

Year	Building project	Owner /Client	Description	Technical equipment
1988	Bank Lahr-Ettenheim	Bank Lahr-Ettenheim	Ground floor; customers hall, customer service, cash desk 1st floor executive committee, meeting room, administration. 2nd floor; administration processing. Top floor; meeting hall for 250 people, technical centre. Basement; garage 65 bays.	High and low voltage installation, gas roof central heating installation approx. 400 KW, hot water pump heating plant, cooling machine, approx. 150 KW. Climatic facade heating / cooling. Ventilation system for banking hall and executive committee floor. Standard sanitary installation
1989	Regional Computing Centre, Freiburg	Kommunaler Versorgungsverband Baden-Württemberg Karlsruhe	Basement; sensitive engine room, data safe area, technical room, parking deck. Ground floor: printing machine hall, paper store rooms, offices. 1st floor; offices and training rooms, meeting room, canteen, kitchen, caretaker's flat. 2nd floor; offices.	High and low voltage installation / transformer station, heat supply plant / plumbing engineering, full air conditioning systems for machine hall, computing centre 44,000 m <sup>3</sup> /h and sensitive engine room 25,000 m <sup>3</sup> /h. cooling technology for air and machine water cooling; total cooling capacity approx. 520 KW
1990	Max-Planck Institute for Immunology Freiburg	Max-Planck-Gesellschaft München	Basement; technical room, secondary rooms. Ground floor; atrium, offices. 1st - 2nd floors staff laboratories.	High and low voltage current installation with emergency electrical back-up installation, cooling supply, plumbing installations with water purification, gas supply, air engineering with heat recovery.
1990	Sparkasse Stockach	Sparkasse Stockach	Basement: Technical building equipment, storage, Ground floor; self-service, customer centre, customer safe. 1st floor; executive committee room, staff department, 2nd floor; operational area, staff casino, Top floor; meeting rooms.	Air conditioning system, customer centre Ventilation system basement, low-temperature heating boiler, glass elevator, high and low voltage installation, plumbing engineering.
1991	Main postoffice, Rottweil	Deutsche Bundespost	Basement; underground parking, shelter. Ground floor; customer area, post office delivery / dispatch. 1st - 2nd floors; administration. Top floor; cafeteria / kitchen.	Power station with long-distance connection, room air-technical systems, facade heating for customer hall, high voltage current supply for back-up electrical installation, communication technology, shelter ventilation, sanitary installations, elevators.
1992	Otto Suhner GmbH Bad Säckingen	Otto Suhner GmbH Bad Säckingen	Office buildings, production hall, automatic warehouse.	High and low voltage current plants, 2 transformers 400 kVA, room air-technical systems with earth warmth exchangers, plumbing and fire-extinguishing systems with compressed air supply, gas low-temperature boiler 920 KW.
1993	Technical Highschool Offenburg	Land Baden-Württemberg represented by Staatl. Hochbauamt I Freiburg Außenstelle Offenburg	Extension of existing building with laboratories and technical tract on the ground floor, seminar and administration rooms on 1st and 2nd floors.	3 ventilation systems with 4.500, 7.000 and 9.000 m <sup>3</sup> /h 12 single exhaust air systems each with 800 - 1,200 m <sup>3</sup> /h. Neutralization plant, pure gas supply; CO <sub>2</sub> , N <sub>2</sub>
1994	Telecommunications office Ravensburg	Deutsche Bundespost - Telekom	Renovation of old building A/B, technical tract D, administrative tract E, cafeteria F, telecommunications tower.	High and low voltage installation with emergency power generators and emergency electrical installations. Heating and sanitary installations, air conditioning cafeteria / kitchen / special area cooling supply.

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1995	Institute Med. Microbiology / Hygiene Extension Virology Freiburg	Albert-Ludwigs-University Freiburg	1st and 2nd floored basements; technology, secondary rooms. Ground floor; lecture room for 150 students. 1st - 3rd floor; staff room and practical course laboratories.	High and low voltage installation with emergency electrical installation. 2 x 150 KW cooling machines. Plumbing installation with water purification, gas supply for N2, CO2, natural gas, compressed air, etc. 9 autoclaves. Connection to district heat supply, room air-technical systems with heat recovery; total 28,500 m³/h.
