



Intelligent building connects people

BBGS is an engineering and service company. It is part of the internationally operating PORR Group and manages projects in Germany, the Benelux countries, Italy, Poland, Romania and other countries within Europe from its various locations.

It has been providing comprehensive services for real estate and infrastructure projects for more than 30 years. Its activities include consulting, planning and execution of building and industrial construction projects as well as infrastructure works. In addition, BBGS takes over facility or energy management for buildings and plants.

Customers are government agencies as well as governmental and international organizations. With comprehensive know-how and many years of international experience, the experts implement the projects according to both European and US standards



Services

Full service from a single source

Building Services

BBGS take over the consulting and planning as well as the execution of turnkey construction services. It does not matter whether it is a new building, a conversion, a renovation or an extension.

The focal points of our work are the following service areas:

- Office and administration buildings
- shopping centers
- · industrial construction
- · infrastructure buildings
- logistics buildings
- · School and training buildings
- Technical building equipment
- Traffic route constructionresidential construction

Adherence to deadlines and compliance with specified budgets are always in the foreground. We attach particular importance to sustainable construction and the fulfillment of special requirements in energy management.

Through our in-house capabilities, BBGS assist our clients with LEED certification and implement special requirements such as Anti-Terrorism Protection and bulletproof installations

Facility Services

BBGS realize the regular maintenance and servicing of individual facilities as well as the management of technically demanding buildings such as hospitals. A 24-hour on-call emergency response defined jointly with our customers are part of our service.

In the area of facility management, we take care of the maintenance and upkeep of the real estate as well as the technical building systems such as heating, ventilation, air conditioning, plumbing or electrical systems. We also carry out all types of carpentry, locksmith, roofing and painting work. Our service portfolio also includes fire protection and ensuring the safety of the respective buildings and facilities.

On request, BBGS's qualified personnel also provide technical services such as gardening and landscaping, servicing of security equipment, cleaning work and the procurement of consumer goods.

Building Services.



Facility Services.



Germany

Restaurant Renovation – P.F. Chang's, Ramstein Air Base



Dining like at home

The U.S. soldiers stationed at Ramstein Air Base should feel completely at home near Kaiserslautern. Not only is there a dedicated shopping center in the immediate vicinity at Ramstein, but the soldiers can also enjoy several restaurants and recreational facilities.

During a 13-month construction period, BBGS experts transformed the former JR Rockers bar into the state-of-the-art P.F. Chang's restaurant.

The purpose of this project was to add a new kitchen area to the restaurant which BBGS coordinated closely with the franchisor. Our experts combined high-quality materials and presented them in a visually appealing way. A special feature is the Mocktail Bar where the menu features mainly non-alcoholic cocktail variations.





Project Facts

Client City/State Project type Realization US Air Force Ramstein Air Base – Germany Complete remodeling of a restaurant 03.2017 – 04.2018

Germany

New building – Elementary School Vogelweh, Kaiserslautern

Strong structure and inner values

In 2016, the consortium "BBGS, Mickan und Steffensky" won the contract for the construction of the Vogelweh Elementary School in Kaiserslautern. In terms of flexibility and accessibility, the school for 650 students – over 25% of whom have disabilities – leaves nothing to be desired. The team perfectly implemented the specifications as part of the US Armed Forces school construction program.

A US property area of 52,000 m² was available in the southwest of Kaiserslautern. The project took place on 15,500 m² gross floor area. In the course of earthworks and site modeling, BBGS removed 200,000 t of soil. BBGS used around one third of the excavated soil for the redesign of the area. BBGS disposed of the remaining 120,000 t that had resulted to be partially contaminated.





Sustainability and safety first

Respecting the US military sustainability goals in this project, BBGS utilized regionally available building materials with a high proportion of recycled material. The concrete, for example, contains 97% recycled materials. Additionally, the colors of all surfaces were light-colored to make the rooms more friendly to the students. Even the rainwater drainage is sustainable: The water runs into underground buffer tanks and seeps into the ground. The rainwater from the roofs is then used for irrigation of the green areas. Green roofs also support water management and improve the microclimate. The project received LEED Silver certification.

