

An Extension for ESO Headquarters

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The ESO Headquarters was completed in 1980, but is now too small to house all the ESO staff and currently only about 50% reside in the original building. A decision was taken to seek an extension to the Headquarters building in close proximity to the current one and a competition was launched for architectural designs. Three designs were shortlisted and the process of selection for the final design is described. Construction will begin in 2010 and is due for completion in 2012.

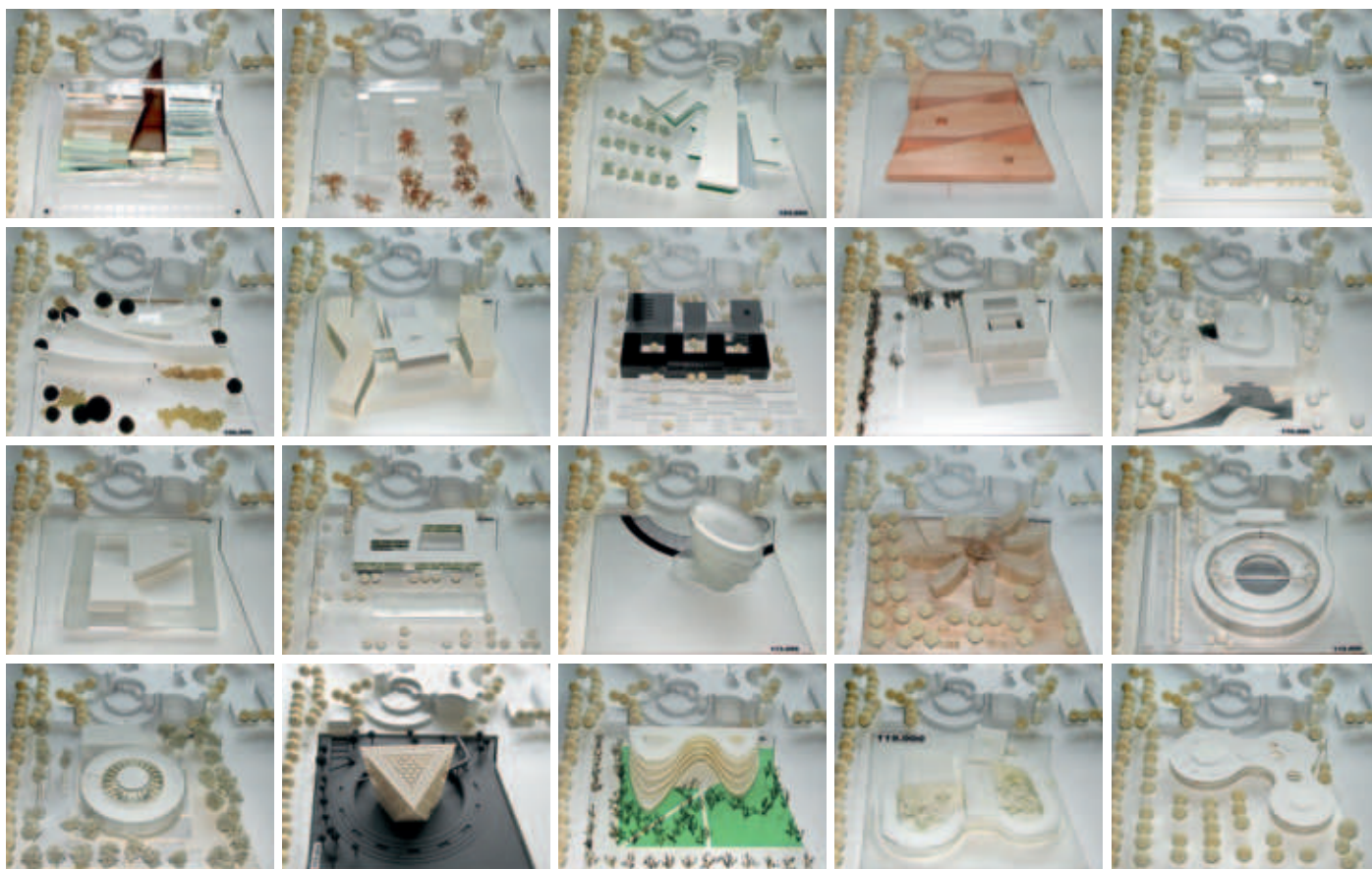
When ESO moved from temporary offices at CERN, Geneva, in 1980 there were a total of 40 staff members. The Headquarters building was designed by the architects Hermann Fehling and Daniel Gogel,