1996	Concert House Freiburg	Stadt Freiburg Freiburger Stadtbau GmbH	Large concert hall for 1,800 visitors; flexible space for use in approx. 4 variations. Round hall for 430 visitors. Kitchen and food expenditure for banquet use. 10 seminar rooms. Underground parking with 440 bays.	Transformers 3 x 800 mains backup system 350 kVA emergency lighting with single monitoring and common battery plant. Normal and safety current supply. Stage direction and recording technology with stationary and mobile mixers. Stage and hall lighting regulation (130 circles) Lighting, black-out and shutter control with bus system technology (EIB) Energy optimization. 15 air conditioning systems total 163,000 m³/h 6 ventilation systems total 63,000 m³/h 30 exhaust air systems total 40,000 m³/h 2 absorber cooling machines 400 KW (remote steam).
1997	Kreissparkasse Spree-Neiße Spremberg	Kreissparkasse Spremberg	Renovation and new building behind historical facade from 18th and 19th century. Use as bank head office, offices, practices and flats.	High and low voltage installation, lighting design, complete EDV wiring etc. Heating supply, ventilation, air conditioning technology, sanitary engineering.
1997	Zelg-and Secondary School Wehr	Stadt Wehr	Renovation of the school and extension building for the six-form, School reorganization, central heating reconstruction.	Gas fuel boiler 2 x 460 KW. Pump for hot water heating with radiators. Solar collector plant, sanitary installation with rain water use, electrical installation partly in the cavity floor.
1998	Sto AG Communications Centre Weizen	Sto AG Weizen	Training and communication buildings 2nd basement; technology and training 1st basement; training, seminar area Ground floor; reception. 1st - 4th floors; offices	High and low voltage technology, media technology, room air-technical systems, groundwater use for heating pump cooling ceilings, elevator and conveying engineering.

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1998	Grammar school sports hall, Bad Krozingen	Landkreis Breisgau-Hochschwarzwald	Ground floor; sports hall with 3 tracts. Upper floor; tribune, technology, toilets.	Sport hall ventilation, floor heating, lighting, electro-acoustic systems, sanitary installation/rain water use, connection to local block-type thermal power station.
1999	Schönberghalle Heinrich-von-Stephan-House, Freiburg	Local council, Ebringen Südwestdeutsche Bau-Treuhand GmbH Freiburg	Basement; underground parking. Ground floor; restaurant, practices 1st - 4th floors; offices 5th floor; conference rooms	High and low voltage installation. heating and sanitary systems. Ventilation system with cooling for conference rooms.
1999	Volksbank Hochrhein Waldshut-Tiengen	Volksbank Hochrhein Waldshut-Tiengen	Basement; technology, safe, underground parking, adjoining rooms. Ground floor; old building, businesses (rented), new building, customer area and service. 1st - 2nd floors; offices, executive committee offices. 3rd floor; cafeteria, conference room, offices	160 m long terrestrial heat duct (heating / cooling), customer hall, floor heating/cooling. Office ventilation, planning of ceiling cooling system, ventilation systems with total of 25,000 m³/h.
2000	Central Clinical Research, University of Freiburg	Albert-Ludwigs-University, Freiburg	2nd basement; central technical equipment and installation. 1st basement; SPF animal rooms, infection area. Ground floor / 1st floor; laboratories S1 and S3 2nd floor; laboratories S2 3rd floor; laboratories S2 and S3 4th floor; central technical equipment and installation.	High and low voltage installation with mains back up system. Ventilation and cooling technology for warm and cold area. Sanitary installation with gas supply for H2, CO2, CO2, laughing gas, etc.
2000	Sparkasse Offenburg/Ortenau	Sparkasse Offenburg/ Ortenau	Basement; parking, storage, archives, technology. Ground floor; restaurant, training, marketing, meeting room. 1st - 3rd floors; offices, administration.	Transformer and medium voltage plant (630 kVA). High and low voltage technology. Security and fire alarm, admission control technology. Media and communications technology for PCs. Network technology (active and passive components), structured wiring for approx. 800 working places. Elevator and conveying engineering.