In addition to sustainability considerations, the focus for U.S. military buildings is on safety. BBGS therefore opted for a monolithic reinforced concrete construction for the school. The glass facades and the windows have reinforcement steel structures, and special 3-pane safety glazing. Finally, all ceiling suspensions carry additional security features to them.

Construction challenge

The building complex is also impressive on the inside. The Commons, a large common area, forms the heart of the school and is accessible from all major parts of the building. The main entrance is located on the northeast side. Access controls are also located there, as well as the administrative area and information center.

Modeled after an amphitheater, an eye-catcher of the building is the green classroom outside. The generously glazed northwest facade opens the school to the outside and serves as an entrance. Great craftsmanship was required of the team who completed the formwork on the integrated curved stage tower with a beveled top edge. Special approval was required for the arrangement of the attached clay tiles on the exterior and interior facades.



The design for The Neighborhoods, the adjoining buildings on campus, has a similar design as the one for the main building. The common area, which consists of several learning studios, is a multifunctional meeting place. The studios are extendable into this area as desired using mobile partition walls. The children have access to group and individual rooms, art and music rooms, as well as a spacious gymnasium. In view of the large kitchen that complies with U.S. hygiene standards, no one is sure to go hungry here either.

Project Facts

Client
City/State
Project type
Realization

Landesbetrieb LBB - Idar Oberstein Kaiserlautern - Germany New construction of an elementary school 09.2016 - 08.2019

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Germany

Building conversion Smith Barracks, Baumholder

Old building transformed into modern, barrier-free facilities

The BBGS team began remodeling three buildings in the secured area of Smith Barracks in Baumholder in October 2020.

The Rhineland-Palatinate garrison town is home to one of the largest U.S. military installations outside the United States. Around 8,000 service men and women and 5,500 family members live in the U.S. garrison named "The Rock." In addition, there are about 900 civilian employees who support the garrison. A few years ago, the U.S. government announced that it would invest a three-digit million sum in modernizing and refurbishing the base.





The safety for people and buildings is above all

Two of these many sub-projects involved the conversion of former 4-story troop accommodation buildings, each with around 2,300 m² of gross floor area, into office buildings for special units of the US Army. BBGS gutted out the old building almost completely, and designed new room layoutstaking into account structural requirements. Then BBGS designed open-plan offices, meeting rooms, kitchenettes, sanitary facilities – some of them barrierfree – as well as equipment storage and technical rooms. Each gable end with steel staircases with handicapped-accessible elevators. Windows, skylights and exterior doors were replaced with Anti Terrorism/Force Protection (AT/FP) () security components.

BBGS installed and expanded the entire building technology system to include an access control system, intrusion detection systems, video surveillance, and fire alarm/hazard detection and sprinkler systems.

The third conversion project involved an existing administration building with a gross floor area of around 2,050 m², which also had to be adapted to meet the high security requirements of the special unit. The building received ATFP windows and exterior doors, among other renovation works.

Absolute reliability is mandatory in cooperation

To comply with customer requirements, the plans and specifications met the strictest requirements from the relevant German and American laws and regulations. The project managers faced multiple challenges finding solutions for the supporting structures, overcoming structural deficiencies of the existing buildings, and applying correctly the applicable regulations. Through its multiple years of experience with the US Government, BBGS successfully finalized the plans and specifications in time for construction. The fact that the plans were available in accordance with the contract and on time before construction work began is due to the many years of experience with contracts for the US government.