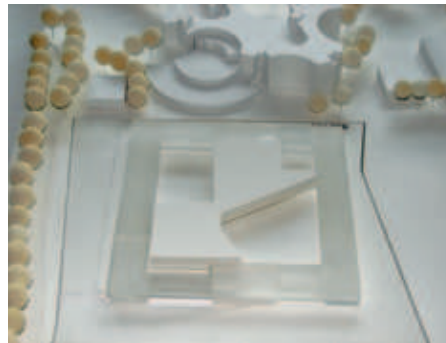
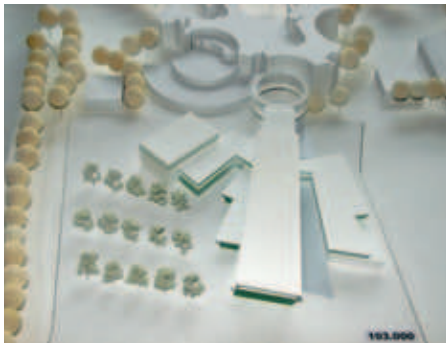
who also designed the neighbouring Max-Planck Institute for Astrophysics. It had 120 offices, an auditorium, workshops, laboratories and storage rooms. The generous curves and lack of 90-degree corners are two of its defining characteristics. The original building had four floors and some basement area. By the end of the 1980s, however, with the gradual increase in numbers of ESO staff as the number of telescopes at the La Silla Observatory increased and with the development of the Very Large Telescope (VLT) project, the addition of a fifth floor was necessary. When the VLT became operational in 1998 and as more ESO member-state countries joined, more staff were recruited; the need for more offices had to be satisfied by a pre-fabricated office block ("portakabin") in the car park. As more VLT Unit Telescopes came online, new instruments were commissioned and the ALMA project entered its planning phases, staff numbers increased again and a second temporary building had to be erected. In addition, offices were rented from the Max-Planck

Institute for Plasma Physics in a building located about four minutes walk away from the Headquarters. In 2007 more offices were rented from the Max-Planck Institute to house the ALMA staff, whose numbers were increasing rapidly during the construction phase. By the end of 2008 the ESO "campus" consisted of the Headquarters building, two temporary buildings and two locations of rented offices with a staff complement of 444, only 230 of whom were actually located in the original Headquarters building.

The difficulties of working closely on joint projects with offices spread over an extended area were not just perceived. In 2007 a decision was made to try to improve the scientific atmosphere by bringing all faculty astronomers, fellows, students and science visitors together in the main building. Logistically this proved possible only for a short while and new

Figure 1. Montage of the 20 entries for the Architectural Competition for an extension to the ESO Headquarters.





scientific staff, e.g., for ALMA, are increasingly located in offices in the ALMA building. The situation is exacerbated by the small number of meeting rooms and the limited size of the auditorium, which can only seat about 100. The instrument assembly hall and laboratories are also too small for the level of development and the typical size of second generation VLT instruments. An important issue was the need for further expansion after the European Extremely Large Telescope (E-ELT) design study was approved in 2007 and a substantial increase in scientific and engineering staff is required to develop Phase B (see Spyromilio et al., 2008). In order to improve communication and the proximity of the science, operations, engineering, software and administration groups working towards common goals, to raise the team focus and to provide ESO with a hallmark building that embodies its profile, an increase of office, conference and workshop space by an extension to the present Headquarters building was proposed. Provision of an extension to the existing building was confirmed by the ESO Council.

