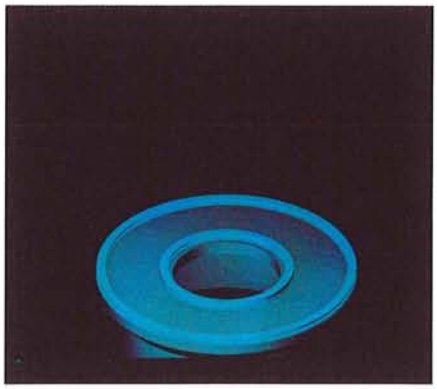
# Building the VLT with CAD



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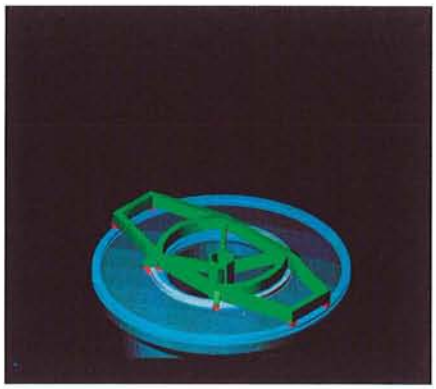

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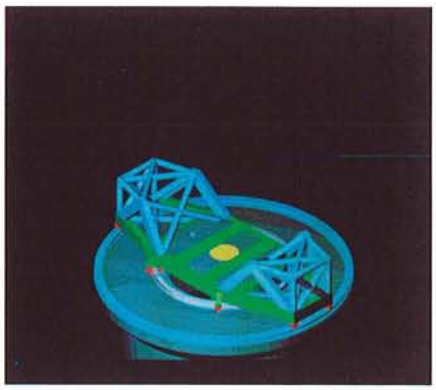

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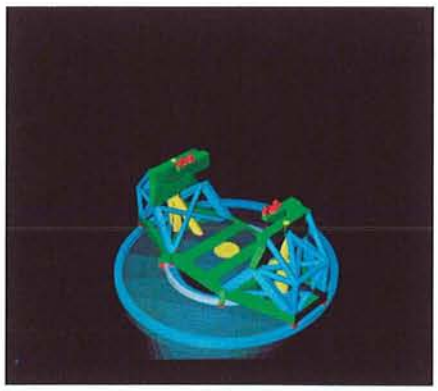

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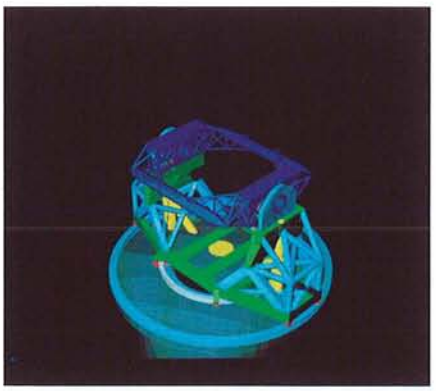

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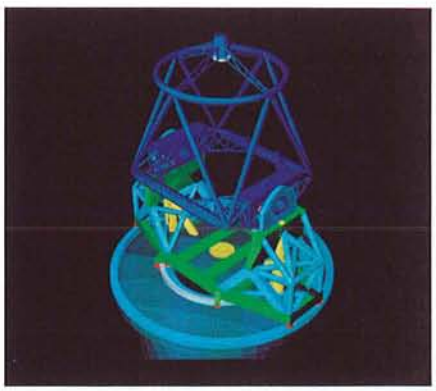

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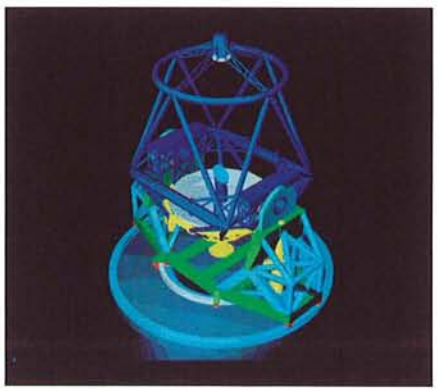

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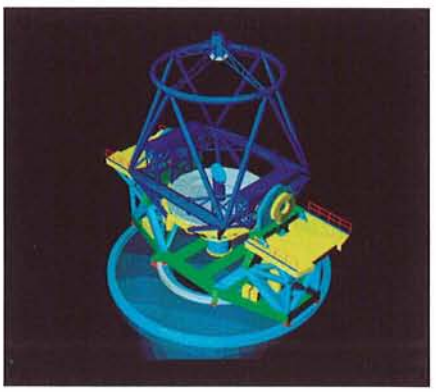

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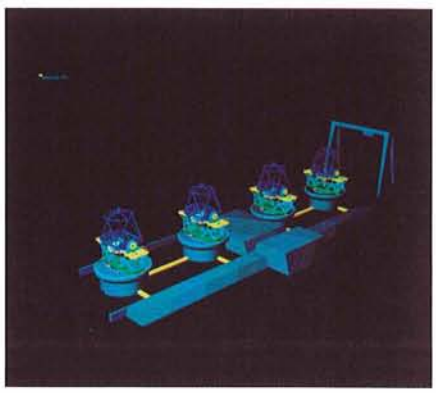

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The Euclid Computer Aided Design (CAD) system from MATRA-Data, installed at ESO Headquarters, is an indispensable tool for VLT design studies. It also allows to "build" the VLT mechanical structure, as shown on these pictures, of an 8 m unit telescope.

In the first picture, the tracks of the azimuth hydrostatic bearings are shown integrated in the concrete structure of the telescope pillar. The inner track has a main diameter of 9 m and will also be used as a centring device for the telescope structure. The stator of the azimuth linear drive will also be mounted on it. The outer track only provides an axial support to the structure on a mean diameter of 18 m.

In the second picture the base frame of the fork lies on the two tracks, incorporating the azimuth drives and the azimuth hydrostatic pads.

In pictures 3 and 4, the fork is completed with the pedestal tubular structure, the girder box construction – on which the altitude bearings are fixed – and the coudé beam tube.

Picture 5 shows the centrepiece of the telescope tube on its altitude bearings, together with the motors of the altitude direct drives.

In picture 6 the Serurier structure, which holds the top ring with the M2 unit, is mounted on the centrepiece.

In picture 7 the tube is completed with the addition of the M1–M3 unit (cell structure, 8 m primary mirror and Nasmyth mirror).

Picture 8 shows the auxiliary equipment (electronic racks, tanks, banisters), the Nasmyth platforms supporting the instruments, and the Cassegrain facility.

The last picture shows how the VLT 16 m telescope array will look after completion of assembly of the mechanical structures of all four telescopes.

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