Project Facts

Client
City/State
Project type
Realization

US Army Corps of Engineers

Baumholder – Germany

Building conversion to an office building

10.2020 – 09.2022

Netherlands

General renovation of several warehouses, Eygelshoven

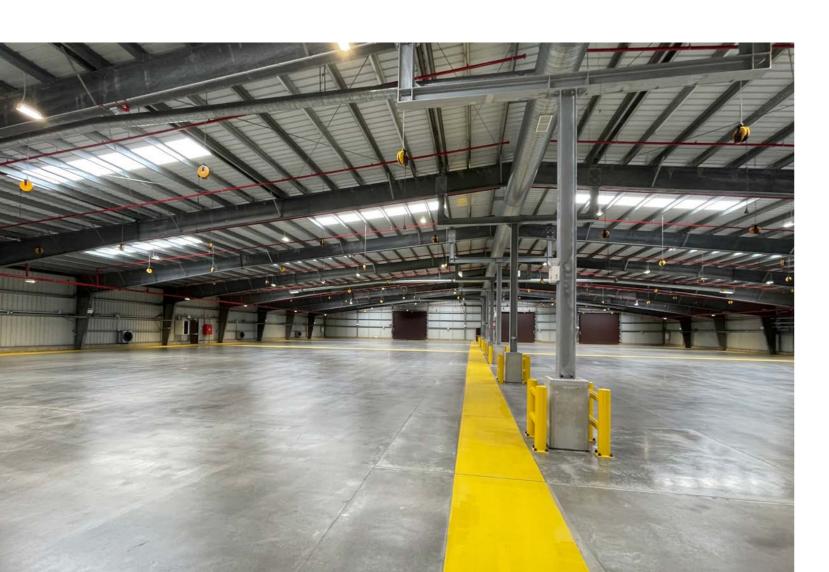
Complete renovation – from planning to turnkey delivery

BBGS won a design & build project in Eygelshoven, Netherlands:

The contract included holistic project management for a complete renovation, including roofs and walls, of 13 existing warehouses at the U.S. base. Each hall is approximately 3,700 m² in size.

In addition, a new ventilation system integrates into extract the harmful gases produced by the military vehicles during operation in the warehouses. The ventilation system consists of an independent ventilation control with integrated gas detection system, and connects to the existing dehumidification system of the building.

Other system integrations included in the order included new electrically operated sectional doors, personnel doors and a lightning protection system.





Customer requirement recognized and reliably implemented

It was important to the client that their project ideas translated into a constructible design, which was responsive to the needs of the stakeholders. The BBGS team understood the requirements and developed a design according to all the client's technical, cost, and time requirements. This created an attractive overall solution for the client's needs, starting with the design and ending with the execution and handover.

The project complies with the strictest EU and US standards and provides the customer with solutions for cost savings in the various design phases as well as in execution. The installed mechanical system is fully interconnected with the existing systems in the building and contains Building Management System (BMS) expansions.

A key challenge was to find methods to preserve the existing building structure without adding new supports. Through clever engineering and complex calculations, the experts managed to preserve the usable space within the warehouses without requiring excessive structural changes. Transparent communication, consideration of the latest building codes, and early identification and resolution of problems during the design phase won the client's trust and completed the project to their complete satisfaction.

Project Facts

Client
City/State
Project type
Realization

US Army Corps of Engineers Eygelshoven – Netherlands General renovation of several warehouses 2019 – 2020

Italy

Planning & realization of a covered veranda, Livorno Air Base





Italian culture for American customers

In a design & build project, BBGS constructed a prestigious covered area near the main entrance of "Camp Darby" in Livorno, which is regularly used for official events and ceremonies. The construction works did not interrupt the ongoing bar operation. The roofing made of aluminum serves as rain and sun protection and creates space for a comfortable stay before and after work as well as during breaks.

The project scope included the redesign of the outdoor areas and the construction of walkways made of interlocking pavers. The installation of a rainwater harvesting system ensures good maintenance of the green lawns.

Project Facts

Client RCO Livorno
City/State Livorno Air Base - Italy
Project type Planning & realization of a covered veranda
Realization 03.2017 - 04.2018

Italy

Renovation of a warehouse with office wing, Livorno Air Base



Tight time frame for converting a warehouse into a vehicle maintenance hangar

BBGS converted an original materials warehouse into a vehicle maintenance hall for trucks and other vehicles. The scope of the complete renovation, in compliance with historic preservation requirements, was extensive. It included interior demolition, replacement of industrial flooring,

replacement of sliding industrial doors, roof renovation, renovation of office and sanitary areas, and electrical and fire protection systems. In addition, BBGS redesigned the exterior areas where it constructed two new access ramps to the hall.

