

EIE and the ALMA Project

By Prof. C. Cesarsky – ESO DG 1999-2007

I became DG of ESO a short time before the assessment of the replies for the call for tenders for the prototype antennas for ALMA (Atacama Large Millimeter – Submillimeter Array). One of the very first decisions I made, was to select the bold design of EIE, based on technologies developed for optical telescopes, and in particular for the ESO Very Large Telescope, while the competitors used previous experience acquired when building radio telescopes. It was not an easy decision, but I never regretted it.

I first met Mr. Marchiori in my office at the ESO Headquarters in the year 2000. He was accompanied by Mr. Pietro Marietti, official to the Italian Foreign Ministry. The first stage of the ALMA project had started with the realization of the three prototype antennas, European, American and Japanese. The meeting was not an easy one, as there was a thorny problem to solve. The Italian company Costamasnaga, which had with EIE signed the contract for the realization of the “European prototype ALMA antenna”, had just announced a bankrupt proceeding. It was necessary to find a swift solution, the importance of the project and the international context in which we had to move did not admit delays.

And indeed a solution was found in the short term with the substitution of Costamasnaga by the French company ALCATEL. From that moment on the project followed a regular progress and the performances obtained by the prototype installed at the VLA site in Socorro – New Mexico, clearly established the antenna potentialities, thanks in no small part to the innovative technology solutions brought by EIE.

Anyway the events related to ALMA construction were not over. In 2004 ESO issued the Call for Tender for the design and the realization of the 25 (plus 7) European Antennas. The wish of being part of one of the most ambitious radio-astronomy projects worldwide triggered both European and International competition. A massive quantity of offers, evaluations, clarification meetings, negotiations to meet budgetary constraints followed impressively thereafter.

I remember that during that period I ran into Mr. Marchiori at an international conference, we exchanged over the successful performances of the prototype and in general about the ALMA situation which I described as “my nightmare”. In the end, in December 2005, I signed with the European Consortium (AEM) formed by Alcatel Alenia Space with European Industrial Engineering and MTM Mechatronics the contract for the 25 ALMA European antennas. The construction of these antennas was not an easy task, and as happens with the development of any ambitious project there have been problems, but the consortium was able to solve them as they arose. Most important, once erected at the ALMA site, at an altitude of 5000m, the antennas exhibited an optimal performance.

I came across Mr. Marchiori at the ALMA inauguration, in Chile, in March 2013. We commented on the excellence of the European antennas and I congratulated him on the magnificent work done.

Over the past 25 years, EIE has contributed in no small way to the rise of European astronomy, in collaboration with ESO. The combination of EIE skills and inventiveness with those of ESO scientists and engineers has proven to be a winning recipe. I congratulate Mr. Marchiori and his team and wish them all a successful future in Astronomy.