



| Smart Real Estate

Realize the full potential of your building portfolio

Challenge

90% of reduction GHG emissions from cities by 2050 with investments will collectively generate roughly **\$23.9 trillion** in today's terms.

Source: [Guidehouse Insights, 2020](#)

By 2040, **58%** of all passenger vehicles sold will be electric.

Source: [BloombergNEF](#)

Building2Grid means leveraging more than **\$50 billion** of anticipated investments in behind-the-meter integrated energy assets for residential and commercial customers within the next five years.

Source: [Guidehouse Insights, 2019](#)

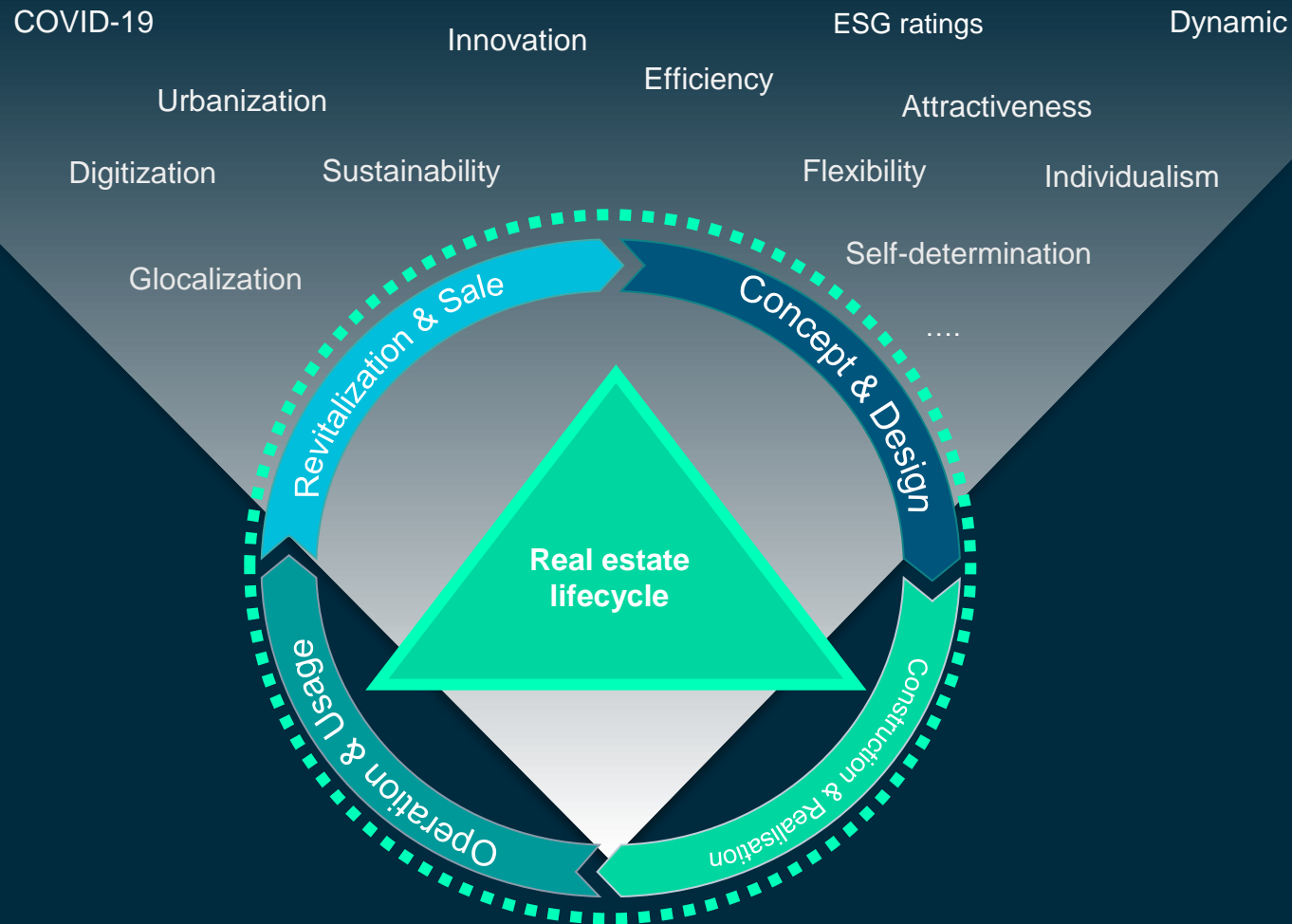
More than **\$250 billion** in cumulative investments focused on smart cities energy projects are anticipated through 2030

Source: [Guidehouse Insights, 2019](#)

