

HARRY VAN DER LAAN, ESO Director General, 1988–1992

From SEST to ALMA, from NTT to OWL: Of Vision, Dreams and Realities

ESO has come a long way since in 1987 the first rocks were blasted at the NTT site on La Silla. Those were exciting days, when SEST came online and soon after the VLT programme was getting up to speed upon its approval in December 1987. It was not an easy time for staff or management: taking up the role of main contractor for its own design and construction programme rather than finding an industrial consultant to do so was an enormous challenge. It was not obvious that it could be done, for more than ninety per cent of ESO's staff capacity was occupied with running La Silla, operating Headquarter services and constructing the NTT. The VLT Blue Book and the bag of money Council had allocated to its realization were necessary but by no means sufficient. For the new, formidable task, manpower had to be found and trained, manpower both reassigned and newly recruited.

Change inevitably meets resistance in both staff and community. For astronomers in member states the VLT was a faraway dream that could not help current Ph.D. projects or further institute ambitions within their normal timeframe. Reductions, of services, of instrumentation and of telescopes were therefore opposed, now and then vehemently. For staff, ends of contracts or reassignments often seemed unfair and misconceived: was their current work not valuable, their normal effort not in demand? The NTT proved crucial for both sorts of objections. It enabled me to introduce the La Silla Key Programmes very early in my term, providing unparalleled opportunities for trailblazing research of a scope until then not possible in Europe. The very positive response to this initiative made inevitable economies on La Silla more palatable; the resistance faded.

Technically and contractually the NTT proved a great learning process for the job, thirty times or so bigger, of designing and constructing the VLT and the Paranal Observatory. The entire process of generating the engineering specifications, the contractual conditions and the financial arrangements was developed to a very professional level that withstood critical tests in very competitive circumstances. When we signed the contract for mirror blanks with Schott in September 1988, I was confident that we were up to the challenge. Of course, the troubles ahead, managerial, technical, financial and above all political, were not all anticipated, but they were resolved as they came along. An example is the summer of 1991. From several directions con-

certed actions tried to break up the main structure contract into at least three pieces. Summer weeks were spent in design reviews of the main structure tenders, an operation whose motive was to meet political objections in a technical guise. The exercise was well worth it, as the performance of the unit telescopes has by now amply demonstrated: the affordable Italian bid for realizing the ESO double-track design prevailed in the end.

Such troubles are, I believe, a normal and inevitable feature of major international projects, although they have a peculiar flavour in European organizations.

The site decision was of major significance and did not come lightly. Before coming to ESO, I chaired the Site Selection Working Group and was convinced that the Paranal area, in the heart of the Atacama Desert, was much superior to the La Silla region. Both

Paranal's number of clear nights and the amount of superb seeing, ground-based optical astronomy's most precious asset, were without precedent. That building the VLT on ESO's La Silla territory had countless logistic, operational and hence financial advantages was as clear to me as it was to administrative Council- and Finance Committee members. But unlike them, I could assess the science-added value of going North and it far exceeded the extra costs and trouble. All powers of persuasion had to be mustered but in the end science won over short-term economy and convenience.

Today the Paranal Observatory is a towering witness to astronomical persistence, engineering skills and ESO staff dedication. Europe will be in the lead for many decades to come in exploring the Universe from there, the finest cosmic discovery base yet devised by man.



The 15-m Swedish-ESO Submillimetre Telescope (SEST) at La Silla.

The VLT, even its VLTI-mode, is not the end of ESO's journey; rather their quality brightens the prospects for further ambitions that reach for the stars. A key role in ALMA is called for and is bound to unfold in the next twenty years. OWL is a dream as the VLT was twenty years ago. Twenty years from now it shall, in some rendition reminiscent of the current dream, amaze the world once more. Because 'A vision is a dream with a deadline'.

ESO was Jan Oort's vision fifty years ago. This vision had great power and has propelled our community to a sequence of extraordinary achievements. With ESO, Europe is first to reach for ultimate frontiers. It's what our political leaders in a recent Lisbon summit called for.

On February 6, 1990, the ESO NTT was officially inaugurated.



RICCARDO GIACCONI, ESO Director General, 1993–1999

I feel privileged in having had the opportunity to lead ESO during a period of great innovation and expansion. Building on thirty years of heritage, working together with an extremely competent staff and with the full support and cooperation of the ESO member states, we were successful in many endeavours. They include the construction of the Very Large Telescope and the development of Paranal, the mod-

ernization of the La Silla Telescopes, the introduction of new managerial and scientific methodology, the expansion of the Education and Public Outreach programmes and the start of the VLT interferometry development. By achieving success in all these areas we established ESO as a model for optical ground-based facilities around the world and redefined the role of ESO in European astronomy.

Today ESO is busily proceeding in the scientific exploitation of the VLT, in completing development of VLTI and is cooperating on a 50/50 basis with the US and Canada on the Atacama Large Millimeter Array, the largest ground-based astronomy programme yet undertaken. I am confident that ESO can lead an international cooperative effort on the next-generation overwhelmingly large telescope (OWL).

CATHERINE CESARSKY, Present ESO Director General

I arrived at ESO at a very interesting time. I had the privilege of witnessing the first light of Melipal and Yepun, of overseeing the installation of UVES, NACO, VIMOS and FLAMES at the focus of VLT telescopes, and of celebrating the first fringes of VLTI, first with siderostats and then with 8-m telescopes. The harvest of scientific results with the two FORS, ISAAC and UVES is already impressive, and the efficiency of the Paranal Observatory is astounding. ISAAC and UVES both have features unequalled at any other telescope; with NACO, we have the best adaptive optics instrument ever, nearly ready to be offered to our community, while VIMOS and FLAMES are showing their promise in the current commissioning activities. The VLT archive is open and attracts more and more users, a good omen for the Astrophysical Virtual Observatory. Meanwhile, the La Silla Observatory has also been very productive and has undergone huge improvements, coming closer and closer to VLT standards.

In parallel, these three years have been filled with work and meetings in preparation for the next large project, ALMA. Wide collaboration with the European millimetre and submillimetre wave observatories and laboratories, use of all the available expertise and pooling of the forces, and a well coordinated sharing of tasks with our American colleagues, have brought about considerable progress of the project during Phase 1. Now, Phase 2 is about to be launched. Negotiations with the USA and Canada, Chile, Spain and Japan are all converging on time.

Also, faithful to its original purpose, ESO is preparing the long-term future in ground optical/infrared astronomy, with the conceptual study of the OWL 100-m telescope. All these developments – from VLT instruments to VLTI to ALMA and in the future studies for Extremely Large Telescopes – require and foster an ever-growing involvement of other European groups, who are no longer just users but also full fledged collaborators.

The past three years have seen the emergence of ESO as a major player on the European scientific scene, in which role it is actively contributing to the establishment of the European Research Area advocated by Commissioner Busquin. The organization has acquired two new member states, Portugal and the United Kingdom. Council has unanimously endorsed a long-range plan allowing continuing the deployment of VLT and VLTI while starting the construction of ALMA on an equal partnership with North America. Several other countries are considering or negotiating adhesion to ESO, and in the mean time Spain is participating in ALMA with the ESO member states. Contacts and exchanges with six scientific European organizations and with the European Union have been strengthened through the creation of EIROFORUM; with ESA in particular the cooperation has been greatly enhanced in the perspective of a tighter coordination of space- and ground-based astronomical research.