

Pure competence in air.

COMPANY PROFILE

TUNNEL VENTILATION

SINCE 1970

Building & Industry

NOVENCO 

SCHAKO Group



INNOVATION AND QUALITY THANKS TO OWN PRODUCTION

With over 60 years' experience, NOVENCO Building & Industry is a leading global supplier of ventilation systems in a range of sectors. NOVENCO in Bergschenhoek specializes in ventilation systems for tunnels, car parks and special applications in the non-residential building sector.

Back in the 1970s, NOVENCO supplied the ventilation system for the Kiltunnel under the Dordtse Kil. Since then, NOVENCO has developed into a specialist in tailor-made, space-saving and low-noise tunnel ventilation systems and has grown into a leading company within the Netherlands.

Our R&D department has access to one of the most advanced aerodynamic laboratories in the world.

NOVENCO has a production facility in Denmark with a production area of approximately 30,000 m², where all fans are developed and produced.

As NOVENCO manufactures its fans in-house, you are guaranteed a tailor-made solution to your specific needs. This unique combination results in innovative products characterised by very high quality and reliability.

NOVENCO Building & Industry is ISO 9001 and ISO 14001 certified, guaranteeing all quality processes.

NOVENCO B&I B.V. is also a KIWA NCP certified smoke control company.



TUNNEL VENTILATION FOR COMFORT AND SAFETY

The design requirements of today's tunnels are very demanding. Comfort and safety are important parameters in the design. High requirements are set for the fire resistance and noise characteristics of the ventilation system. Thanks to years of experience, NOVENCO has the products and expertise to meet every challenge in tunnel ventilation.

With a special tunnel ventilation department, NOVENCO is a partner who understands how to tackle a challenge. Our team of motivated, well-trained employees forms the basis of your success through flexibility and direct communication. If required, NOVENCO also offers turn-key solutions from detailed consultation up to and including aftercare.

Every tunnel ventilation challenge requires a suitable solution. NOVENCO can provide just the products to complete systems. However, it is not the specifications that make the solution unique, but the specific user demands. This is why Novenco attaches value to clearly understanding these requirements to ensure that the system will meet all demands and wishes.

As a system supplier, NOVENCO can dimension systems using deterministic and probabilistic calculation methods.

After production, the tunnel fans are subjected to a Factory Acceptance Test (FAT), while the operation of the entire system is assessed during extensive System Acceptance Tests (SAT).

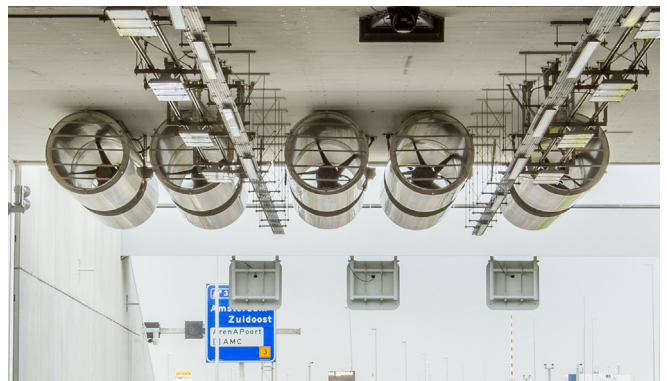


ENSURING AVAILABILITY AND SAFETY

In order to meet the obligations of the Tunnel Law regarding the availability of the ventilation system, management and maintenance of rail and road tunnels are of vital importance. Over a period of many decades, inspections and maintenance must be carried out in order to continue to meet the performance requirements and guarantee safety.

This also means that NOVENCO Building & Industry B.V. often has complete spare fans available within the maintenance contract, to ensure replacement of defective fans within the agreed time.

To ensure the availability and safety of the systems, the availability of spare parts is guaranteed by NOVENCO for at least 20 years.