Project Facts Client RC0 Livorno City/State Livorno Air Base - Italy Project type Renovation of a warehouse Realization 03.2017 - 04.2018

Poland

Planning & renovation of a listed vehicle maintenance hall, Poznan





In compliance with historic preservation guidelines, BBGS executed a design & build project in Poznan, Poland. The aging building, a former vehicle maintenance facility of the Polish Army, was handed over to BBGS in a state in need of major renovation.





The multifaceted and challenging renovation project included the following tasks:

- Demolition of the entire internal electrical and mechanical installations
- new electrical and telecommunication installation
- · installation of a new fire alarm system
- · new HVAC and plumbing installation
- industrial epoxy flooring in the maintenance hall and electrical and IT rooms
- · renovation of windows and facade
- · replacement of doors and sectional doors
- replacement of the old suspended ceiling with a modern fire protection ceiling
- · Mobile crane delivery and installation
- finishing works: new bathrooms, plastering & painting, tiled ceilings, PVC floors

After a ten-month construction period, the building shone in new splendor, with the previous design implemented in relation to both American and Polish regulations.

Project Facts

Client US Air Corps of Engineers
City/State Poznan - Poland
Project type Planning & renovation of a listed vehicle maintenance hall
Realization 2019 - 2021

Poland

Design & construction of a bridge for heavy traffic, Sagan

Reinforced concrete bridge over the river Kwisa

Bridges connect, not only sections of land, but also people. The bridge construction project "Construct River 'Kwisa' Crossing" demonstrates this fact. BBGS performed the project works in cooperation with PORR Polska: with experts from PORR Polska responsible for planning and the experienced team from BBGS responsible for construction. The client was the U.S. Army Corps of Engineers.

The project involved the construction of a reinforced concrete bridge over the Queis River (Kwisa in Polish) on the Polish military site in Sagan, which is also a US troops' mobilization and exercise area.





In the Polish town of Sagan, a military training area is located in the area of the Queis River. Until now, military vehicles traveling in the area had crossed the river directly through the water. However, when the water level was high, the crossings were difficult. For this reason, a bridge would allow military equipment to cross the Queis safely and at any time

Cross-national competencies from a single source

For the construction of the steel bridge, an indirect foundation consisting of precast piles with a total length of 38 and a length of 10 m each already existed in advance. The width of the abutments is 1 m with a height of over 6.50 m. In addition, the BBGS team installed seven pre-stressed concrete girders with a span of 25 m. The weight of each girder is 28.3 t. A crane with a lifting capacity of 300 t was used to erect the structural elements. In addition, three turning areas with an area of 523 m² were built from fiber-reinforced concrete. The length of the constructed ballast approaches on both sides of the bridge is approx. 400 m.

Special challenges: Weather conditions and access roads of poor condition

The team on site worked under difficult weather conditions, as much of the work took place in winter. In addition, there was another task: right at the first site inspection, the team noticed the poor condition of the existing access roads. The solution: As part of the infrastructure preparation prior to the start of the project, BBGS reinforced community and forest roads over a length of 800 m. This ensured that the construction site could be reached safely even in bad weather conditions.

Project Facts

Client City/State Project type US Air Corps of Engineers Sagan – Poland Planning & new construction of a bridge

Realization

for heavy traffic 2020 – 2022

Safety & Health have top priority for us

The well-being and safety of all employees are the basic prerequisites for our success. BBGS consistently comply with the respective "Host Nation" and "US" regulations. For us, the strictest ("most stringent") standard applies in all areas. For example, fall protection: According to German regulations, fall protection is to be installed from a fall height of 2 m. According to the stricter American regulations ("OSHA" and EM385-1-1), this is already 6 ft, which corresponds to about 1.83 m ("most stringent").

BBGS prepares risk assessments as required by law for every subcontractor for every activity. BBGS goes a step beyond that. Not only do we check to ensure the risk assessments are in place, but we also request them actively from every subcontractor on our construction site. BBGS discusses the risk assessment with each subcontractor, and preforms improvements as may be necessary. BBGS then define safety measures for the construction site.