60% of the of total global efficiency investment goes to buildings

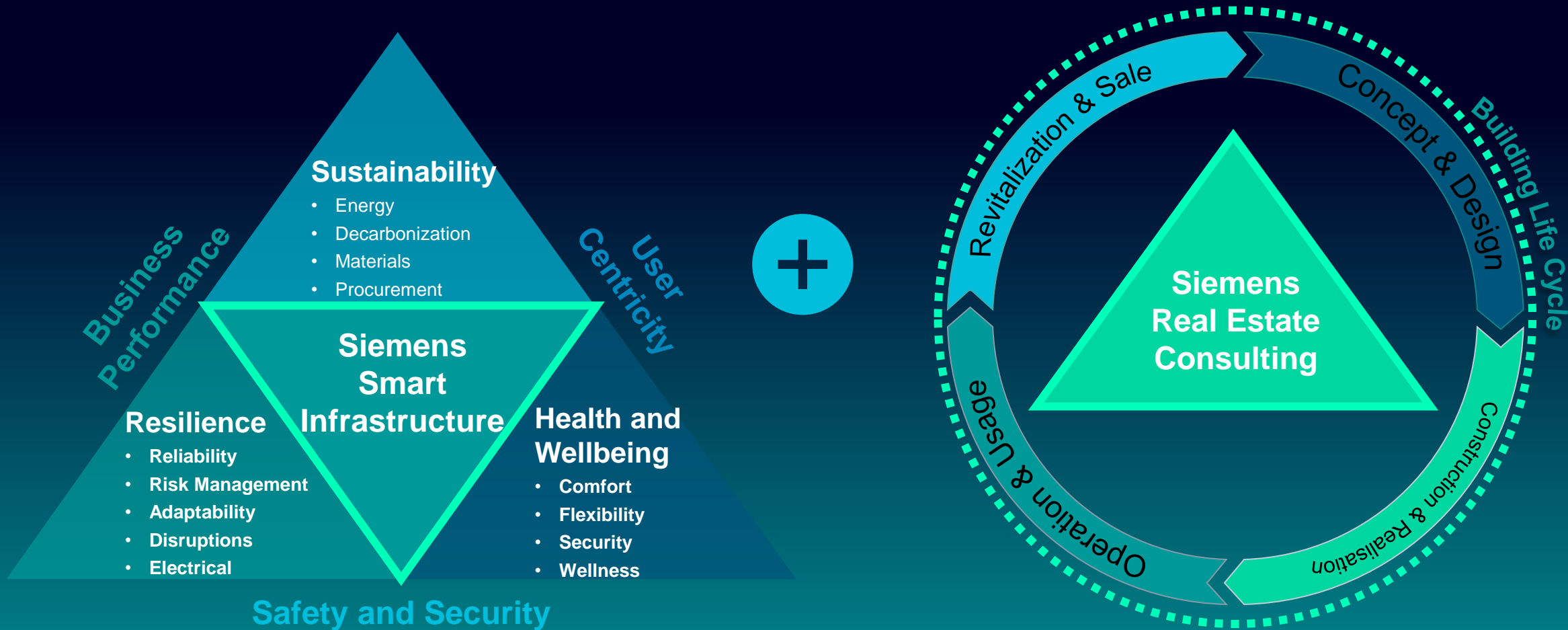
Source: [Guidehouse Insights, 2019](#)

The real estate management challenge



Manage the pressure and the expectations to corporate real estate and real estate portfolio over **the whole lifecycle**

Real Estate Expertise meets state-of-the-art technology
Our approach is unique in the real estate market



Siemens unique Real Estate offering

Covering all aspects over the lifecycle



Consulting

- CRE organizational setup
- RE operations & optimization



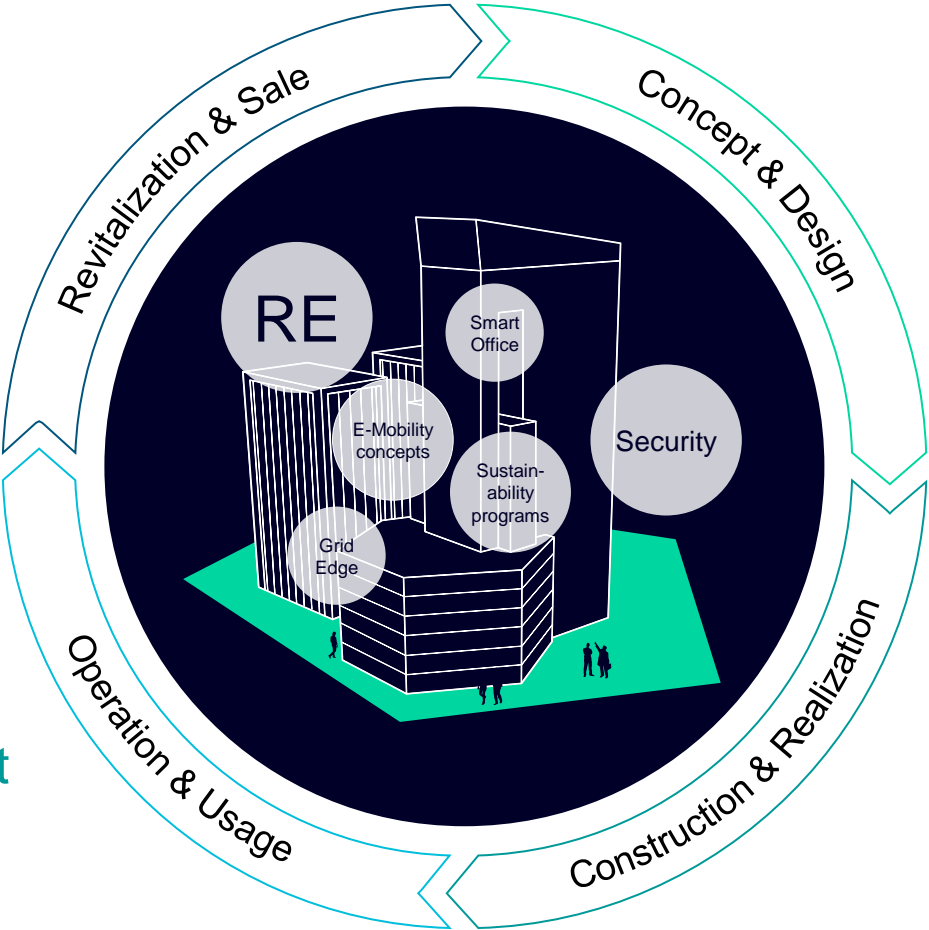
Portfolio strategy

- Space consolidation
- Location concepts



Working environment

- Workplace concept and design
- Company wide roll out



Comfort and safety



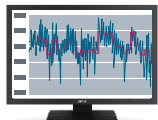
Energy and asset efficiency



Space and user efficiency



Energy intelligence and resiliency



Our promise:
Generating competitive advantage
Technology with purpose, sustainable value, satisfied employees and an optimal use of space with all the associated benefits and savings during the Building Life Cycle

To achieve Carbon Neutrality in own operations by 2030, Siemens is implementing an Internal Program to reduce emissions

We have implemented
49 projects

Of Energy Efficiency and Distributed Energy Systems

In **14 countries** spread over the globe using Siemens Expertise and Technology



+11€ million

annual Savings in energy costs

Average Payback of **4,5 years** In Energy Efficiency projects



“Based on our own technologies, our goal is to reduce our own CO₂ footprint by 100% until 2030”

47.000 tons of CO₂ abatement.

Comparable to **50'000** acres of forest annually.