2000	Electricity works Mittelbaden (EWM) Niederlassung Offenburg	Elektrizitätswerke Mittelbaden AG Lahr	New building for administration, a pavilion, offices, executive committee rooms, conference rooms, personal casino.	Facade heating and cooling system, air / water heating pump using environmental heat. Cooling sail with integrated lighting, cavity facade utilizing passive solar energy. EDV and telephone system in fibre optics for 250 working places. Public-address system in 110 V technology. Fire and burglary alarm systems in loop technology, total control of all equipment (lighting, individual room regulation, ELA, video monitoring etc.) via building management system as central control with switches with touchpanel control device for bus network (EIB)

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2000	Cultural forum, Town of Offenburg	Town of Offenburg	Municipal library, school of music, youth art school, initiative 'culture in the barracks', school practical seminar, theatre and concert hall for 400 spectators, urban art gallery showroom / depot, restaurant / gallery café.	Central heating with 1.000 KW, boilers and heating network for 11 buildings, plumbing system, lifting systems, fresh and exhaust air systems. Full and partial air conditioning systems from 4.500 to 13,000 m <sup>3</sup> /h High and low voltage plants. Structured EDV and telephone networks in copper and fibre optics. Fire alarm and flues. Central controlling of all plants in bus technology (EIB). Central fault reporting system for all electrical installations. central control technology with tele-call over telephone network for all heating, ventilation and sanitary installations.
2001	Institute for Pharmacy und Pharmakology, University of Freiburg	Land Baden-Württemberg represented by the university building office, Freiburg	New building 1st - 2nd basements; special area, technology, adjoining rooms, parking. Ground floor; staff and practical course laboratories, library, lecture-room. offices 4th floor; animal area, technology. 1st - 3rd floor; staff and practical course laboratories,	High and low voltage installation with mains back up 350 kVA Transformers each 630 kVA// bus bars, power distribution bars. 2 x 400 KW absorption cooling machines. Laboratory cooling water. plumbing installations with rain water use. Complete softening water treatment plant. Gas supply for N <sub>2</sub> , CO <sub>2</sub> , natural gas, compressed air, etc., autoklaven.
2001	Römerberghalle Riegel	Gemeinde Riegel	Multipurpose hall for sports and meetings.	Approx. 65 m <sup>2</sup> solar heat collectors for heating of industrial water and support of the building heating. Heating system with low-temperature boiler/floor heating in the changing/shower rooms. Air-technical system für hall, kitchen, changing rooms/showers. Exhaust air system for training room and toilets. High and low voltage plant including outside lights, 140 m <sup>2</sup> photovoltaikanlage
2001	Bezirkssparkasse Reichenau	Bezirkssparkasse Reichenau	Basement; storage, technics, parking. Ground floor; customer area and self-service zone, investment advice. 1st - 2nd floors; offices, meeting room Top floor; technics.	Ventilation, displacement (comfort) ventilation. condensing boiler, floor heating and cooling.

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2002	B31-Ost Freiburg-Kirchzarten	Regierungspräsidium Freiburg	Total road length 5,700 m. 2 tunnels with open gallery, length 3,400 m. Kappler Tunnel, Schützenallee tunnel.	6 pumping stations / rain retention basins, 2 water guages, pump equipment / fire fighting water technics room. Room and tunnel ventilation. High voltage technology, normal and emergency lighting, emergency power supply, low voltage technology (Video / ELA / SOS) measurement technology, control technology and engineering. Tunnel radio / barrier system, fire alarm technology. Sensor engineering for detection of dangerous liquids. Central routing technology and industrial engineering. Steel structures within the construction. Fire brigade and emergency route plans.
2002	Wohn-und Geschäftsviertel 'Alt-Offenburg'	Falk-Immobilien Offenburg	Renovation and new (re)building of an old part of town. 87 housing units approx. 5.700 m <sup>2</sup> . Shops approx. 2.600 m <sup>2</sup> effective area. Restaurants, offices, practices, underground parking on 4 levels - 202 bays.	High and low voltage installation. Heat supply / ventilation, sanitary engineering, lifts (9 person and 1 freight elevator).
