

NATIONAL CENTRE FOR ONCOLOGICAL HADRONTHERAPY IN PAVIA

National centre for oncological hadrontherapy in Pavia:
Design; Work supervision; Hospital facilities; Collective building

Client

CNAO Foundation

Project and works supervision

Studio Calvi Srl

Classes and categories of works

E10, S.03, IA.01, IA.02, IA.03, E19 € 30.340.000 circa

Start of works

2003

End of works

2009

DESCRIPTION OF PROJECT

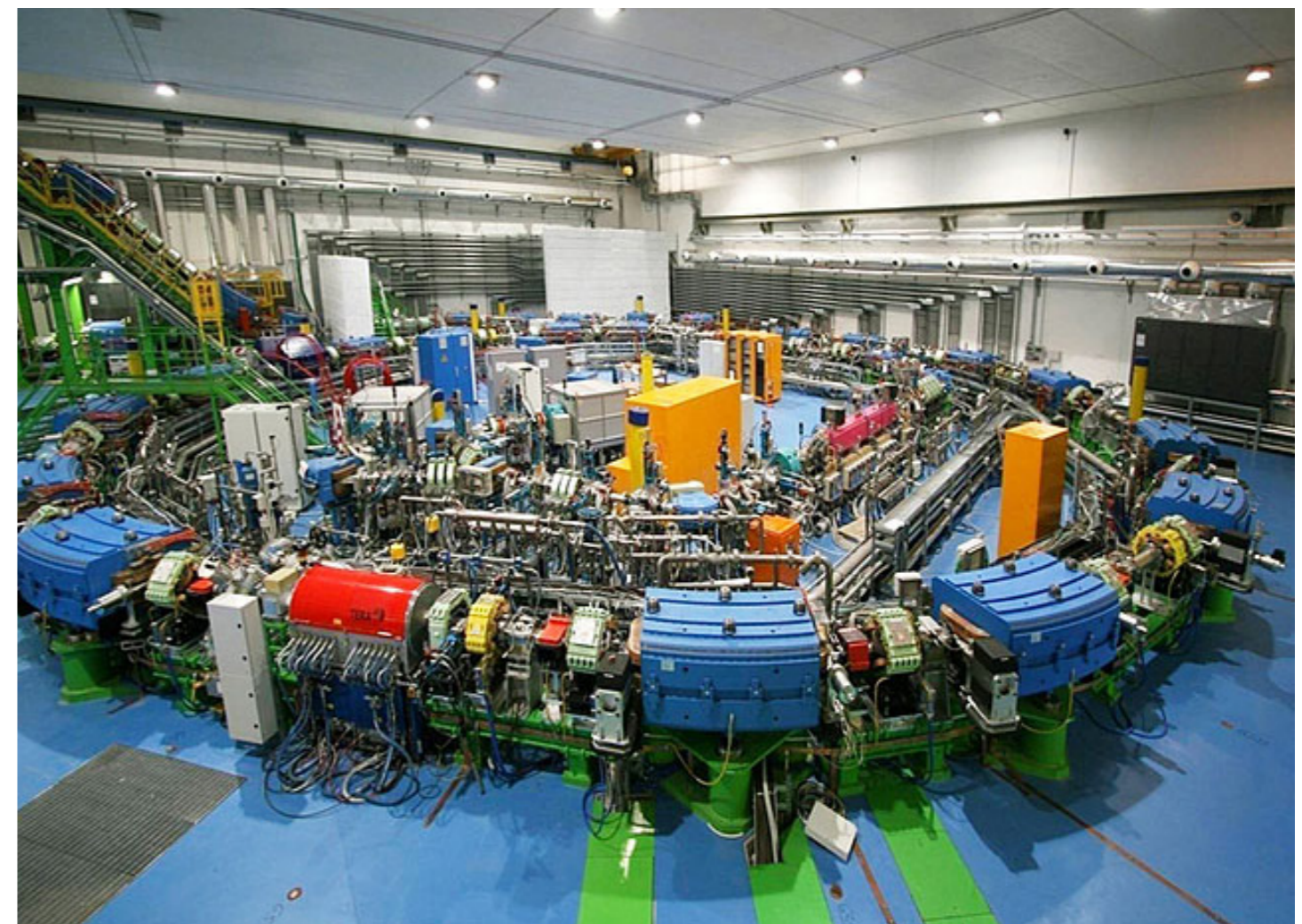
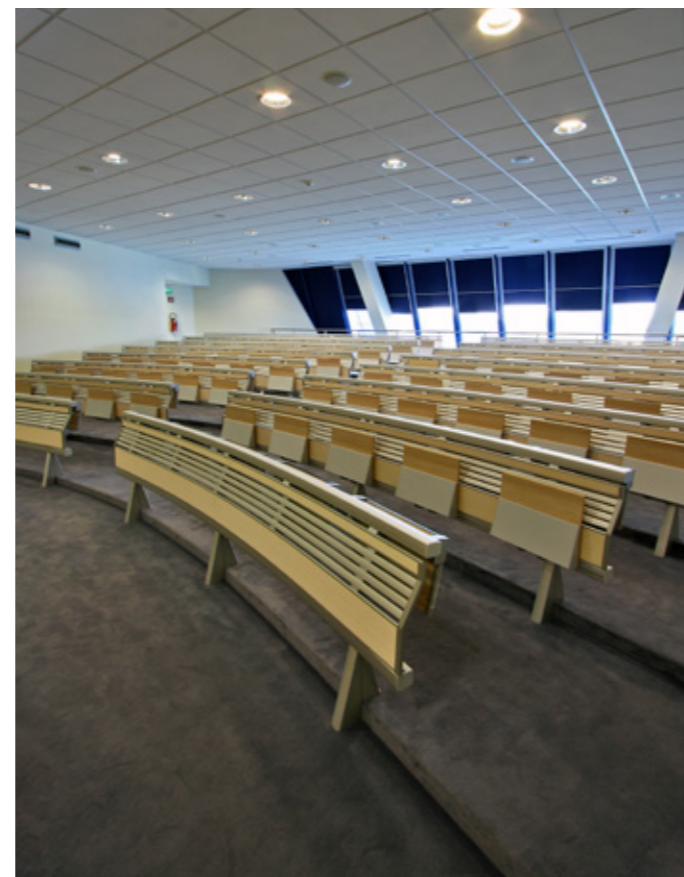
The construction site is close to the internal highway of Pavia and thus it is well connected by communication means. It is also located nearby the sites of three hospitals (San Matteo, Maugeri and Mondino) and the university campus and thus well placed to profit of clinical and research synergies that will be fundamental for the success of the CNAO initiatives. The buildings construction started in autumn 2005 and it is going to be completed in fall 2007. The CNAO design is based on the following assumptions:

- the Centre will be devoted to the treatment of deep-seated

tumours (up to a depth of 27 cm of water equivalent) with light ion beams (proton, carbon ions and others) and to clinical and radiobiological research;

- the full-size CNAO will have 5 treatment rooms (3 rooms with fixed beams and 2 rooms with gantries) and one experimental room. For the first phase (CNAO - Phase 1) 3 treatment rooms will be equipped with 4 fixed beams, three horizontal and one vertical and one experimental room will be constructed.

The CNAO buildings develop on four levels. The underground level hosts the accelerators and the treatment rooms. The surface level hosts the ambulatories for the first visit of the patients and the medical imaging devices; two CT-PET cameras, two CTs and one NMR could be installed in the CNAO. These devices will permit the construction of the individual treatment planning for each patient. The first level is occupied by the offices of the personnel, the administration and also the spaces and the laboratories serving the experimental area. A direct connection between these areas and the experimental room is realised. The second floor occupies only half of the surface and it hosts a conference room, some smaller meeting rooms and also the direction offices. The flux of patients, personnel and public have been carefully studied in order to optimise the layout and to guarantee a quality of life that takes into account the needs of the various typology of people.



Above. Ambulatories for the visit of the patients and conference room.

Opposite page, from above to below. Cathedral restoration. Frontal view of the foundation and synchrotron room.