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Avenio – a rapid ride as tram or light railway

Details about vehicle and technology. Avenio – fits your city.





Made to fit your requirements – today and in the future

Variable vehicle length and width, one-way or bidirectional, tram or light railway, and different supply voltages: Avenio isn't just a unique single-articulated tram, but it also provides exactly the right solution for your transport requirements – today and in the future

2 modules 18 m	Seats	Standeers	Total
2.30m	24	79	103
2.40m	36	73	109
2.65m	36	86	122



3 modules 27 m	Seats	Standeers	Total
2.30m	42	118	160
2.40m	50	122	172
2.65m	52	140	192



4 modules 36 m	Seats	Standeers	Total
2.30m	52	170	222
2.40m	72	164	236
2.65m	72	192	264



5 modules 45 m	Seats	Standeers	Total
2.30m	68	211	279
2.40m	96	200	296
2.65m	96	235	331



6 modules 54 m	Seats	Standeers	Total
2.30m	80	260	340
2.40m	112	250	362
2.65m	112	292	404



7 modules 63 m	Seats	Standeers	Total
2.30m	104	292	396
2.40m	144	276	420
2.65m	144	326	470



8 modules 72 m	Seats	Standeers	Total
2.30m	116	341	457
2.40m	160	326	486
2.65m	160	382	542



Calculation basis for standees: 4 passengers/m², bidirectional vehicle configuration



Made for where you live – to fit your city.

With Avenio, Siemens puts a unique vehicle concept on track.

Your key benefits at a glance:

- **You can rely on about 130 years of experience** – from the company that invented the electric tram.
- **You'll please drivers, passengers, and residents** – with a fast, comfortable, and quiet tram.
- **You can continue to use older tracks and bridges** – thanks to the lowest axle load of any 100% low-floor tram.
- **You can meet any capacity demand** – up to the longest tram in the world.
- **You'll enrich your cityscape with elegant design** – if desired, for operation with no contact lines.
- **You'll make your city greener** – and reduce its CO₂ footprint.
- **You'll operate with reduced lifecycle costs (LCC)** – thanks to low wear and efficient technology.
- **You'll be advancing the mobility of the future** – through innovative technology and a unique concept.

The Avenio – your single-articulated tram to meet all requirements

The driver's cab: a workplace to feel comfortable in

- The ergonomic, well-designed driver's cab has individually controllable air-conditioning.
- A modern desk design, a comfortable seat with multiple settings, and excellent riding comfort with stable running behavior create extremely comfortable working conditions for drivers.
- Clear control panels and a large display are additional pluses.

The traction system: energy-efficient throughout

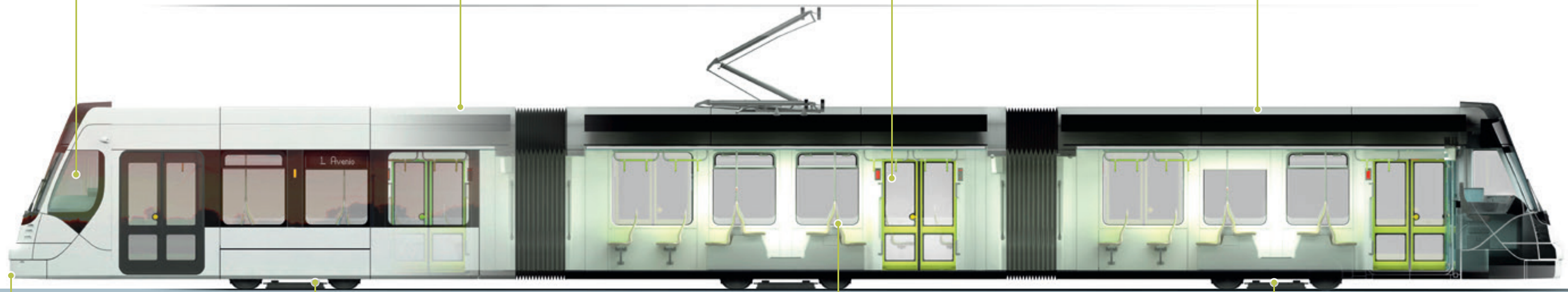
- The latest generation of traction converters and traction control is used in the Avenio.
- With an efficiency of over 98 percent, these components substantially contribute to the good overall energy balance.

The doors: fast in, fast out

- With the Avenio, up to 30% of the vehicle length, including the space directly behind the driver's cab, can be fitted with wide double doors to prevent dead ends at the front and rear of the tram and guarantee fast boarding and alighting.
- The modular design is suitable for mono- and bi-directional vehicles and permits door configurations on one or both sides.
- When doors are opened, the platform in the door area is illuminated.
- An important safety feature: door monitoring with light barrier, antitrap protection, and warning signal.

It's the little things that count: ease of maintenance gets top priority!

- Many important components are readily accessible via the partially walkable tram roof, or else directly from the passenger compartment.
- Thanks to the user-oriented diagnostics system in the driver's cab, potential faults are detected immediately and can often be quickly rectified by the driver.
- Sanding equipment and other containers can be accessed easily for maintenance.
- The minimized complexity of the systems, which means a larger proportion of identical parts, simplifies repairs and spare parts inventories.
- As a time-saving measure, the modular design allows individual car body units to be moved in the workshop without auxiliary bogies.



The vehicle front end: elegant and safe

- Thanks to the individual design options, the elegant front end of the Avenio fits any cityscape.
- The innovative crash concept, which complies with the collision scenarios specified in EN 15227, offers driver and passengers maximum protection in case of collisions.
- Passive safety for pedestrians was an important criterion for the front-end design. Here good all-round visibility for the driver and the special head shape play a key role.
- Following an accident, the skirting concept allows the front end to be quickly repaired – thus avoiding long downtimes.

The unique concept: low-wear, comfortable, energy-saving

- With the Avenio you get the best of both worlds – a single-articulated tram with the proven bogie and drive concept of our multi-articulated vehicles.
- The unique combination of articulation design, bogie and traction unit is attractive in every respect: advantages include superb ride comfort, low wheel and rail wear, reduced noise emission and low energy consumption.

The inside: treating passengers like guests

- The 100% low-floor interior with an entrance height of max. 350 mm is a winning combination of ample space, good overview, and great transparency.
- Multipurpose areas make for a relaxing journey for passengers with prams, bikes or bulky luggage, as well as for passengers in wheelchairs.
- Colors, seating arrangements and seat types, handrails, and infotainment screens are available in a large choice of variations.
- An efficient air-conditioning system and optional onboard energy store can be easily integrated thanks to adequate axle load reserves.
- All electronic and control elements are accommodated either in the under-desk cabinet or on the roof – while the inside is reserved for the passengers.

The bogie: triple suspension, simply brilliant

- The bogie's triple suspension system minimizes rolling noises and ground borne vibrations, guaranteeing a very quiet journey at speeds up to 80 km/h.
- The traction concept with longitudinally coupled individual wheels has proved successful in thousands of applications.
- The symmetrically suspended vehicle modules are connected via articulations that turn along the longitudinal axis. This enables the wheels basically to move into the curve by themselves, while the car body above rotates smoothly away.
- The Avenio can even negotiate winding tracks without jamming, unpleasant jolts or abrupt movements.

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contains general descriptions of
the technical options available,
which do not always have to be
present in individual cases. The
required features should therefore
be specified in each individual case
at the time of closing the contract.