2003	Clinic for Radiation Therapy, University Clinics, Freiburg	LEG Baden-Württemberg mbH	2nd basement; technology 1st basement; radiotherapy, workshop. Ground floor; reception, treatment, patient's bed rooms. 1st floor, laboratory, treatment, technology. 2nd floor patient's rooms.	High and low voltage technology (4 x 630 kVA transformers). Medical gas supply (CO <sub>2</sub> , vacuum, compressed air, N <sub>2</sub> O). Cooling technology (960 KW), steam supply (1.8 MW), room air technical systems (55,000 m <sup>3</sup> /h).
2003	Friedrich-Husemann-Clinic Specialist Clinic for Psychiatry and Neurology. Buchenbach	Friedrich-Husemann-Klinik Wiesneck e.V.	New two storied building for therapy; New four storied building; 'House Lukas'.	Controlled fresh and exhaust air system for patient rooms with earth warmth exchanger. Solar collector plant for heating and warm water 105 m <sup>2</sup> . High and low voltage technology. Elevator, plumbing engineering and therapy equipment.
2003	Heilpädagogisches Sozialwerk e.V. Haus Tobias Freiburg	Heilpädagogisches Sozialwerk e.V.	5 storied new building. Hilled ground floor; sports and meeting hall, class rooms. 1st. - 3rd floors; living, therapy and administration rooms,	Heating / ventilation / plumbing / electro-technology e.g. common battery. Lighting, telecommunications, fire alarm system, flues, warmth exhaust installation, elevator, ventilation system hall, floor heating.
2003	Friedrich-List-School, Karlsruhe	ECE Projektmanagement GmbH Hamburg	Seven storied lengthy building. Sports hall adequate for 3 coinciding groups, 1400 pupils.	Room air technical system; total 31,000 m <sup>3</sup> /h; classroom ventilation. Connection to municipal heat supply. plumbing installations / rain water use.
2003	Regierungspräsidium Freiburg	Land Baden-Württemberg	Four storied atrium style administration building (75 x 65 x 18 m). Basement: technical area, storeroom, computing centre. Ground floor; cafeteria, meeting room, entrance hall, training room, library. 1st - 4th floors; offices, filing departments.	5 exhaust air systems (each 3,000 - 7,000 m <sup>3</sup> /h). Earth warmth exchanger with concrete pipe diameter 1,500 mm, L = 40 m. Measuring and control equipment systems for ventilation, heating and cooling. 2500 data points, building contol technology. Air cooling refridgeration plants (120 KW) Roof drainage system with pressure pipe streaming. Fat separator plant / pressure increasing system. 2 gas condensing boilers each 370 KW. Convector radiator / floor heating.

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2003	Parkinson Clinic Wolfach	Wolfgang und Angelika Stegelitz	Four storied extension building, with inner atrium as warmth accumulator.	Room air technical systems with earth heat exchanger (15,000 m <sup>3</sup> /h). Gas boiler plant 400 KW, central medical gas supply, high pressure roof drainage system.
2003	Circle Line Schwarzwald-Baar-Heuberg Regio S-Bahn Hochrhein	DB Station & Service GmbH	Redevelopment and new construction of 50 stations and stops.	Electro-technical equipment; lighting and installation of elevators at some sites.
2004	Tunnel improvement programme. Hesse-South / Bavaria / Baden-Württemberg	DB ProjektBau GmbH Frankfurt	33 railway tunnels with 101 tunnel kilometers for the high-speed distances route 1733 Hanover - Würzburg, route 4080 Mannheim - Stuttgart lengths between 1,2 and 10,3 km.	Tunnel emergency lighting; approx.5600 tunnel safety lights, approx.2800 emergency lights. 33 tunnel control centres connected to remote control system MAS 90. Emergency route marking. Elektranten. Characteristics: Partial execution during train service pauses at night.
2004	Römerberg Clinic Badenweiler	Römerberg-Klinik Badenweiler	Main building (1907), extensions (1960/80) 5 normal stories and 2 basements. Rehabilitation clinic with swimming pool, laboratories, moor baths, patient's restaurant and bedrooms.	Improvement of F30-ceilings. New installation of lighting and light signs in escape and emergency routes. Production of missing fire protection requirements and wirings.