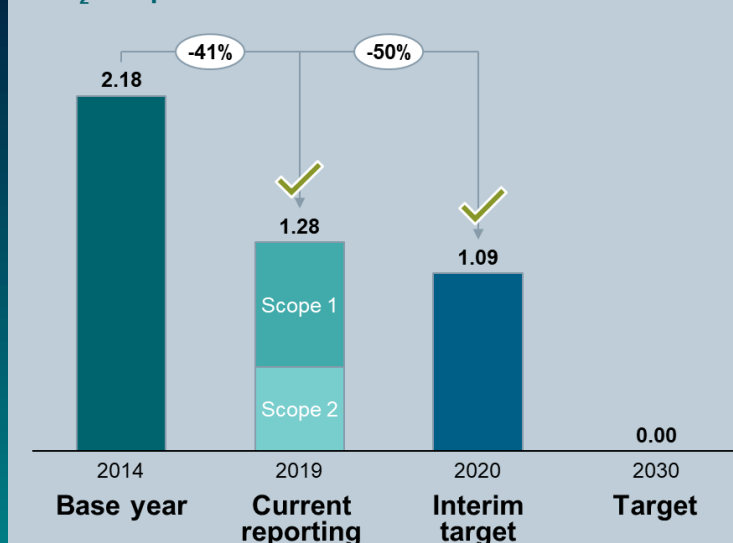


+ € 68 million

have been invested in Siemens' carbon neutral goal



CO₂ footprint in Mt



Siemens own sustainability performance

Well recognized by external ratings and rankings

Investor rating results



- **Highest ranking score**
- Leading position
- Broad global equity index

AAA



- **A- in Climate Change**
- **B- in Water**
- Environmental reporting and risk management disclosure

A-/B-



- **Leading position: #2 in industry**
- World Index (**top 10%**)
- Leading global sustainability index

79 pts



- Overall performance score **over 50/100 points**
- Material assessment of ESG performance

Prime



- **#1 in our industry**
- Included in Bloomberg ESG Terminal, mainly for investors
- Risk score: medium

78 pts



- **Silver recognition level (top 25%)**
- ESG ratings for global supply chains

61 pts

Rating scope

- **Economic:** e.g., Corporate Governance, CRM, Innovation
- **Environment:** e.g., Climate change
- **Social:** e.g., Human Development, OHS



Siemens Smart Infrastructure

Our achievements with our Customers

We are helping our customers to avoid

€3.4 bn

of utility costs.

€1.7 bn are savings currently
under guarantee up to year 2040.



621 projects

in PA¹ phase and 103 projects under
construction currently.

Over 2,200 Energy Saving Performance
Contracting projects since 1995.



Exceeding savings by

23%

Close tracking of performance
and identification of additional
Improvements results with on
average 23% of exceeding
guaranteed savings.



14.2 m

tons of CO₂ abatement.

Comparable to **77'300** railcars
of coal burned or **3'000'000**
passenger vehicles driven for a year.



Contractual flexibility with duration
of anywhere between 1 and 30 years,
with average of

9.7 years

30 years is the longest PA
contract made.



11

European Energy Service Awards
won in 2006, 2007, 2008, 2009, 2010,
2011, 2012, 2014, 2015, 2017 and 2019.



| Contact



Benjamin Specht
Siemens Smart Infrastructure

Email: benjamin.specht@siemens.com
Tel. +49 (173) 2164802



Felix Martin
Siemens Real Estate

Email: felix.martin@siemens.com
Tel. +49 (172) 3031609



Smart Real Estate in action



For Siemens Mobility, the new campus represents the **beginning of a new working era**. The new infrastructure and the contemporary, modern office environment **promote collaboration and creative work**. The move also increases our **attractiveness as an employer**.

— Sabrina Soussan, CEO Siemens Mobility.

Project

Siemens Campus Erlangen

€500 Mio.

Total investment

~540,000 m²

Total area

Innovative
working spaces

open and flexible working
environments

Sustainability


CO₂ neutral concept
LEED certification

Digitization

BIM / Digital Twin / AI

Duration

2013 - 2030

An architectural rendering of the Siemensstadt 2.0 development in Berlin. The image shows a modern, multi-story building with a prominent glass facade and a large, open public square in the foreground. The square is paved with reddish-brown tiles and features several small tables and chairs, suggesting a social or communal space. In the background, other buildings and trees are visible under a clear sky.

This commitment to Berlin will give
the city a new impulse for the next
20 years.

— Michael Müller, mayor Berlin

Project Siemensstadt 2.0

€600 Mio.

Total investment

~700,000 m²

Total area

Mobility

innovative mobility concepts
E-Mobility

Showcase

Implementation & testing of
SIEMENS technology

Urban planning

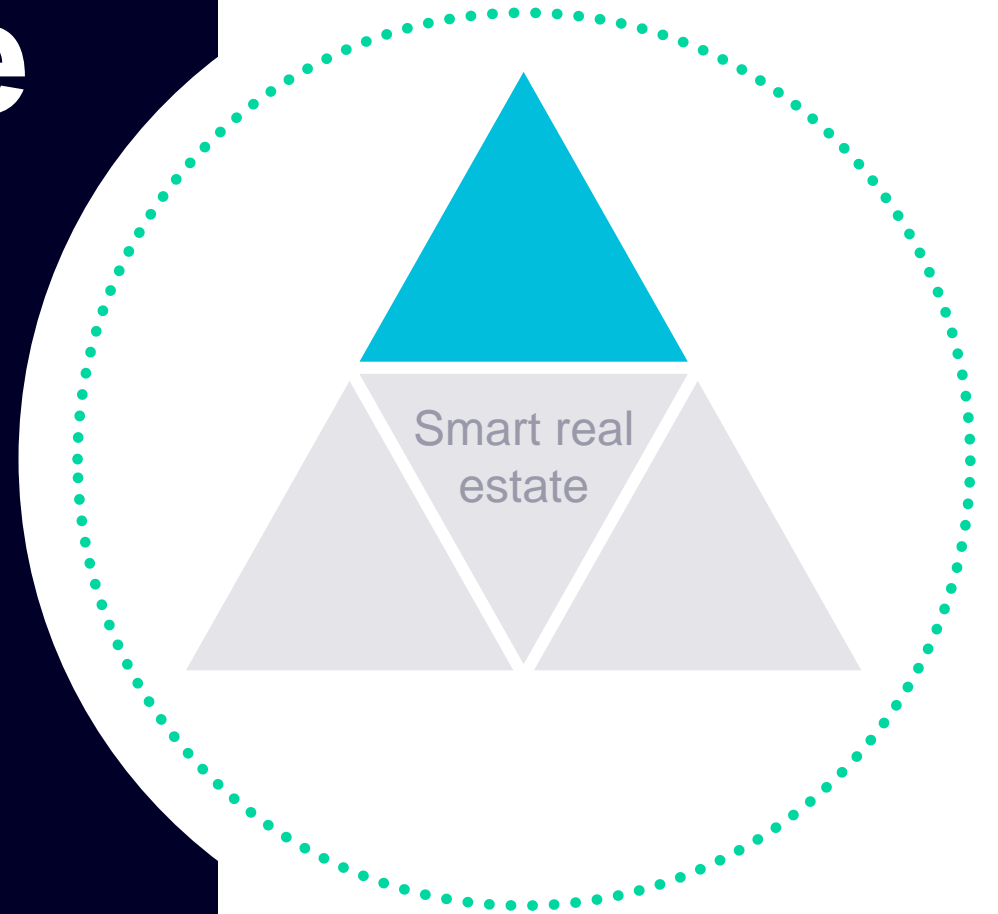
Symbiosis of living, working and
researching

