architectural Identity
- 10-40% HVAC Energy Demand Savings
- 10-40% Reduction in Operating Costs
- Much higher User Comfort (Temperature and Humidity)



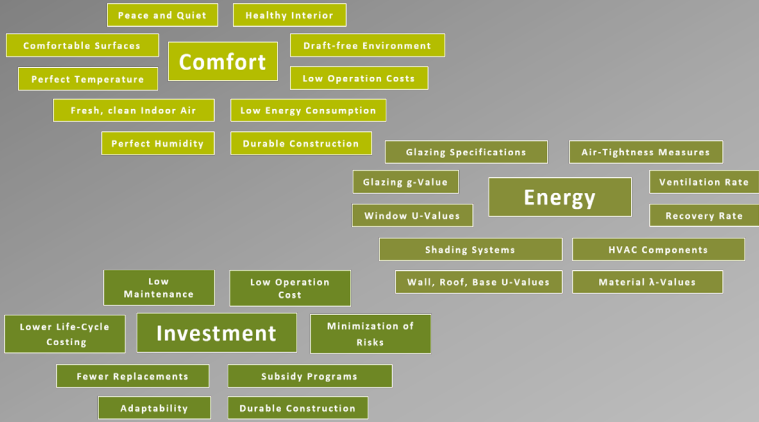


Life-Cycle Considerations

Comfort, Functional Quality, Energy Consumption and Investment are directly related.

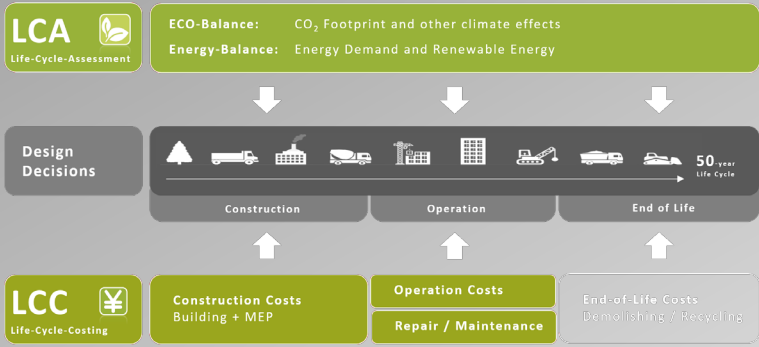
A building optimized for those parameters over its entire life-cycle will meet climate targets “on the side” while creating a concrete added value for users and owners.

... integration of Life Cycle considerations create truly future-proof buildings.



Typical Life-Cycle Components:

- Principal Design, Construction and Operation Targets
- LCA (Life-Cycle Assessment) as the Building's CO₂ / Eco-Balance
- LCC (Life-Cycle Costing) as economic Performance Indicator from upfront investment to end of life



3



Reporting

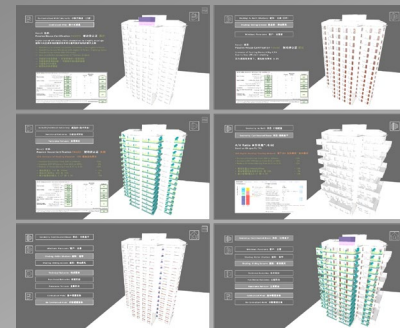
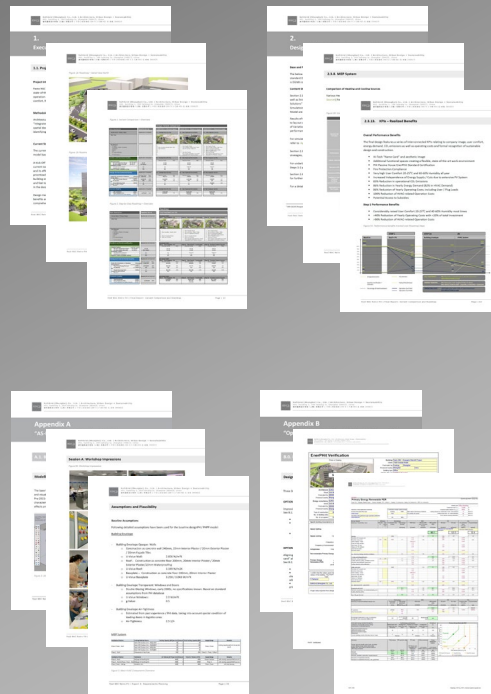
Each of our projects generates a unique identity and follows highly individual KPIs. Final design as well as variants consist of a complete set of quantifiable performance data and qualifiable aspects...

