



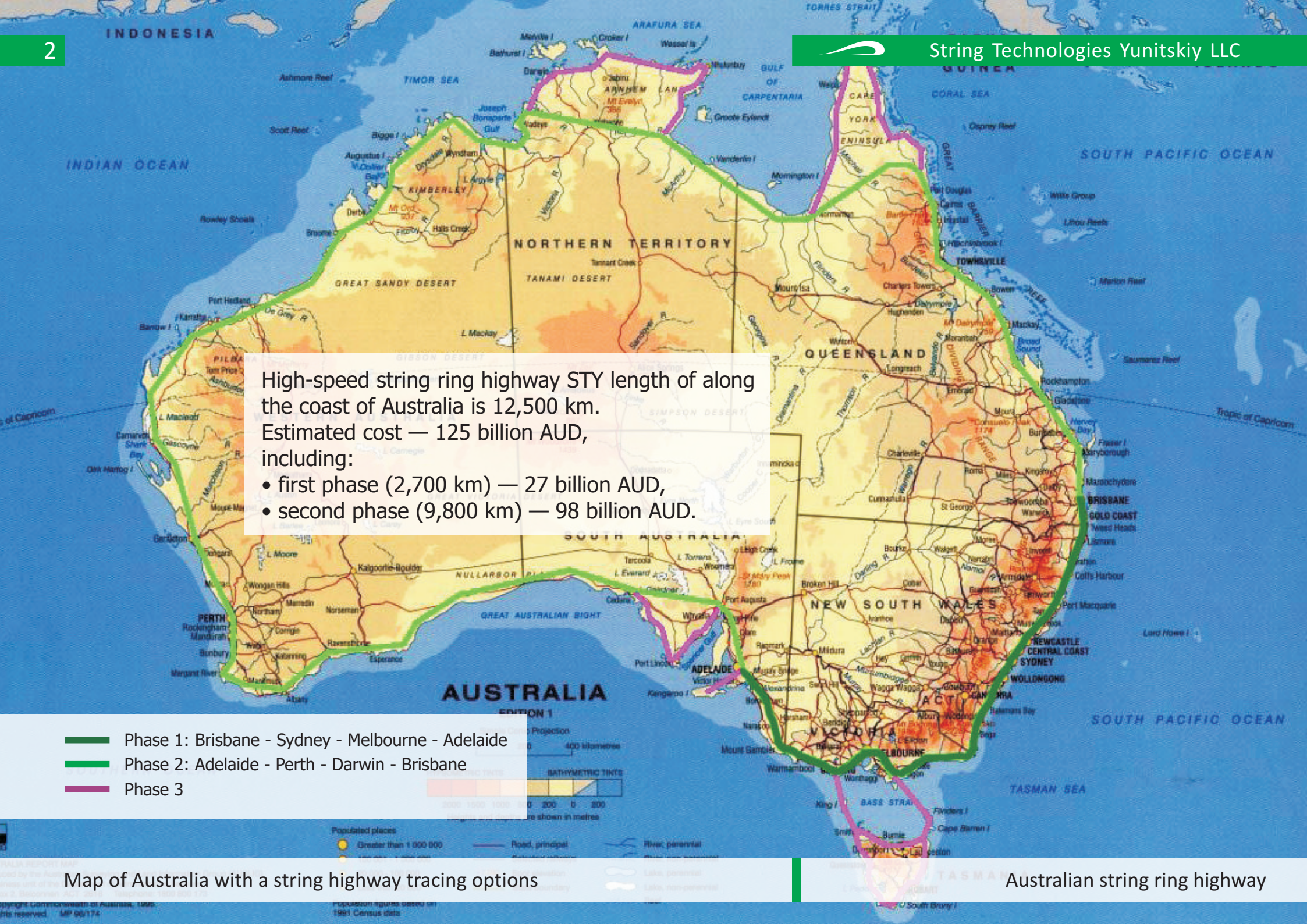
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Australian string ring highway



Moscow, 2011



High-speed string ring highway STY length of along the coast of Australia is 12,500 km. Estimated cost — 125 billion AUD, including:

- first phase (2,700 km) — 27 billion AUD,
- second phase (9,800 km) — 98 billion AUD.

- Phase 1: Brisbane - Sydney - Melbourne - Adelaide
- Phase 2: Adelaide - Perth - Darwin - Brisbane
- Phase 3