Architectural designs

The specifications for an extension to the ESO Headquarters building were defined with careful consideration of future expansion and enhancement of the current facilities and a Call for Tender for architectural concepts was drawn up. This was sent to 24 architectural offices in the ESO member states on 11 July 2007 with a deadline for entries of 24 September. An international jury consisting of eminent architects, representatives of the town of Garching and ESO was constituted to judge the designs. Twenty responses to the Competition were

received and all are shown in Figure 1. The jury assessed the designs, and awarded two first prizes (€25 000 each), a third and a fourth prize (€15 000 and 10 000 respectively) in October 2007. One additional very innovative design, which did not however meet the local building regulations, was recognised with a “purchase” prize (€5000).

The top three prize-winning concepts, shown in Figure 2, did not fulfill all the requirements and further technical clarification was required, such as the link to the current Headquarters building and the realisation of the instrument assembly hall/laboratory complex (whether as a separate building or integrated into the extension). The baseline proposal would only have been sufficient to provide 476 work places together with the current Headquarters building. Given the expected increase to 520 by the time of completion, an expansion of 1100 m² was considered necessary. The new office and conference extension would then provide a total floor area of 9500 m² and the technical building 2900 m². For comparison the existing building has a floor area of 10 200 m² and the storage hall a surface area of 770 m². Thus the extension almost doubles the existing area of the current Headquarters building. By the time the new building is completed, the current one will be more than 30 years old and is in need of major maintenance and upgrading; it was decided to include this upgrade in the revised concept. This concept was then submitted for revised tender to the three prize-winning architectural firms with a closing date of 13 June 2008 with the aim of achieving “one signature headquarters”. A fixed fee of €75 000 was awarded for each submission.

Initially it was planned to build the extension to the south of the current building

Figure 2. The three prize-winning architectural concepts for the Headquarters extension building in their revised form. Left: Koch and Partner, Germany; Centre: RISCO, Portugal; Right: Auer + Weber, Germany.

(see the aerial photograph on p. 26 of *The Messenger* 130) and the original competition had specified this position. This land is owned by a consortium of local farmers. However negotiations could not be concluded by the time of the revised tender and it was decided to site the building to the southeast on land owned by the Max Planck Society. The rent for this land will be paid by the German Federal Ministry of Education and Research, just as is done for the land on which the current building is sited.

Final selection

In the final round of the selection process, the three prize-winning architects could revise their original concepts to take into account the decision to have two buildings as part of the extension — separate office and workshop/integration buildings. The three concepts were assessed between June and October 2008. On 28 October the ESO Contract Award Committee agreed that the design by Auer + Weber best met all the high level requirements by providing, in particular, the very important parameter of one signature ESO Headquarters building. This recommendation of the committee was approved by the ESO Council on 2–3 December. The same architect’s office was also responsible for the award-winning design of the Paranal Residencia.

The new extension

The first concept submitted by Auer + Weber was already marked out by its



Figure 3. Ground plan of the Auer + Weber design for the ESO Headquarters. The single circular building to the north is the technical building.

harmony with the existing building; the revised concept further emphasises the impression of community between the two parts. There is, in close reference to the original design by Fehling and Gogel, extensive use of circles and this is taken

further in the dimensions of several aspects, such as internal light wells that are identical to those of the ESO telescope mirrors (2.2, 3.6 and 8.2 metres). The two buildings will be connected by an enclosed bridge whose length is on the natural axis of the current building (see Figure 3). Figure 4 shows an artist's impression of the new building from the southwest. The workshop and integration

laboratory is a circular building and, although separate, will be accessible by a tunnel from the existing building. A large cleanroom will be housed within the workshop building.

As part of the process of approval for the building plans, a presentation to the local authorities took place at ESO Garching in December 2008. The ESO Director General Tim de Zeeuw outlined the reasons for seeking a new building and the proposed architectural solution was presented by Professor Fritz Auer from the office of Auer + Weber. The planned extension received the full support of the town of Garching and the District Office of Munich.

The final aspects of the design are currently being agreed and construction work is expected to begin in early 2010, with the new extension ready for occupancy in 2012. With the ESO flag flying above its signature Headquarters, the staff will be in pole position to manage the current activities — La Silla Paranal Observatory, ALMA, construction of the E-ELT — and to forge the next large astronomy project.

References

Spyromilio, J. et al., The Messenger, 133, 2

Figure 4. Side view of the Auer + Weber design for the ESO Headquarters extension from the southwest.