... not only creating better buildings but facilitating a clear and comprehensive reporting for easy decision-making.

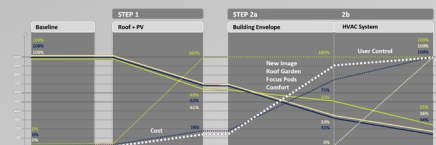
Requirements Planning to As-Built Document

We start a Requirements Planning from the project start, which updates into a Design Book and eventually an As-Built Project Documentation, containing:

- Current State
- Action Items / To-Dos / Critical Path Items
- Roles and Responsibilities
- Full Set of Targets and Requirements
- Full Variant Comparison Matrix
- All Calculations, Simulations and Verification



Design Variant Comparison				
Best Description	Baseline (BtL)	OPTION 1 - Minimal Impact	OPTION 2 - Medium Impact	OPTION 3 - Maximum Impact
Variant Name / Primary Target	Baseline (BtL)	01 - Change Glass-to-Glass	02 - New Facade and Functionality	03 - Fully Integrated and ITC
Main View				
Key Features		<ol style="list-style-type: none"> New Facade Design New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof 	<ol style="list-style-type: none"> New Facade Design New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof 	<ol style="list-style-type: none"> New Facade Design New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof New Facade System Wall / Roof
Material Properties				
Energy and Environmental Quality				
Health and Well-being				
Cost				



4



Construction Quality Control

We meticulously supervise the entire Design and Construction.

A process of in-depth mock-ups, sign-offs and on-site testing have proven highly efficient in past projects and are permanently developed further...

... making sure KPIs are implemented, and building performs as designed.

Construction Quality Control

Sample room 1:1 scale mock-up and verification platforms for:

- Construction Detailing
- Material Transitions + Air-Tightness
- Building Envelope Performance

Sensitive building components sign-off procedure:

- TVOC Content, Harmful Substances
- EPDs and equivalent Documentation
- On-Site Testing (e.g. Blower Door, TVOC, Thermal Imaging etc.)



5



Documentation + Certification

Documentation and formal Sustainability Certification are the results of a step-by-step roadmap beyond the building opening. We create monitoring and optimization strategies for operation over the building's entire life cycle...

...defining which goals will be met today, tomorrow and the day after tomorrow

Roadmap Characteristics

DGNB / PHI and GBV Sustainability Standard Tools are used to generate highly individual Project Roadmaps, including:

- Architectural Design and Aesthetics
- User Comfort and Control
- Life-Cycle Cost
- Energy Demand and Eco-Balance
- Functional Quality
- Flexibility and Future Adaptability
- Building Envelope Parameters
- Technical System Components



PHI Passive House Standard

- Real-Life Design Optimization
- Energy Balance Calculation
- Thermal Comfort and Energy Efficiency



Easy DGNB Certification when based on PHI Passive House Strategies for envelope + technical systems (40-70% Fulfillment)



DGNB Standard

- Life Cycle Assessment (LCA) for CO2 Balance
- Life-Cycle Costing (LCC)
- Holistic integration of Social, Technical, Functional aspects



Double Certificate DGNB / GBV (60-70% Overlap)



GBV System

- Verification for Subsidies and Funding (where applicable)



6 Replication

Successful Showcases are not solitary, stand-alone projects. Solutions, processes, methodologies and even design strategies developed in each project are a best practice collection...

... providing a **valuable assets for future replication**

Guidelines

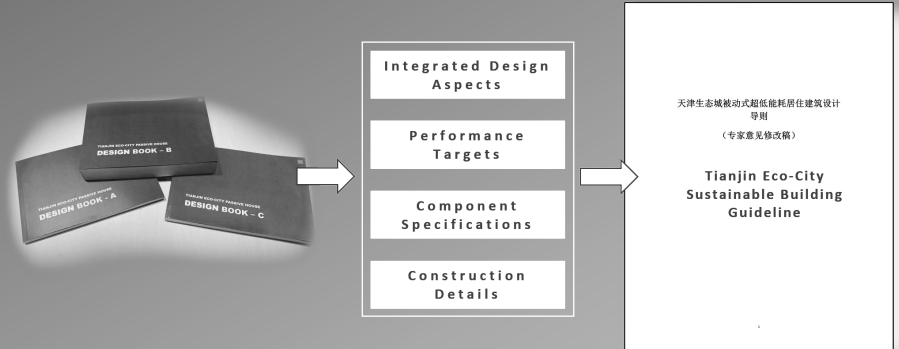
Guidelines are ideal for future Replication in similar projects, containing:

- General Integrated Design and Process Aspects
- Performance Targets and related Specifications
- Construction Details and Product Solutions

Show Room

Show Rooms are ideal for public outreach and a more hands-on experience, including:

- Introduction, Project Targets, Benefits
- Implemented Measurements and Processes
- Materials, Construction Details and Components





Benefits in Construction

The Integrated Design workflow brings numerous benefits throughout design and construction:

- Higher aesthetic and functional Design Quality
- Lower Cost, Faster Construction
- Fewer Mistakes
- Better Construction Quality

= Performance as intended

Benefits in Operation

Added value continues over entire building life-cycle:

- Lower Operation Costs
- Higher Comfort and Functionality
- Low / Neutral CO₂ Balance
- Adaptive Flexibility and Risk Management
- Higher Durability and longer Maintenance Cycles

= Future-Proof Building



Our Projects





Hi-Tech Park [Guigang]



Hi-Tech Park [Guigang]



Projects



Sanxiang Headquarter [Shanghai]

Office + Industry



Ardex Headquarter [Pinghu]



Goldtrading Square [Shenzhen]



BASF R&D Center II [Shanghai]



Mixed-Use [various]



Yangpu Riverside Center [Shanghai]



VW MEP Plant [Shanghai]



Seaside Marriott [Beijing]



St. Aldegund Retreat [Germany]



Projects



Xiangshan Business Villas [Beijing]



Mountainside Resort [Guilin]



RailCity [Nanning]



Campus Hub [Guigang]

Hospitality



Boutique Hotel [Zhuhai]



Hongxin Center [Dalian]



Hakka Resort [Lianping]

Experimental Middle School [Suqian]



Garden City Culture Center [Liuzhou]



Guangxi Institute of Technology [Guigang]

Projects



Culture + Education



Sacristy [Germany]



Experimental Middle School [Suqian]



Passive House School [Jining]



Football Academy [Guilin]



Guangxi Institute of Technology [Guigang]



Semizentral [Qingdao]



Projects



Residential



Vision Masterplan [Xincheng]



Hi-Tech Park [Guigang]



Projects



Riverside Park [Guiping]

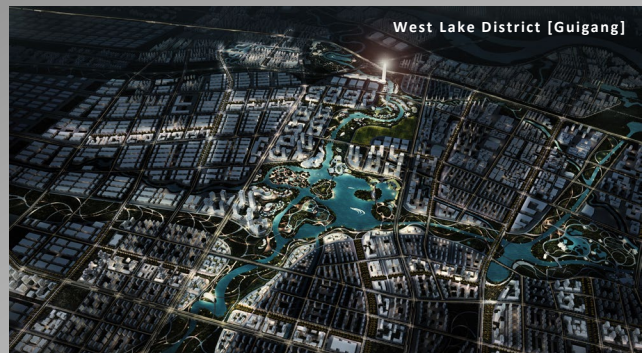
Urban Design



Guangxi Institute of Technology [Guigang]



Liujiang Eco-City [Liuzhou]



West Lake District [Guigang]



Liujiang Eco-City [Liuzhou]



Eco-City [Nama]



Lifestyle Hub [Dalian]



softgrid 索杰

SoftGrid (Shanghai) Co., Ltd.

Architecture | Urban Design | Sustainability

Unit 401, Building 1,
200 Taikang Lu, Huangpu District
Shanghai 200025

索杰建筑设计咨询（上海）有限公司
中国上海泰康路200号1号楼401室.邮编200025

Mobile (+86) 136 8185 2647 - EN
(+86) 159 2199 6780 - 中文

Email r.demmler@soft-grid.com - EN
d.liu@soft-grid.com - 中文

WWW www.soft-grid.com
www.soft-grid.de