REFERENCES

ROAD- AND RAIL TUNNELS

| Country | Location | Project | Type | Length [m] | Construction | Year |
|-------------|-------------------|----------------------------------|---------|------------|--------------|------|
| Netherlands | Dordrecht | Kiltunnel | Road | 901 | Newly built | 1977 |
| Netherlands | Rotterdam | Botlektunnel | Road | 1.181 | Newly built | 1979 |
| Netherlands | Zaanstad | Hemtunnel | Rail | 2.400 | Newly built | 1980 |
| Netherlands | Amsterdam | Schipholtunnel | Road | 660 | Newly built | 1988 |
| Netherlands | Amsterdam | Zeeburgertunnel | Road | 946 | Newly built | 1989 |
| Netherlands | Alblasserdam | Noordtunnel | Road | 1.270 | Newly built | 1991 |
| Netherlands | Heinenoord | Heinenoordtunnel | Road | 1.064 | Renovation | 1991 |
| Netherlands | Dordrecht | Drechtunnel | Road | 823 | Renovation | 1991 |
| Netherlands | Rotterdam | Willemspoortunnel | Rail | 3.164 | Newly built | 1992 |
| Netherlands | Rotterdam | Botlektunnel | Road | 1.181 | Renovation | 1994 |
| Netherlands | Beverwijk | Wijkertunnel | Road | 2.000 | Newly built | 1996 |
| Netherlands | Leiden | Stationspleintunnel | Road | 500 | Newly built | 1996 |
| Netherlands | Amsterdam | Piet Heintunnel | Road | 1.900 | Newly built | 1996 |
| Netherlands | Amsterdam | Schipholspoortunnel | Rail | 5.780 | Newly built | 1997 |
| Portugal | Serra da Gardunha | Gardunha Tunnel | Road | 1.580 | Newly built | 1997 |
| Netherlands | Heinenoord | 2e Heinenoordtunnel | Road | 1.600 | Newly built | 1998 |
| Netherlands | Amsterdam | 2e Schipholtunnel | Road | 660 | Newly built | 1998 |
| Netherlands | The Hague | Koningstunnel | Road | 750 | Newly built | 1998 |
| Netherlands | Pernis | Leidingtunnel Oude Maas | Service | 481 | Newly built | 1998 |
| Netherlands | Amsterdam | Schipholtunnel | Road | 660 | Renovation | 1999 |
| Netherlands | Best | Spoortunnel Best I | Rail | 1.890 | Newly built | 1999 |
| Netherlands | Rotterdam | 2e Beneluxtunnel | Road | 1.348 | Newly built | 2000 |
| Netherlands | Rozenburg | Calandtunnel | Road | 1.135 | Newly built | 2001 |
| Netherlands | Amsterdam | Piet Heintunnel (IJ-tramtunnel) | Rail | 1.900 | Newly built | 2001 |
| Netherlands | Maastricht | Tunnel Markt-Maas | Road | 700 | Newly built | 2002 |
| Germany | Jena | Tunnel Uniklinikum | Road | | Newly built | 2002 |
| Netherlands | Best | Spoortunnel Best II | Rail | 1.890 | Newly built | 2002 |
| Spain | Bilbao | Ibarrekolanda Tunnel | Road | 450 | Newly built | 2003 |

