sional assistance. Of course, this work would not be possible without the real-time alert system of the MACHO collaboration and the photometric follow-up networks of the PLANET and GMAN collaborations. We have also benefited from discussions with the EROS and OGLE collaborations. We are indebted to Dave Bennett, Chris Stubbs and Charles Alcock (MACHO), Penny Sackett (PLANET), and Jim Rich (EROS) for discussions and encouragement.

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LATEST NEWS:
The First M2 Unit and Beryllium Mirror Delivered to ESO

S. STANGHELLINI, ESO

At the time this edition of the *Messenger* went to press, the first M2 Unit and the first M2 Beryllium mirror of the VLT have successfully passed the final and most critical phase of their acceptance testing in the integration hall of Dornier Satellitensysteme in Friedrichshafen, Germany. This closes a period of more than seven months of severe tests performed to guarantee that the Secondary Unit and its mirror meet the stringent requirements necessary to ensure the full optical quality of the VLT. This period was characterised by a close interaction between the Dornier and the ESO team following the project[1] to establish the complex test procedures and to review the results.

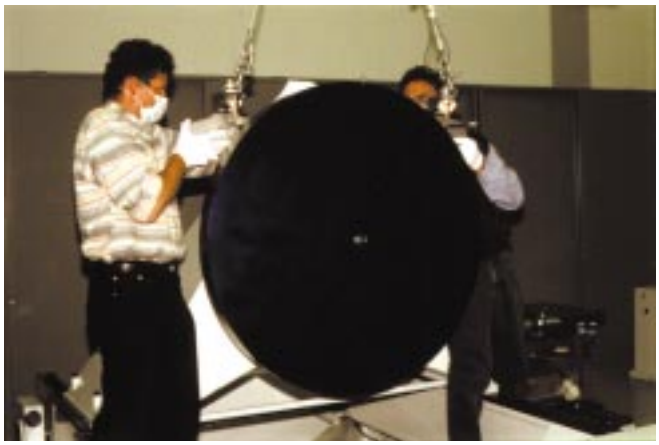
The test programme started in May 1997 with the tests of the software, closely followed by the tests of the electromechanical unit, done with the help of a lightweighted dummy mirror. The test results, although successful, led to a number of improvements and optimisations, performed by Dornier during the following months.

During the same period, REOSC Optique in Paris was completing the final polishing of the first Beryllium mirror, which after integration of its titanium support system, and following optical tests, was delivered to Dornier in September 1997.

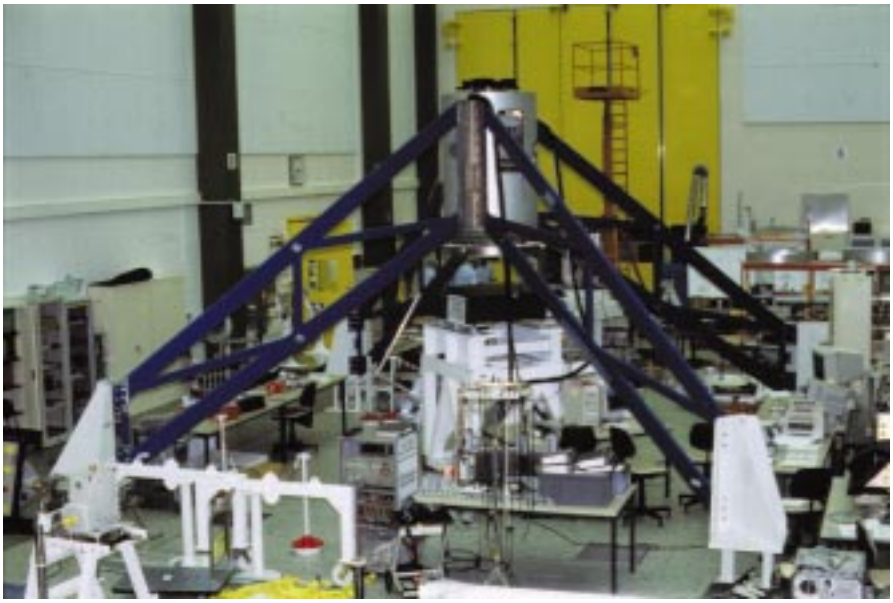
Here, the M2 mirror was dynamically tested to determine its inertia and the position of its centre of gravity, crucial elements for the proper balancing of the chopping mechanism. In October, the M2 mirror was inserted for the first time in the M2 Support Unit to check the differences between the dummy and the real mirror. In November, finally, a test set-up with real telescope spiders that carry the M2 and its support was prepared and assembled in the integration hall of Dornier. Due to the flexible mounting, it was possible to detect any unbalance in the M2 Unit that might possibly affect the telescope pointing.

These final tests were successful and have now led to provisional acceptance of the M2 Unit. They have not only shown full compliance with the ESO chopping and tip-tilt (*field stabilisation*) requirements, but have also demonstrated the feasibility to tune the system for active rejection of unwanted mechanical resonances.

It is therefore expected that the M2 Unit will be successfully integrated in the first VLT Unit Telescope. At the time this note is being written, the M2 Unit is being packed and will soon be shipped to Paranal in its special container.



The M2 Beryllium mirror in the test laboratory of DASA, Ottobrunn, Germany, during the determination of its inertia and centre of gravity. The mirror is protected by a peelable protective layer.



The M2 Unit with the Beryllium mirror at Dornier during the spider tests. The mirror is in front of the granite block used for the testing. The spider structure is anchored to the floor by means of dedicated interfaces, simulating the attachment to the top ring of the telescope.

[1] The ESO team involved in the acceptance of the M2 Unit is composed by the author and by G. Jander, A. Michel, M. Duchateau, B. Gustafsson, P. Giordano, W. Ansorge.