

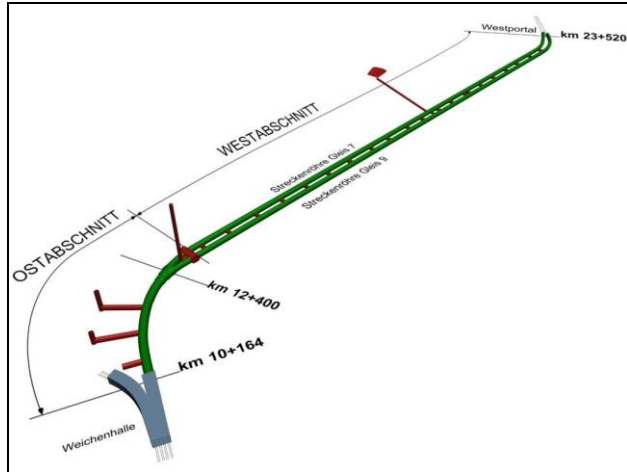


NEURON CONSULT ZT
PELIKANSTR.18, 4061 LINZ-PASCHING, AUSTRIA

RAILWAY TUNNEL WIENERWALD, WIEN, AUSTRIA

HIGH-SPEED RAIL WIEN- ST.PÖLTEN

OWNER: HIGH SPEED RAIL AUSTRIA - OBB



LOCATION

LAYOUT OF THE 13.35 KM LONG TWIN TUNNELS

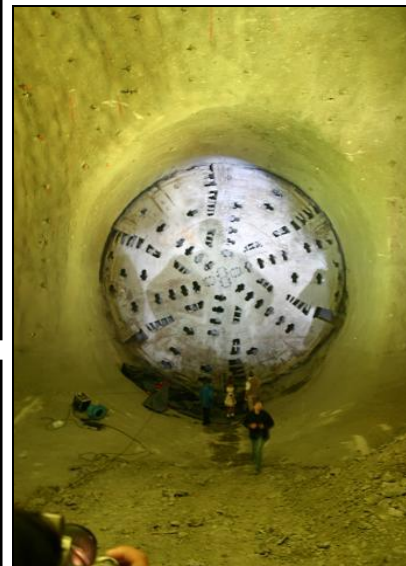
PROJECT DESCRIPTION

THE WIENERWALD TUNNEL HAS BEEN CONSTRUCTED AS THE PART OF THE NEW HIGH-SPEED RAIL LINE BETWEEN VIENNA AND SALZBURG. IT IS AT THE MOMENT LONGEST TUNNEL IN AUSTRIA WITH THE LENGTH OF 13.35 KM. BOTH RUNNING TUNNELS HAS BEEN EXCAVATED WITH TBM MACHINES WITH $D_{EXC} = 10.60$ M. THE TUNNEL HAS BEEN LINED WITH THE DOUBLE SHELL LINING WHERE THE OUTER LINING CONSISTS OF SEGMENTAL LINING MADE OF 57 300 SEGMENTS, EACH WITH THE WIDTH OF 2.25 M FORMING 9500 RINGS. BOTH TBM TUNNELS HAVE THE LENGTH OF ABOUT 11 KM AND THE REST OF THE LENGTH IS CONSTRUCTED USING CONVENTIONAL METHODS. OVERALL PROJECT BUDGET IS 370 MILLION €.

SERVICES PROVIDED

TENDER WINNING DESIGN FOR THE BIDDING JV. TENDER DESIGN HAS INCLUDED NUMERICAL ANALYSIS AND OPTIMIZATION OF SEGMENTAL LINING, EXCAVATION SEQUENCE AND QUALITY ASSURANCE WITH COST ESTIMATION.

PERIOD OF WORK: 12/2003 -05/2004



TBM BREAKTHROUGH



TBM WITH $D_{EXC} = 10.60$ M IN MANUFACTORY HALL



SEGMENTAL LINING READY FOR INSTALLATION