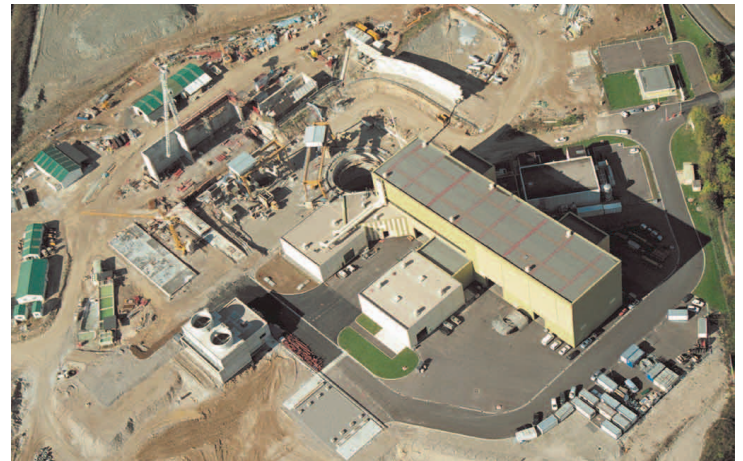
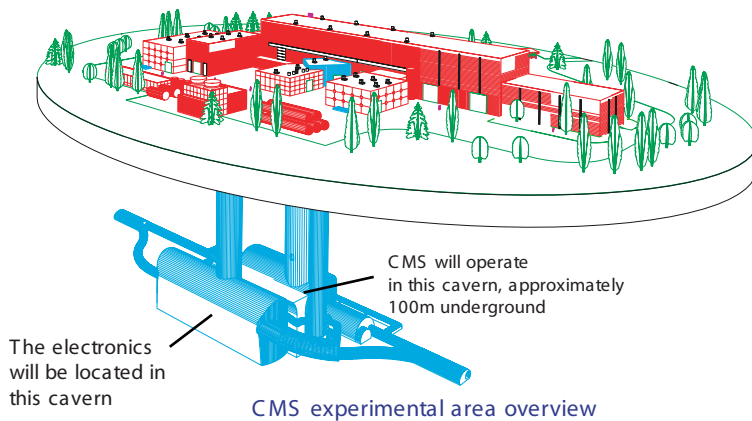
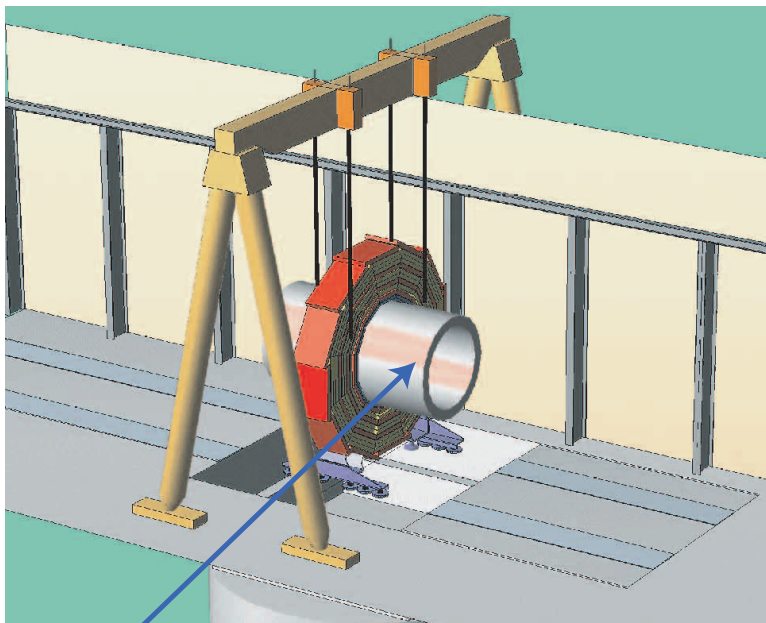


The construction and installation of the CMS detector in the experimental hall minimizes any interference with the exploitation of LEP to reduce time and costs. To achieve this, the assembly and testing of most components, including the magnet, will take place in a large surface hall before being lowered into the underground experimental cavern. During the construction phase the main assembly hall will have a length of 140 m, a width and height of 23.5 m. After installation of CMS in the underground cavern, these dimensions will be reduced to a length of about 100 m and a height of 16 m, thus having no major impact on the environment.



Photograph of the civil engineering site showing the surface hall and the hole where CMS will be lowered down (in pieces)

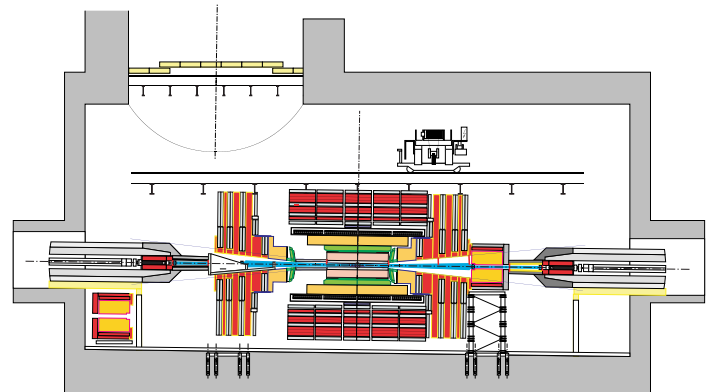
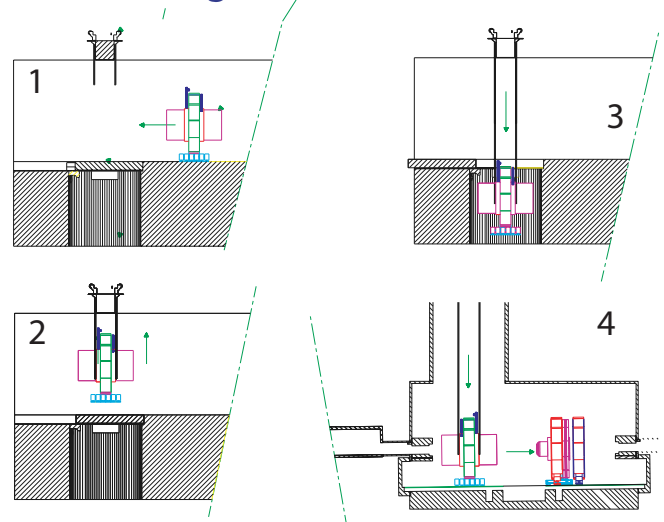
## Lowering CMS into the cavern.



**The magnet is used as the principal structural element to support all barrel detector components.**

There are 7 large structural elements\* that form CMS: 5 rings for the barrel, and 2 endcap disks. These pieces weigh around 1500 tonnes and are moved inside the hall (and the underground cavern) using an "air-pad" system: the pieces 'float' about 1cm above the ground, on air, and can then be easily manoeuvred. When all the pieces are ready (including all the detector elements) a large gantry crane, capable of lowering the pieces down the hole into the cavern, will be used as shown above and to the right.

\*These elements form the return yoke for the superconducting solenoid



Side view of CMS being assembled in the underground cavern