

## The Vienna Climatic Wind Tunnel

### The world's largest vehicle testing station safeguards "quality in all weather conditions"

The "Vienna Climate Chamber", a vehicle testing station for climatic tests, ceremonially started operation on the premises of the Vienna Arsenal on 22 June 1961. Based on the common interest of European railway authorities, the facility was founded jointly by the Office for Research and Experiments (ORE), the International Railway Union (UIC) and the former Austrian Federal Ministry for Building and Technology. The climatic tests on rail vehicles under extreme weather conditions were aimed at improving passenger comfort and the safety and functionality of rolling stock on a sustainable basis.

After 40 years of operation the service life of this internationally acknowledged institution was drawing to an end. The decision to build a new climatic wind tunnel on the so-called Pauker premises in Vienna/Floridsdorf within the scope of a PPP model was meant to continue the tradition of Vienna as an international centre of expertise for climatic tests of public transport vehicles. The project agreement between the government-owned Railway Infrastructure Financing Company SCHIG (Schieneninfrastrukturfinanzierungs-Gesellschaft m.b.H.) and the future operating company RTA (Rail Tec Arsenal Fahrzeugversuchsanlage GmbH) was signed on 1 March 1999. This was followed by the preparation of the request for proposals, order placement and, finally, the construction of the new facility. The new testing facility consists of two separate climatic wind tunnels for the testing of vehicles under extreme weather conditions. What sets it apart from other facilities are its sheer dimensions - the larger tunnel is 100 meters long, the smaller one 31 meters -, the physical parameters achieved (temperatures from minus 45°C to plus 60°C, wind speeds of up to 300 km/h) and the possibility of simulating not only any weather condition imaginable but also entire drive profiles (tunnels, urban cycles etc.).

After a construction time of less than two years, which is relatively short for a 65 million euro project, the Vienna Climatic Wind Tunnel was turned over to Rail Tec Arsenal at the end of 2002. At the same time the old vehicle testing station at the Vienna Arsenal was closed down forever, its entire staff moving to the new facility.

Rail Tec Arsenal has leased the new facility and is responsible for the international marketing and break-even operation of the two climatic wind tunnels. Arsenal research and all large rail vehicle manufacturers of Europe hold shares in the new operating company. The internationally recognised expertise of the specialists from the Vienna Arsenal and the opportunities of a cutting-edge test facility, the only one of its kind in the world, will enable Vienna to retain its position as a centre of excellence for climatic testing.

"Rail Tec Arsenal is an internationally active, independent research and testing institute for rail and road vehicles, new transport systems and technical facilities that are subject to extreme climatic conditions", is how Gabriel Haller, Managing Director of the Vienna Climatic Wind Tunnel, explains the company's position. RTA's chief aim is to use its internationally recognised expertise and the state-of-the-art technology of the two climatic wind tunnels to optimise thermal comfort in mass transport vehicles and to increase the availability and safety of components and systems in this and other sensitive areas. The climatic tests in the test sections will continue to be complemented by studies and development support. "Rail Tec Arsenal will continuously extend its specific expertise through contract and strategic research, because the most cutting-edge facility will not be sufficient in the long term, unless we manage to keep ahead of international competition through our staff's unique expertise", Haller describes RTA's strategy to retain the excellent position of the new climatic wind tunnel on a sustainable basis.

Please contact us for further information

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