

## FREJUS SAFETY TUNNEL – ITALIAN SECTION

Piedmont, Italy



**Client:**

SITAF S.p.A. – Società Concessionaria Tunnel del Frejus

**Assignment:**

Working plan Assistance during working

**Amount:**

€ 139 M.

**Implementation period:**

Design	2011-2012
Assistance during working	running

Work carried out as a temporary association of designers selected by the contracting companies

**Description:**

The production of the safety tunnel alongside the existing Frejus road tunnel is, with its length of almost 13 km and an opening of diameter 8 meters, one of the most important construction sites in the national panorama of public works.

The strategic importance of the project lies in adapting one of the most frequently used Alpine passes to the latest tunnel safety standards, permitting therefore an important upgrade of the road connection network with France. At the same time, the new tunnel generates positive economic and social consequences, allowing the passage of a new power line with an extremely low environmental and landscape impact; the production of a pilot project that makes it possible to extract natural heat from Mount Frejus and its value to civil and domestic use is also being programmed.

A strange aspect of working in tunnels is the need to follow the working plan phase with a technical assistance service while work is in progress; the service must be able to adapt the initial program to the "in progress" results of the construction site, and to solve the critical points met.

The complexity of the work, which includes the use of multiple digging technology (TBMs and traditional technology) that must be adapted to the diversification of the geological situations that are crossed through, required an important design commitment, which was faced by integrating specialist technical and organization skills.

Another specific point of the project comes from the need to guarantee progressive integration of the new safety tunnel with the existing one that is being used, by making available new safety areas as the digging advances. These distinctive traits required a high level of attention both when planning the interventions in detail, and when managing the integration phases between the two tunnels. Today, the site is progressing, and work should end within 2014.