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# BRADI INDUSTRIAL BUILDING

## Italy, 1995

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### PROJECT CHARACTERISTICS

**Works:** excavations, foundation, concrete structure for a mechanised storage tower and surrounding sheds for a mechanical factory.

**Purpose:** providing a settlement free vessel for the erection of a fully robotised storage structure and relevant mechanisms.

### Dimensions of main storeroom shaft:

- Area: 2 650 m<sup>2</sup>
- maximum depth below ground foundation: 10 m
- maximum height above ground: 20 m
- maximum load on the foundation: 28 t/m<sup>2</sup> + 102 tons column loads at 10 m intervals.

### Materials:

- silts and clays with some gravel, to depths exceeding 20 m.

### PROFESSIONAL SERVICES PERFORMED

Evaluation of site conditions, proposal of alternate methods to support the excavation, stability analyses of the excavation, geotechnical design of the foundation and structural design of the vessel. Construction drawings of the structure.



*A factory producing high technology mechanical components has decided to build a new, state of the art production facility served by a centralised, fully automated storage tower. The store tower is the hub of the factory and is fully mechanised. Distribution requirements impose that one third of the tower be below the general grade of the factory floor. The robotized handling of the stored parts require that tilting and differential settlements of the tower and nearby floors be almost nil. The main goals of the design were minimising excavations and providing a settlement free foundation for the tower.*