Duration

2020 - 2030

Smart Real Estate in action

Sustainability



SIEMENS

Smart Real Estate in action

Sello shopping mall, Espoo, Finland

Sello shopping mall, Commercial, Finland

"Every sunny day generates a clear financial saving for us."

*Olli Paunola – Property Manager
at Sello shopping center*

"The partnership with Siemens has enabled Sello to reduce emissions and enhance its image as an environmentally friendly company."

Matti Karlsson – CEO of Sello shopping center

€118,000

savings in energy
efficiency and
maintenance

€480,000

gains in energy market

281 t

CO₂ emission reduction



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SIEMENS

Smart Real Estate in action

Sello shopping mall, Finland



“We earn our money by managing 170 shops and therefore renting out 100,000 sqm”



“Every sunny day generates a clear financial saving for us.”

Customer needs

Tenant satisfaction and retention

Public perception and visitor satisfaction

Modernization and efficiency (€/sqm.)

Solution from Siemens

- Ability to maintain fair and consistent rents
- Safe and comfortable place to work
- Modern and sustainable building that is easy to promote
- Safe and comfortable place to relax
- Continuous data-based analytics to identify opportunities
- Projects implemented regularly to reduce OPEX

People

- Dedicated on-site energy and operations mgr
- Energy engineers

Technology

- Service platform with remote analytics and reporting
- Cloud-hosted Desigo automation system

Services

- Fault detection and diagnostics

Siemens Real Estate E-Mobility

What was the project's intention?

Equip our buildings with state-of-the-art electric vehicle charging infrastructure, harmonize the e-charging offering throughout the Siemens locations and speed-up implementation through a global service agreement (GSA).

How long did it take?

The development of the GSA took approx. 8 months. We have started implementing and have many more projects in the pipeline.

What were the one-time costs?

The one-time costs depend on the scope and the underlying conditions of each project.

What is the value add for the environment & the customer?

By fostering the mobility of the future, we support the company's goals for CO₂-program. We provide e-charging infrastructure @work to encourage driving with green power instead of fossile fuels.

Interview partner: Cherifa Ben Ammar,
Siemens Real Estate

Company
vehicles (fleets)

Employee
vehicles

Guest
vehicles

3rd party
vehicles

Charging
station
management



Siemens Campus Microgrid Vienna

What was the project's intention?

The project emerged from a collection of ideas from various departments of the smart infrastructure on innovative projects, which was then implemented as part of SRE's innovation push.

How long did it take?

With slight delays (due to Corona), the realization time from the approval of the investments to the takeover was ~14 months.

What were the one-time costs?

Approved Capex € 700,000 and Expenses € 550,000; actual used Capex € 690,133 and Expenses € 527,458.

What is the value add for the environment & the customer?

By avoiding electricity (procurement) peaks and by generating "green electricity" through the PV systems, we save the purchase of expensive peak electricity and can reduce the CO₂ footprint (up to 100 t per year).

