



Cadorna-Bovisa Line Quadrupling



Having just two tracks at the entrance of the city has for years caused a bottleneck, being it a crucial junction for railway traffic, which has gradually increased owing to the growing demand for local transport. In order to quadruple Cadorna-Bovisa line it was therefore necessary to build two more tracks in the urban stretch of the line between Milan Cadorna and Milan Bovisa railway stations, thereby eliminating one of the major causes for irregular and delayed railway traffic.

Nord_Ing was responsible for works management in conjunction with FERROVIENORD. They jointly co-ordinated the 56 companies that have contributed to the works in different stages and to a different extent. Invested capital equalled € 123 million, allocated through state and regional funding. Almost 9 years were necessary to finish the works, even though railway traffic was never interrupted, thus guaranteeing transport services to the 150,000 passengers who usually take LeNORD trains on a daily basis.

Besides, the project provided for some relevant environmental mitigation works ranging from covering approx 50% of the line with green areas, pedestrian areas, roads and parking lots, as well as noise protection and vibration abatement works. 40% of the works took place at night, thereby leading with

increasing difficulties caused by the high urbanisation of this area. 97,000 days of work were required involving 56 different companies, and no accidents at work were recorded.

Facts and Figures

Invested capital	€ 123 million (state and regional funding)		
External companies	56	Accidents at work	none
Days of work	97.000 (40% at night)	Trains passed during the works	More than 3 million
Building and materials			
Tracks built	2.600 mt	Iron for concrete	162,000 tonnes
Sleepers	15.800	Concrete	1,080,000 m3
		Rubble	25,000 m3
Environmental mitigation works			
Coverings	1,230 mt	Noise abatement barriers	4.700 m2
Noise protection tunnels	136 mt	Underballast anti-vibrating air bed	17.450 m2
Noise abatement sheathing	5.150 m2		