Press Release
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Grandstand-style campus realized in a short construction period

UTEC University Campus, Lima, Peru

With the help of a customized PERI formwork and scaffolding solution, a new university campus is being constructed in the capital of the South American country of Peru – complete with high architectural requirements as well as having to maintain a short construction period.

In Barranco, Lima´s southern district, a new campus for the UTEC University (Universidad de Ingeniería y Tecnología) is currently being realized. 10 upper floors provide space for lecture halls, event locations, laboratories, along with administrative facilities and professors´ offices. In addition, the complex includes a dining hall, a generously-dimensioned cultural centre with exhibition rooms as well as a library with panoramic views of the city and the Pacific. Parking decks and utility rooms are located in the two basement levels..

The building complex is in the shape of a huge arena: to the north in the direction of the motorway, the reverse-inclined outer facade has the effect of a steep, artificial cliff. To the south, the almost 50 m high structure is cascades downwards in a series of steps – similar to that of a grandstand in a sports stadium. The lecture halls of this architecturally ambitious project are also oriented in a southern direction.

High requirements – short construction time

In the space of only 15 months, 40,000 m³ concrete and 4,500 t steel have been brought into the required shape. In order to realize the extremely tight construction schedule using economic means in spite of having only three cranes at their disposal – crane capacity having been reduced because of space reasons – PERI´s Peruvian engineers developed a comprehensive, project-specific formwork and scaffolding solution. The fact is that not only the provision of correspondingly large quantities of materials but, above all, the selection of the correct system in each case to meet the different requirements is a crucial factor.

Wall formwork and climbing system

The lightweight LIWA and DOMINO panel formwork systems can normally be handled manually with very little effort which, for example, reduces crane utilization for shuttering the walls – whilst simultaneously guaranteeing fast

forming times. For the construction of the reinforced concrete walls with high architectural concrete requirements, the VARIO GT 24 girder wall formwork achieved optimal results. In combination with the CB climbing system, the platforms and formwork have been moved as single climbing units in one crane pick. This also shortens crane and construction time respectively

Slab formwork and shoring

The slab formwork concept developed by the PERI engineers is based on the MULTIFLEX girder slab formwork, supported by lightweight aluminum MULTIPROP slab props and PERI UP Rosett shoring towers. As a result, the grandstand-style, staggered floor slabs with varying floor plans as well as different slab thicknesses and floor heights could be optimally constructed. The high loads generated have often been transferred over several storeys by means of the PERI UP scaffolding especially in the area of reverse-inclined north facade. In addition, cantilever-mounted bracket units also serve here as erection areas of the shoring for subsequent floors – using standardized, rentable system components taken from the VARIOKIT engineering construction kit.



Image 1
With the help of the customized PERI formwork and scaffolding solution, a new campus complex is being realized in Lima – with high architectural requirements and a tight construction schedule.
(Photo: PERI GmbH)



Image 2
The loads resulting from the parapets, beams and slabs are reliably transferred by means of PERI UP Rosett shoring, also over the distance of several storeys.
(Photo: PERI GmbH)

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Image 3
Flexible in three dimensions: the 25 cm modular grid of the PERI UP system allows optimum adaptability to suit the wide range of geometries and loads.
(Photo: PERI GmbH)



Image 4
The grandstand-style arrangement of the floors, along with the reverse-inclined north facade, required very detailed formwork and scaffolding planning by the PERI engineers.
(Photo: PERI GmbH)



Image 5
VARIO GT 24 and CB climbing platforms complement the PERI concept and provide a comprehensive project solution.
(Photo: PERI GmbH)



Image 6
The grandstand-style, almost 50 m high university campus building has the effect of a steep, artificial cliff when viewed from the motorway, and cascades downwards in a series of steps in a southern direction.
(Illustration: Gafton Architecs)

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