



Ulm's First Avenio M Tram Presented

On 22 May 2015 the Ulm public transport operator SWU Verkehr (Stadtwerke Ulm/Neu-Ulm) awarded Siemens a 32 million EUR contract for 12 Avenio M trams, with an option clause for six more. They are 100% low-floor, 1,000 mm gauge, 750 V DC, uni-directional five-section vehicles, 31,470 mm long and 2,400 mm wide. While floor height above rail top is generally 305 mm, it rises slightly to 380 mm above the bogies, which are located underneath the first, third and fifth sections, with the second and fourth section being suspended.

51, the first of the new Avenio Ms, delivered in February 2018 and now named Inge Aicher-Scholl (after the founder in Ulm of one of the first adult education centres - Ulmer Volkshochschule - in post-war Germany in 1946), was presented to the public at the SWU Verkehr open day on 21 April 2018. During the event held at the Theodor-Heuss-Platz depot Siemens representatives handed over to SWU managing director André Dillmann the symbolic key to the new tram. A limited number of tickets were also made available at the special price of 10 EUR each for the tram's inaugural public run, which took place on 10 June.

The main difference between the Avenio and the Avenio M is that while the standard Avenio has a pivoting bogie under each section, the Avenio M has

only three bogies, giving an axle arrangement of Bo' 2' Bo'. The Ulm trams are the first of this type to be produced. Each of the powered bogies is fitted with two 120 kW traction motors, these mounted longitudinally, on the outside of the bogie frame in an assembly which also includes the gearboxes and brakes. The traction motors are fed by two IGBT based inverters situated in roof-mounted containers and fed from the overhead wire. Top service speed is 70 km/h. Two SIBAS 32 control units, produced by Siemens, are installed.

The Avenio M trams have aluminium bodysells. They have two double-leaf 1,300 mm wide entrance doors in each of the suspended sections, and one 800 mm wide single-leaf door in each



of the end sections. The interiors are fitted with HVAC, and have two large multi-purpose areas, suitable for prams and wheelchairs. **Seats are provided for 69 passengers, and space is available for up to 116 standees at a density of four per m². The lower photos show driver's cab arrangement, and an auxiliary driving console in the rear section of the tram.**

Ulm also has a fleet of ten Combino trams (41 to 50). The new Avenio Ms (51 to 62) are different in appearance to these, with restyled front and rear ends. However they wear the same blue, light grey and white livery as the Combinos. The new Avenio M trams are being built at Siemens's works in Wien, are mounted on bogies produced at the

manufacturer's Graz works, and are fitted with control systems and traction drivelines supplied from Siemens's Nürnberg works.

The Avenio Ms are destined for use on Ulm's new 214 million EUR 10.5 km, 20-stop **Line 2** from Kuhberg via Hauptbahnhof to Science Park II, serving a number of new residential areas. Construction of Line 2 is in progress, with inauguration scheduled for 9 December 2018. When this takes place it will be possible to reshape the city's urban bus routes.

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Photos: Jürg D. Lüthard



First Tango In Ostrava

On 23 April 2018 the first Tango NF2 tram (see R 1/18, p. 63) arrived on a low-loader at the DPO's Martinov workshops, and the following night was moved to Poruba depot. Here, various static tests took place until 3 May. Then on the night of 4/5 May the tram designated 1701 was at first time hauled dead over the DPO network, for gauging tests. Further testing followed, and **on 30 May 1701 made its first powered run through the streets of Ostrava. This photo shows it on the return loop at Vřesinská, together with T3 trams 977 and 1015.**

Test running will continue, with the Tango covering several hundred kilometres each day on the Ostrava network. In trial operation without passengers, it is expected to cover 20,000 km, half of this distance empty and half with simulated load. Then will follow test commercial running, carrying passengers, for a further 20,000 km. The second Tango has now arrived at Ostrava, despatched from Stadler's Siedlice works on 30 April, and by late May the fourth Tango was being assembled at Siedlice.

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