Interview partner: Reckzeh, Zvezdana,
Siemens Real Estate



€827 k

**Savings
guarantee
(per year)**



62%

**CO₂ reduction
(per year)**



€0 k

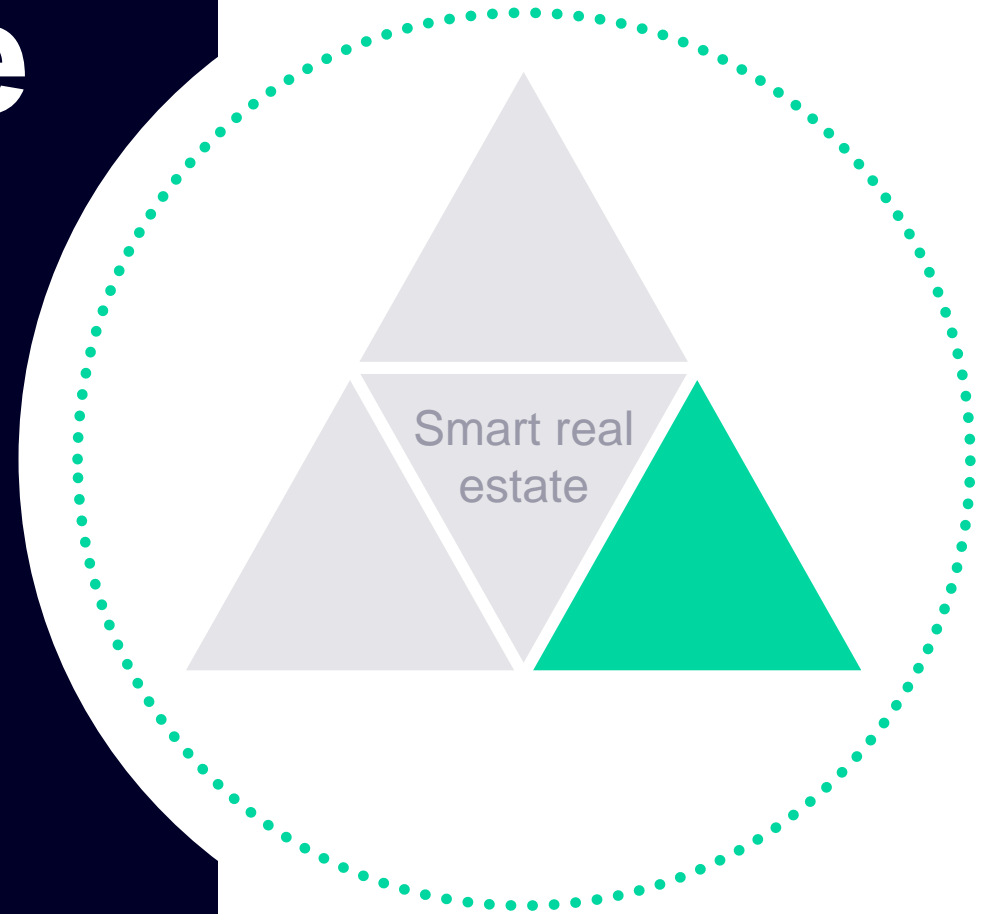
**CAPEX
(total)**



“We are a **dairy plant** and have the need for release of capital to be able to focus on our core business.”

Smart Real Estate in action

Health and wellbeing



Smart Real Estate in action – activity based working

Siemens Real Estate, Munich



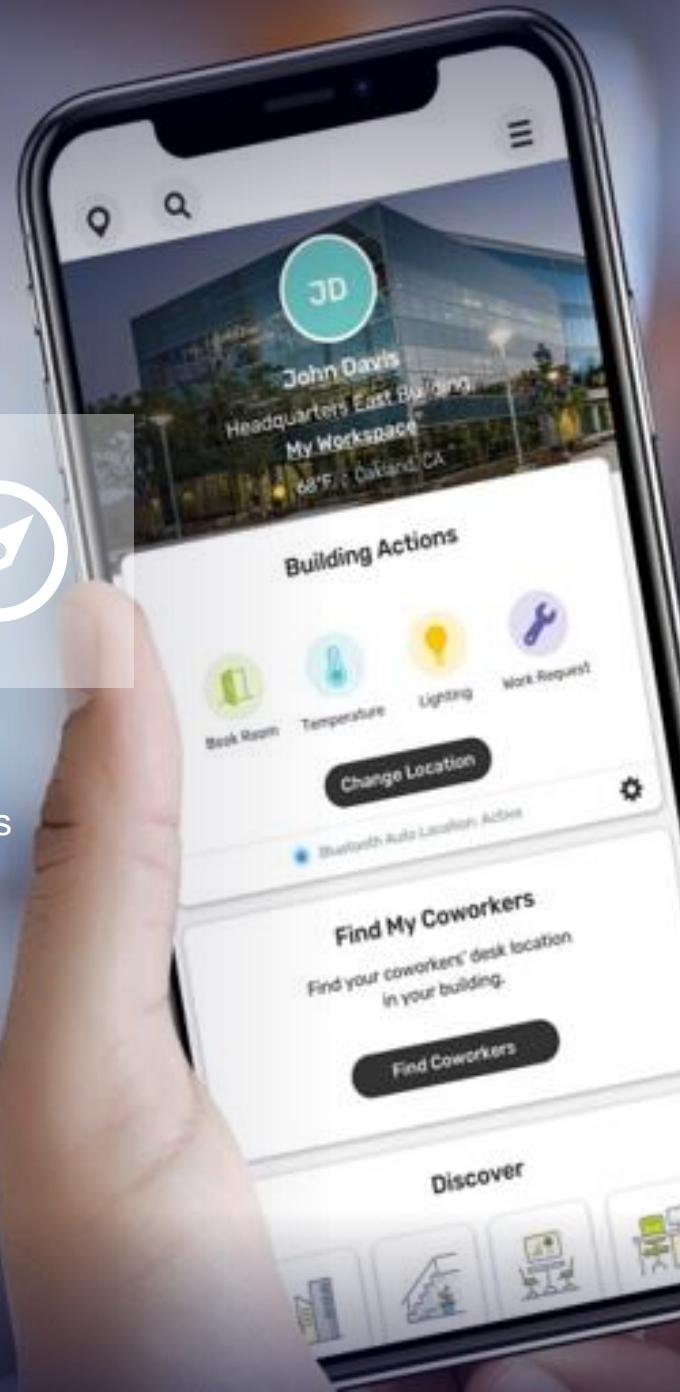
100 k
Employees



600
Sites



30+
Countries



“**Comfy** helps Siemens employees to get safe back in the office and is a basis for **the digital workspace.**”

- SIEMENS Real Estate Management Expertise
- SIEMENS Infrastructure **state-of-the-art technology**