2004	F. Hoffmann-La Roche AG Research and Production, Basel	F. Hoffmann-La Roche AG CH-Basel, Switzerland.	Building object for administration, research and production.	Renovation of building 52 - multistoried building - energy concept, civil engineering / technical equipment. Building 72 - laboratory floors. Building 73 - cooling system cell plant. Measuring and control equipment/ fire prevention. Building 75 - Institute for Immunology and Toxicology (Basilea). Air technical system, gauging, regulation und adjustment technology. Overall co-ordination of technical building equipment. Building 64 - 66, 71, 90 - partial re-development. Building 60 - 62, 64, 72, 73 - feasibility study building renovation, etc.
2004	Max-Weber-Commercial School, Freiburg	Stadt Freiburg Hochbauamt	Four storied building with basement; 22 classrooms.	Connection to local heat supply. Conventional heating and plumbing installations. Cooling for IT area. Special characteristic: Measuring and control equipment with bus technology.
2005	Flughafen Frankfurt/Main Critical Parts	Fraport AG Frankfurt / Main	Restructuring of the sensitive parts of the safety area. Construction / modification / demolition of 15 flight gates and approx. 60 transits in Terminals 1 and 2.	140 barrier installations, card reading and x-ray units. Alarm systems, car registration recognition, video monitoring, person monitoring and sentry cabins. Central building control system.

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2005	DRV-Bund (BfA) Rehabilitationsklinik Wehrawald, Todtmoos	DRV-Bund (BfA) Berlin rR Filderstadt	Basement; technical centre, Ground floor; swimming pool - water surface 300 m <sup>2</sup> therapy areas and therapy equipment. Kitchen / restaurant for 300 persons, patient training kitchen. 1st floor; reception / examination rooms / patient's rooms. 2nd floor; examination rooms / patient's rooms 3rd floor; patient's rooms / nurses office. 4th floor; patient's rooms / nurses office. Top floor; technical centre.	Water heating, total 6500 litres. Double softening and reverse osmosis system for the kitchen. Wet / dry fire extinguishing system. Swimming pool engineering. Air cooled cool water producer, 180 KW. Cooling chambers (66 m <sup>2</sup> ), cooling chamber technology, 15 KW. 13 fresh air and exhaust air systems, room air technology, total approx. 117.000 m <sup>3</sup> /h . Remote heat supply from bio-mass power plant. Heating transmission station 2.3 MW. Central building control system.
2005	Diagnostic Laboratory Centre Abu Dhabi United Arab Emirate	Roche Diagnostics GmbH Mannheim	Three storied double building with connecting building. Basement; engineering / parking Ground floor; entrance hall / laboratory / blood bank. First floor; laboratory / administration. 2nd floor; laboratory / offices. 3rd floor; S 3 laboratory / offices. Top floor; engineering centre.	Solar cooling, earth warmth exchanger, room air technology systems, condensed water use, complete sprinkler system, laboratory gas supply, transformer installation, water purification.
2005	Thermic waste treatment und energy recycling plant. Breisgau (TREA) Eschbach	Wayss & Freytag Ingenieurbau AG Hamburg	Boiler combustion plant with 20 t/h. Annual capacity 150.000 for house and trade waste; 4-step emission control.	Room air technology. Sanitary and fire extinguishing technology. High and low voltage supply. Central building control system.
2006	University of Stuttgart Institute for Time Measurement, Fine and Microtechnology. Hahn- Schickard-Gesellschaft e.V. Institut für Mikroaufbautechnik	Universitätsbauamt Stuttgart und Hohenheim	Four storied building; facilities, laboratories, administration, seminar area, library.	Connection to district heat supply. Room air technology systems (5.800/19.500 m <sup>3</sup> /h) Compressed air and vacuum systems. Water purification (softening / reverse osmosis / ion exchanger). Ar, CO <sub>2</sub> , N <sub>2</sub> - supply, laboratory waste water with neutralization system
2006	University of Tübingen, Institute for Experimental Medicine.	Staatl. Vermögens-und Hochbauamt Tübingen	Five storied building. Short term holding of large and small animals. Animal operating theatres.	District heat supply from block heat and power plant. high speed steam generation. Full air conditioning of operating areas. lifts, current supply for the operating theatres according to VDE 0100-710 drainage conception.

