



**POLITECNICO DI TORINO**  
Dipartimento di Georisorse e Territorio



GEORESOURCES AND ENVIRONMENT ASSOCIATION



ITALIAN TUNNELLING ASSOCIATION

**INTERNATIONAL CONGRESS**

**MECHANIZED TUNNELLING: CHALLENGING CASE HISTORIES**

Politecnico di Torino, 16 – 19 November 2004

## **GROENE HART RAIL TUNNEL (The Netherlands)**

### **Abstract**

As a part of the European high speed railway network, Dutch government is constructing a new line between Amsterdam and the Belgian border. To meet environmental requirements, more than 7000 meters had to be realized by the mean of a bored tunnel trough a design and build contract. The project was awarded to the Franco-Dutch consortium Bouygues TP – Koop.

Ground is mainly highly permeable sand below a very soft peaty clay layer. The head of the deep aquifer is above the ground level.

Facing of the twin tube of the client reference design, Bouygues as proposed and realized a monotube which is the worldwide largest mechanized tunnelling project. Associated constructions as approach inclines, safety and ventilation shaft are original in term of design because designed to meet client specifications, difficult ground condition and tunnelling construction.