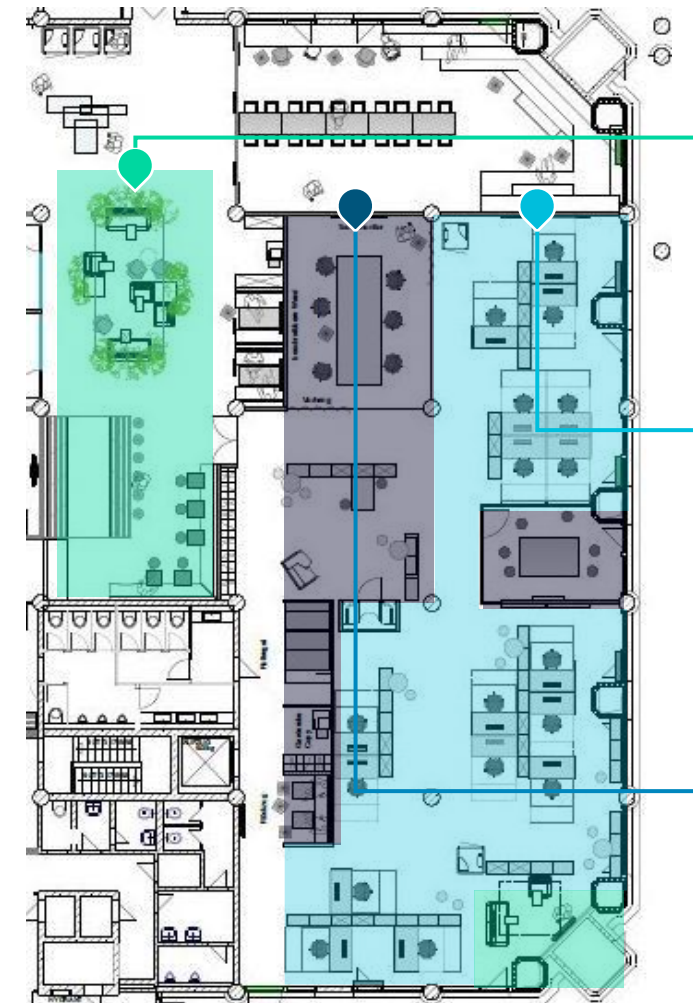




Smart Real Estate in action

Activity based working

Siemens Real Estate, Munich



 Retreat

 Focus

 Collaboration

SIEMENS

Smart Real Estate in action – Sensors

Siemens Real Estate, Munich

Enlighted Gateway

Lightsensors

Enlighted
Ceiling-Sensors

Fire Detector

Digital
Roombookingpanels

Enlighted Workplace
Sensor

Smart Real Estate in action

Vodafone Campus, Düsseldorf, Germany



Vodafone Campus, Düsseldorf, Germany

- End-to-end, multi-site corporate security
- High degree of integration



SIEMENS

Smart Real Estate in action

Vodafone Campus, Düsseldorf, Germany



“Fully integrated corporate safety and security solution combining seven individual locations into a single campus.”

Vodafone*



Improved operational efficiency through advanced integration.

Customer needs

High degree of integration across multiple locations

Comprehensive, end-to-end corporate security solution

Increased level of security while improving customer experience

Solution from Siemens

All security and safety solutions incl. access control, video surveillance and danger alarm systems across campus of buildings integrated and operated from a centralized security control center

Installation of advanced exterior video surveillance with virtual patrols and utilizing analytics for monitoring of entrances and sensitive areas

Deployment of innovative access control and lock system that uses a single end-point Near Field Communication (NFC), with access authorizations stored on a mobile phone

People

- Combined onsite and off-site specialized Siemens engineers

Technology

- SIPORT Access Control
- Video Surveillance
- Danger Alarm Systems
- Command and Control

Services

- Advisory Services
- Digital Services

Smart Real Estate in action

Panorama Tower, Miami, USA



Panorama Tower, Miami, USA

- 85-story mixed-use high-rise building
- Designed with security and future-proofing in mind



Copyright: maxtec68

Smart Real Estate in action

Panorama Tower, Miami, USA



“The first aspect of making a building like this feel like home, is making people feel secure.”

Dean Warhaft, Chief Development Officer,
Florida East Coast Realty LLC



Future-proof,
integrated
security for
seamless
tenant
experience

Customer needs

Future-proof solution that can be modified based on changing tenant’s needs

Create seamless tenant experience that’s safe and secure

Integration with 3rd party systems

Solution from Siemens

- Comprehensive feature set and adaptability of SiPass access control system supports present and future growth
- SiPass access control system makes the building smart and intuitive for those who live in, work or visit
- Managing access credentials and integrating with other systems
- Integration with OTIS elevators
- Integration of SiPass with SALTO Hospitality Access and hotel management software

People

- Dedicated onsite and off-site specialized Siemens engineers as one project team

Technology

- SiPass access control system
- Siveillance Video video surveillance
- Integration with OTIS Elevators
- Integration between SiPass and hotel management software

Services

- Siemens Preconstruction Services

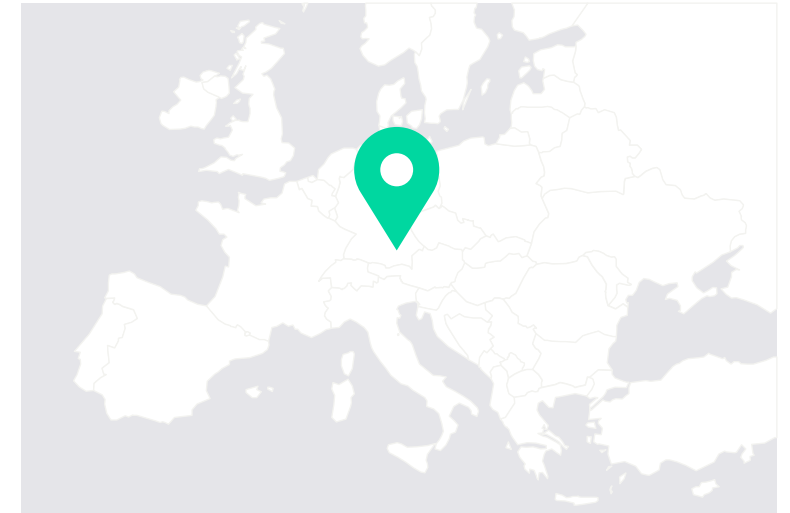
New Siemens Headquarters, Munich



- The new company headquarters has been developed in the city center of Munich **as an urban district**
- **Openness** and **transparency** are characteristic of the building – also architecturally: The ground floor with its succession of open inner courtyards is publicly accessible to a large extent
- The company has provided its employees with a modern, inspiring working environment over an area of approx. **45,000 m²**