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2006	Qingchun Straßentunnel Hangzhou People's Republic of China	Headquarters Hangzhou	Overall length 4,6 km, entrance and exit areas as tubes in open construction; remaining sections with circular cross section.	Complete tunnel operating technology including: - lighting systems and light intensity survey - traffic control systems - elektro-acoustic systems - tunnel radio communication system - data measurement recording - fire alarm systems - video system - emergency call system - power supply -central circuit and remote control technology with hot stand-by computer. - ventilation systems (tunnel ventilation / operating stations) - fire fighting water supply (spray water fire extinguishing system / fire hydrants) - pumping stations - shelter technology for max.10.000 people.
2006	Living quarters, Bettackerstr./ Raimannweg, Freiburg	Freiburger Stadtbau GmbH	95 two - four roomed flats. 70 council flats, 2 underground garages	Biomass energy boiler plant. Technical building equipment according to present standards.
2007	Airport Frankfurt/Main Erweiterung Terminal 1 Lückenschließung Flugsteig A/B Flughafengebäude	Fraport AG Frankfurt/Main	four storied building on stilts within the apron; office and retail area	complete sprinkler system Ventilation & air condition system cooling ceilings high & low voltage installation (fire alarm system; PA system, video surveillance system etc.)
2007	Neubau ICE-Bahnhof Neu-Ulm	DB Projektbau GmbH Stuttgart	Railway building consisting of "bubbles" 2 platforms each 200 m long with stair cases and elevators	Plumbing Ventilation & air condtion systems Building automation (LON-technology)
2007	Landesmesse StuttgartÄußere Verkehrsschließung Anschlussstelle Messe Nord Tunnelbauwerk/Betriebsstation	Pöyry Infra GmbH Fulda	underpass 380 m	tunnel operating technology
2008	St. Josef's hospital Freiburg	Regional Network of Church Hospitals GmbH	Radiology area consisting of conversion: - Nuclear Medicine - MRT / CT / Antiographie - „Central area“ during operation	Renewal air conditioning systems Renovation / Reconstruction of sanitary facilities Upgrading the stock CPS

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2009	Airport Frankfurt/Main New police headquarters	Fraport AG Frankfurt/Main	Four-storey structure, Total area 2.800 m <sup>2</sup>	Part air-conditioner chiller, cooling blankets and fire extinguishing system power sith general power and emergency power supply. Fire alarm system with remote access system, low voltage systems with intercom, cell call system, radio equipment, access control, video surveillance, building automation design of special rooms: cells, quard, control point and multi-purpose room connection to public safety radio communication system
2009	Triton Office building Frankfurt/Main	IVG Asset Management GmbH Frankfurt/Main	10 Upper floors 3 Underground floors Offices, conference, restaurants	Biogas-CHP Cooling blankets Controlles office ventilation Photovoltaic systemes Ice storage absorption refrigeration machine
2010	Office and residential complex Uhlandstraße Stuttgart	IVG Immobilien Management Holding AG, Bonn	Total area 98.198 m <sup>2</sup> Ground floor - 4 <sup>th</sup> floor Commercial / offices / restaurant staff 5 <sup>th</sup> - 6 <sup>th</sup> floor Apartments 635 parking spaces	Fire alarm system Control technology Sprinkler system Emergency lighting system Electrical power compensation plant
2007- 2010	Airport Frankfurt/Main Terminal 1 Redevelopment sanitary installations	Fraport AG Frankfurt/Main	Terminal 1 930.000 m <sup>2</sup> Redevelopment of sanitary facilities and installations	18.350 m Sanitary pipe installations 900 pcs. Sanitary installations Condition assessment of plumbing for 400.000 m <sup>2</sup> Study vacuum sewage systems for total drainage Terminal 1 Renewal sanitary headquarters (Ü3) in operation Complete fire-fighting equipment (ring closure)