BBGS prepares a project safety plan ("Accident Prevention Plan") for each project individually. The Accident Prevention Plan defines the measures and responsibilities so that everyone involved in the project knows their role with the associated responsibilities. Every BBGS employee has the right and obligation to stop hazard work that may pose health or safety risk on our employees and subcontractors. BBGS coordinate the work of the individual subcontractors in such a way that no hazard occurs from overlapping activities. If it may not be possible to separate different companies / trades in terms of time or space, strict protective measures are defined to prevent the hazard

Our site managers have completed comprehensive safety training that goes beyond the legal requirements. This training is designed for a Host Nation occupational health and safety specialist ("Occupational health and safety training in accordance with RAB 30, Part B") or special training that introduces them to American occupational health and safety regulations.

With these expanded skills, they check on a daily basis whether there are any violations of applicable occupational health and safety regulations or whether they can enhance occupational health and safety by changing work processes and procedures. Thanks to their knowledge, our employees on site are also competent contacts for our customers if they have questions about occupational safety.



We take Responsibility

As a company, we build for generations and shape living environments –from and for people. Sustainable action is an essential part of our social responsibility and at the same time the foundation of our success. It gives us a clear competitive advantage and covers all economically, ecologically and socially relevant aspects.

Our strategy for sustainable construction

Due to the high consumption of energy and resources in the construction industry, the impact of business activities on society and the environment is both high and diverse. They require thinking globally and with an eye to the future. PORR and its subsidiaries live up to this responsibility. The basis for this is our holistic sustainability strategy "Green and Lean", which bases on the three pillars of environment, social affairs and governance. The most important fields of action derive from the materiality analysis and reflect the three dimensions of sustainability.

The principles of sustainable corporate management anchor in the PORR sustainability strategy. Detailed information on project progress, initiatives, and success stories is provided in the annual sustainability report.

ESG: Sustainability and transparency in practice

PORR pursues ambitious and clear goals in terms of sustainability and is expanding transparency in a gradual manner. This commitment has been recognized by the international sustainability agency ISS ESG. PORR, to which BBGS affiliates, has repeatedly received a C+ Prime status. For the assessment, ISS selects more than 100 industry-specific criteria along the Environmental (E), Social (S) and Governance (G) pillars as part of the ESG rating.



Economy

We strive for sustainable economic success.



Environment

We focus on future-oriented construction.



Social

We focus on the well-being of all our employees.

Our quality promise

BBGS applies the three-phase method for quality control as designed by the US Army Corps of Engineers (USACE)

This ensures that the quality standards of planning and execution are in line with customer specifications and expectations.

1. Preparatory Phase

In this phase, all materials that will be installed during construction are selected and approved in advance in a sampling process with coordination with the customer. Necessary tests, which later verify the required quality of the execution, are already determined at this phase. As a rule, contractors perform this phase by means of a preparatory meeting between the site manager, the quality manager and the subcontractor carrying out the work.

2. Start Phase (Initial Phase)

This phase begins directly with the start of the respective work or the first appearance of the subcontractor on the construction site. Contractors discuss once again the already defined work processes, approved materials, and necessary tests. In this phase, contractors can still correct impending errors in the execution and costly corrective measures are thus prevented.

3. Implementation phase (follow-up phase)

In the ongoing process of execution, contractors make constant checks to ensure that they perform the works in accordance with the discussed and defined specifications, and that the completed work has been checked against the planned tests.







The quality control (QC) manager responsible for the project draws up the project-specific quality plan in which they define the three phases for all trades. The employees of BBGS have gained extensive experience with this special type of construction through their training and many years of work. Thus, our construction managers are qualified to perform the position of QC manager within the scope of their duties and, as is customary for larger construction projects, to perform this task on a full-time basis for each project.

The aim of BBGS's Quality Control (QC) system is to ensure compliance with contractually agreed quality and assurance requirements. To ensure this, BBGS systematically integrates both subcontractors and suppliers into the quality process procedures.

In Design & Build projects, where the execution planning is a contractual part of the service, this quality process already starts with the selection of the planning team. Here, the quality manager is supported by a specialized "design QC manager" who, among other activities, carries out a check of the individual planning steps before submitting the planning to the customer or the building supervisory authority for review.

The quality of the service, both in planning and execution, is one of the main pillars of success. In order to be able to guarantee this in the long term, the BBGS team members receive regular training through external courses and internal workshops.

Locations



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