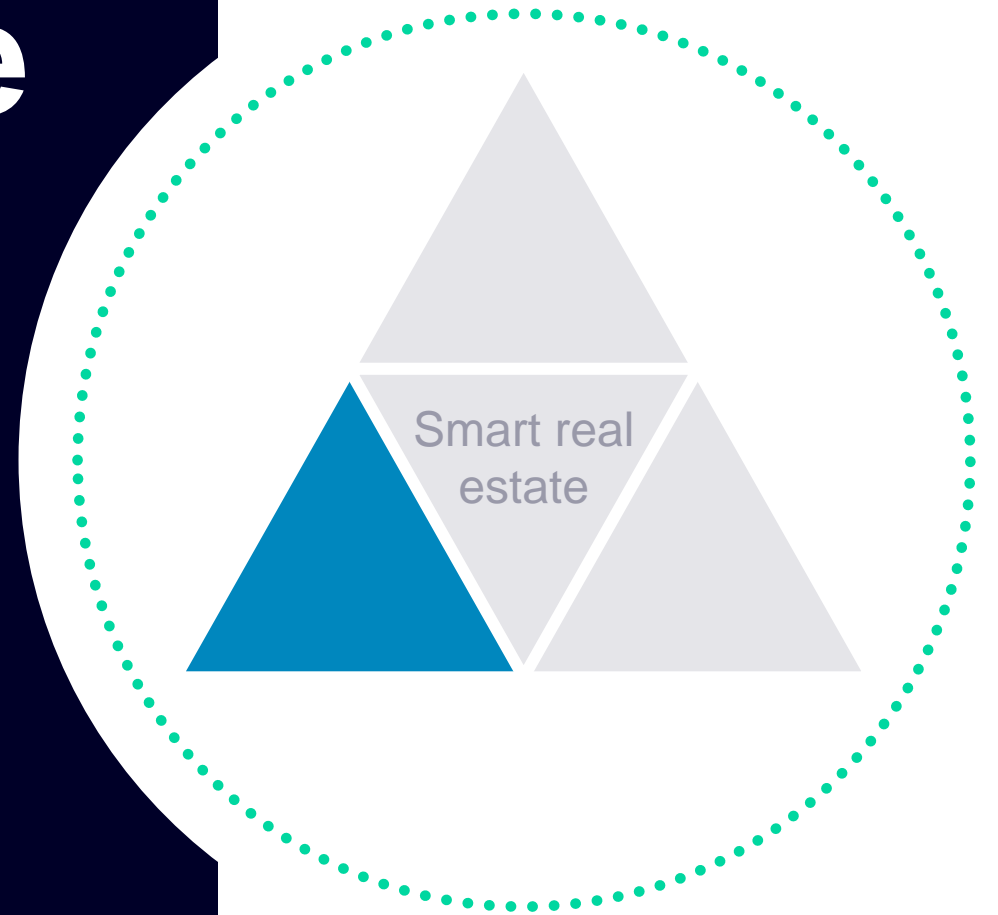
- Siemens has set itself the highest sustainability targets **Platinum** certifications according to **DGNB** and **LEED**
 - Energy cost savings¹: **52%**
 - Carbon reduction²: **84%**
 - Recycled materials¹: **17%**
 - Water use reduction¹: **28%**
 - DES contribution¹: **7%**
- The building was **officially opened in Summer 2016**
- ESG pilot project ongoing

1 KPI is based on LEED baseline building and hence third party verified qualities | 2 Compared to previous HQ building



Smart Real Estate in action

Resilience



Reference

Products & systems applied by Totally Integrated Power

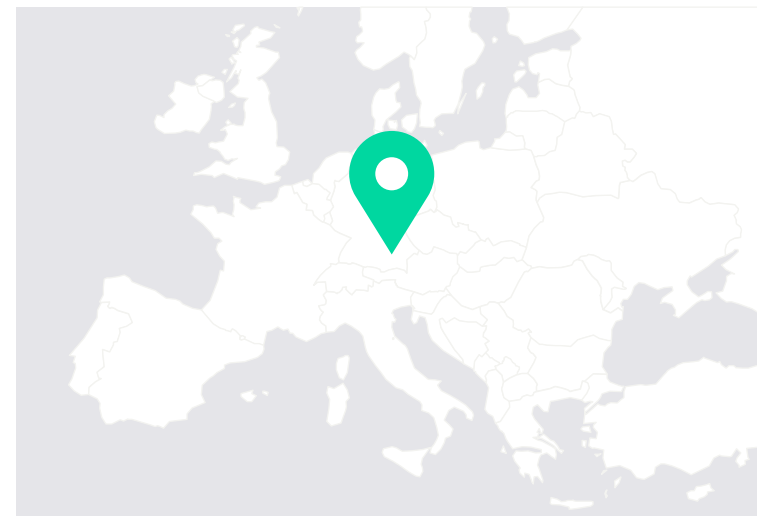
New Siemens Corporate Headquarter, Munich, Germany

New construction of the corporate headquarter accommodating up to 1,200 employees on approx. 45,000 m² of surface building space

- Powerful rooftop photovoltaic system, reducing energy import & ensuring optimized energy consumption, which is quite important for a modern office building
 - All installations for power distribution fitted with products & systems from Siemens
 - Dimensioning and planning individual system components performed with SIMARIS design & SIMARIS project software tools, thus ensuring optimal power system design
 - Innovative building technology supplied by Siemens Building Technologies
-
- 12 panels of the gas-insulated medium-voltage switchgear, type 8DJH, 10 kV, equipped with the overcurrent protection devices 7SJ85 from the SIPROTEC 5 series
 - 4 GEAFOL cast-resin transformers, nominal output 1,600 kVA each (housed in protective enclosures)
 - Low-voltage main distribution system: 41 panels of the SIVACON S8 low-voltage switchboard, divided into six blocks
 - Each panel is equipped with SENTRON protection and switching devices as well as measuring instruments connected via Modbus into the building substation control systems
 - 22 ALPHA distribution boards
 - SIVACON 8PS busbar trunking system: Approx. 450 m of BD type busbar installed (800 A), plus 250 m of LDA aluminum-type busbar (3,700 A), which results in a very low fire load

Additionally

- LAMILUX photovoltaic system with approx. 800 PV modules installed on a generator area of 1,288.8 m² and a nominal generator power of 258.41 kWp
- Two emergency generators of 630 kVA each (EURO-DIESEL)



Reference

Products & systems applied by Totally Integrated Power

Deutsche Schule Madrid (DSM), Spain

New construction of a school building on approx. 21,000 m² of built-up area providing for about 1,700 pupils