REFERENCES



KING WILLEM-ALEXANDER TUNNEL



TUNNEL A2 LEIDSCH E RIJN



GARDUNHA TUNNEL

| Country | Location | Project | Type | Length [m] | Construction | Year |
|-------------|---------------|-------------------------------|------|------------|--------------|------|
| Netherlands | Dordrecht | Spoortunnel Dordtsche Kil | Rail | 2.588 | Newly built | 2004 |
| Netherlands | Zwijndrecht | Tunnel Oude Maas | Rail | 2.500 | Newly built | 2004 |
| Netherlands | Leiderdorp | Tunnel Groene Hart | Rail | 8.670 | Newly built | 2004 |
| Portugal | Porto | City Tunnel Oporto | Road | | Newly built | 2006 |
| Portugal | Porto | Aeroporto Metro Porto | Rail | | Newly built | 2006 |
| Finland | Helsinki | Outer Ring Road III | Road | 1.520 | Newly built | 2007 |
| Netherlands | The Hague | Randstadrail | Rail | 1.250 | Newly built | 2007 |
| Netherlands | Dronten | Drontermeertunnel | Rail | 1.300 | Newly built | 2007 |
| Netherlands | Rotterdam | Botlektunnel | Road | 1.181 | Renovation | 2008 |
| Sweden | Stockholm | Söderleds Tunnel | Road | 1.550 | Renovation | 2008 |
| Finland | Muurla | E18 Expressway | Road | 2.242 | Newly built | 2008 |
| Netherlands | Utrecht | Tunnel A2 Leidsche Rijn | Road | 1.650 | Newly built | 2009 |
| Netherlands | Zuid-Beveland | Vlaketunnel (escape routes) | Road | 774 | Renovation | 2009 |
| Portugal | Porto | Trofa tunnel | Rail | 1.404 | Newly built | 2009 |
| Iceland | Ólafsfjörður | Héðinsfjarðargöng tunnel I | Road | 3.700 | Newly built | 2010 |
| Iceland | Ólafsfjörður | Héðinsfjarðargöng tunnel II | Road | 6.900 | Newly built | 2010 |
| Netherlands | Amsterdam | Metro Amsterdam (East Line) | Rail | | Renovation | 2010 |
| Netherlands | Alblasserdam | Noordtunnel | Road | 1.270 | Renovation | 2011 |
| Netherlands | Amsterdam | Zeeburgertunnel | Road | 946 | Renovation | 2011 |
| Netherlands | Amsterdam | Coentunnel | Road | 1.283 | Newly built | 2012 |
| Netherlands | Amsterdam | IJtunnel | Road | 1.682 | Renovation | 2012 |
| Netherlands | Nijverdal | Salland-Twentetunnel | Road | 1.500 | Newly built | 2013 |
| Belgium | Brussel | Schuman-Josafattunnel | Rail | 1.250 | Newly built | 2013 |
| Netherlands | Utrecht | Stadsbaantunnel Leidsche Rijn | Rail | 1.650 | Newly built | 2014 |
| Netherlands | Amsterdam | Michiel de Ruytertunnel | Road | 360 | Newly built | 2014 |
| Netherlands | Schiedam | Ketheltunnel (escape routes) | Road | 1.950 | Newly built | 2014 |
| Netherlands | Sluiskil | Sluiskiltunnel | Road | 1.145 | Newly built | 2015 |
| Netherlands | Amsterdam | Abdijtunnel | Road | 1.800 | Renovation | 2015 |
| Netherlands | Maastricht | Koning Willem-Alexandertunnel | Road | 2.300 | Newly built | 2015 |
| Netherlands | Amsterdam | Gaasperdammertunnel | Road | 3.000 | Newly built | 2016 |
| Netherlands | Rotterdam | Beneluxtunnel | Road | 1.300 | Renovation | 2016 |
| Netherlands | Dordrecht | Drechtunnel | Road | 823 | Renovation | 2016 |
| Netherlands | Rotterdam | Maastunnel | Road | 1.373 | Renovation | 2017 |
| Netherlands | Voorschoten | Tunnel Rijnlandroute | Road | 2.520 | Newly built | 2018 |
| Netherlands | The Hague | Koningstunnel | Road | 750 | Renovation | 2018 |
| Netherlands | Rotterdam | Rottemerentunnel | Road | 2.235 | Newly built | 2019 |
| Netherlands | Amsterdam | Piet Heintunnel | Road | 1.900 | Renovation | 2021 |



SLUISKILTUNNEL GHENT-TERNEUZEN

The Sluiskil Tunnel was opened in 2015 and is a road tunnel with a total length of 1.145 m under the Ghent-Terneuzen Canal near Sluiskil.

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