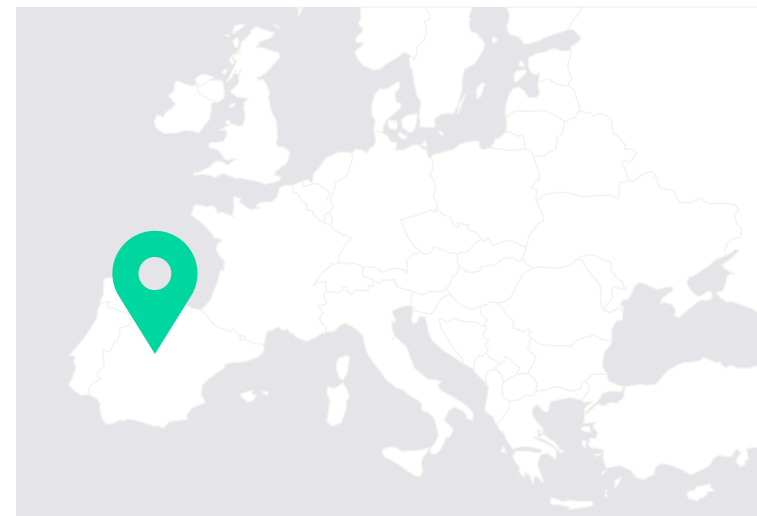
- Energy-efficient power supply utilizing renewable energies as far as possible (thermal labyrinth, photovoltaics, solar heat, CHP)
- Use of the SIMARIS design tool for power system calculations and dimensioning the power distribution system and SIMARIS project for determining the space requirements of switchgear in the building
- The fact that the systems applied are unaffected by climatic conditions and require no maintenance is of particular importance



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Products & systems applied by Totally Integrated Power

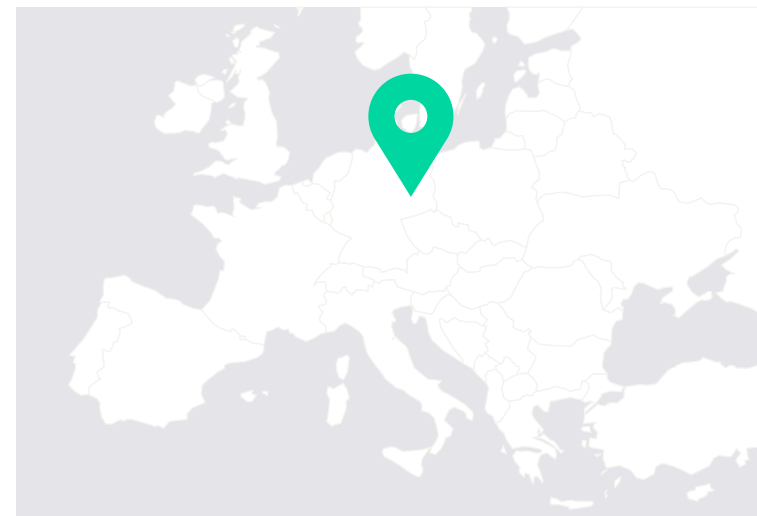
CityCube Berlin – Multi-purpose hall, Germany

New construction of a multi-functional trade show, congress, and event arena with an effective floor area of approx. 39,470 yd²

- Cross-regional support for power supply planning rendered by the TIP Consultant Support
- Network design using SIMARIS design, layout diagrams created with SIMARIS project
- Integrated Siemens solution for safe power distribution
- The entire power supply system installation was completed by a regional electrician and two franchise partners



- Modular, gas-insulated medium-voltage switchgear, type 8DJH, in long life, maintenance-free design for safe and cost-efficient power supply operation
- GEAFOL cast-resin transformers for the utmost of operational safety and long service life due to their low flammability and self-extinguishing features
- SIVACON S8 low-voltage switchboard as type-tested power switchgear and control gear assembly, design verification through testing in compliance with IEC 61439-2
- ALPHA distribution boards providing dependable quality and safety which conforms to all relevant standards
- SENTRON low-voltage components providing safe, cost-efficient, and flexible application options
- SIVACON 8PS busbar system, LDA type, for safe operation due to high short-circuit strength and type-tested low-voltage switchgear and control gear assemblies



Reference

Products & systems applied by Totally Integrated Power

Urban development center Crystal, London, UK

Construction of a conference center, urban dialogue platform and technology and innovation center

- Integrated and flexible solution for the entire power distribution system using perfectly matched products and systems
- The SIMARIS design software supported in the definition of protective settings
- Since Siemens was the sole supplier for a large proportion of the electrical equipment, there was coordination by the electrical consultant Arup London & the Siemens engineers to make sure the systems were correct
- This also reduced the commissioning time, as well as facilitating future spare parts management



- One medium-voltage switch close-coupled to the transformer
- One GEAFOL cast-resin transformer, 1,250 kVA, for the utmost of operational safety & a long service life, low flammability, self-extinguishing
- Two panels of SIVACON S4 low-voltage switchboard type-tested in acc. with IEC 61439-1/2, characterized by a high-level of personal and plant safety
- Switchboards equipped with protection devices SENTRON 3VT molded-case circuit-breakers, each one of the MCCB have been fitted with motors operated, so the building management system can control the main low-voltage panels
- 24 lighting and power Siemens twin distribution boards are included
- 400 meters of Britmac (Siemens Electrium) under-floor busbars, complete with floor boxes
- Crabtree (Siemens Electrium) wiring accessories fitted through the building

Additionally

- Desigo 4.5 building management system
- Powermanager system Expert
- Sinteso fire protection system
- Siemens security systems
- Osram Lighting
- Siemens Water Technologies
- Each one of the Building Control is contacted to the Desigo building management system



Reference

Products & systems applied by Totally Integrated Power

ThyssenKrupp Quarter Corporate Headquarters, Essen, Germany

Construction of a new building campus with twelve buildings in planning:

Six buildings completed during the first construction stage

- Customer req. that each building should be operative in a fully self-contained manner
- Standardized solutions for all buildings
- Central control and monitoring of all functions in the entire building campus
- Utmost availability of power supply
- Power distribution system dimensioned using the SIMARIS design planning tool
- Electric power distribution system integrated into the higher-level building security mgmt.



- Six gas-insulated, no maintenance medium-voltage switchgear, type 8DH10; equipped with communication-capable multifunction overcurrent and motor protection relays SIPROTEC 7SJ63 and SIPROTEC 7SJ602
- GEAFOL cast-resin transformers for the utmost of operational safety and a long service life
- 189 panels of the type-tested SIVACON S8 low-voltage switchboard with communication-capable 3WL and 3VL molded-case circuit-breakers
- SIVACON 8PS busbar trunking system of types LD, LX, LR, BD01, BD2 featuring high flexibility, compact, halogen-free design, low fire load
- ALPHA distribution boards with built-in SENTRON circuit protection technology ensuring the high availability required by the customer