Map of Australia with a string highway tracing options

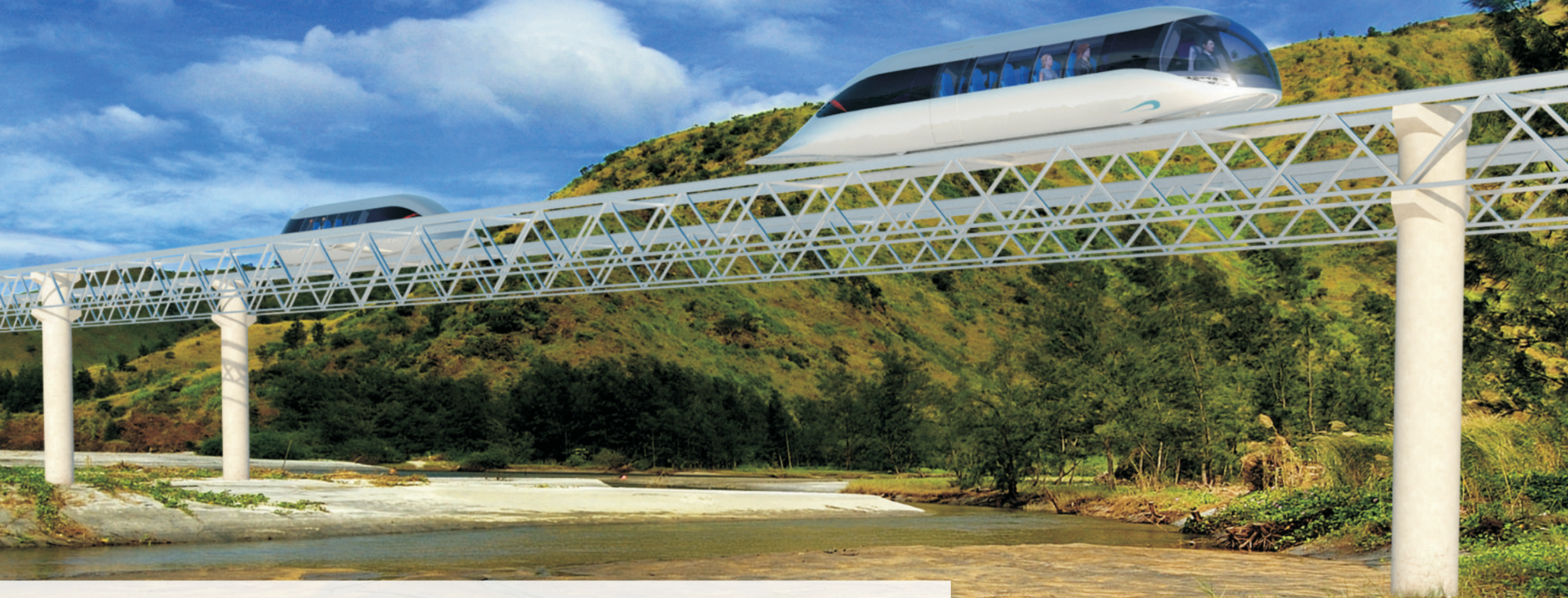
Australian string ring highway

Specific power of a drive at a speed of 360 km/hour: 8-12 kW/pass.
Specific fuel consumption at 360 km/hour: 0.6-0.9 liter/100 pass.-km



High-speed unibus (eventually up to 500 km / hour)

Australian string ring highway



Averaged double-track high-speed highway STY cost is

8.0—11.5 million AUD/km

including:

- track structure and supports
- stations, depots, terminals
- high-speed unibus
- security, control and communications
- other

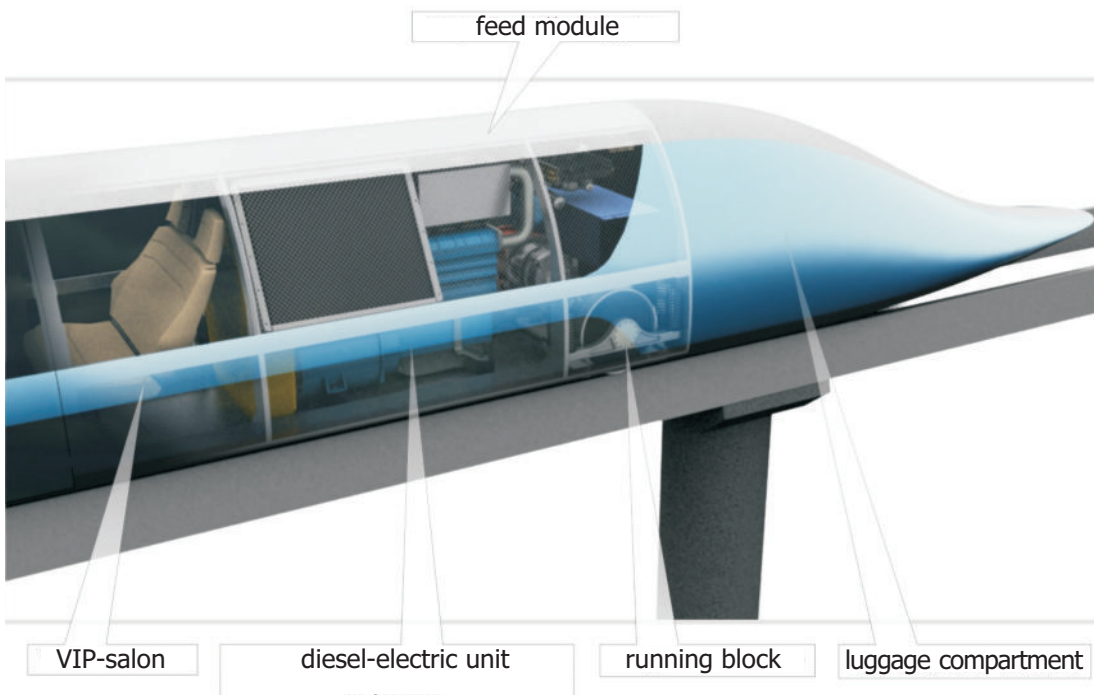
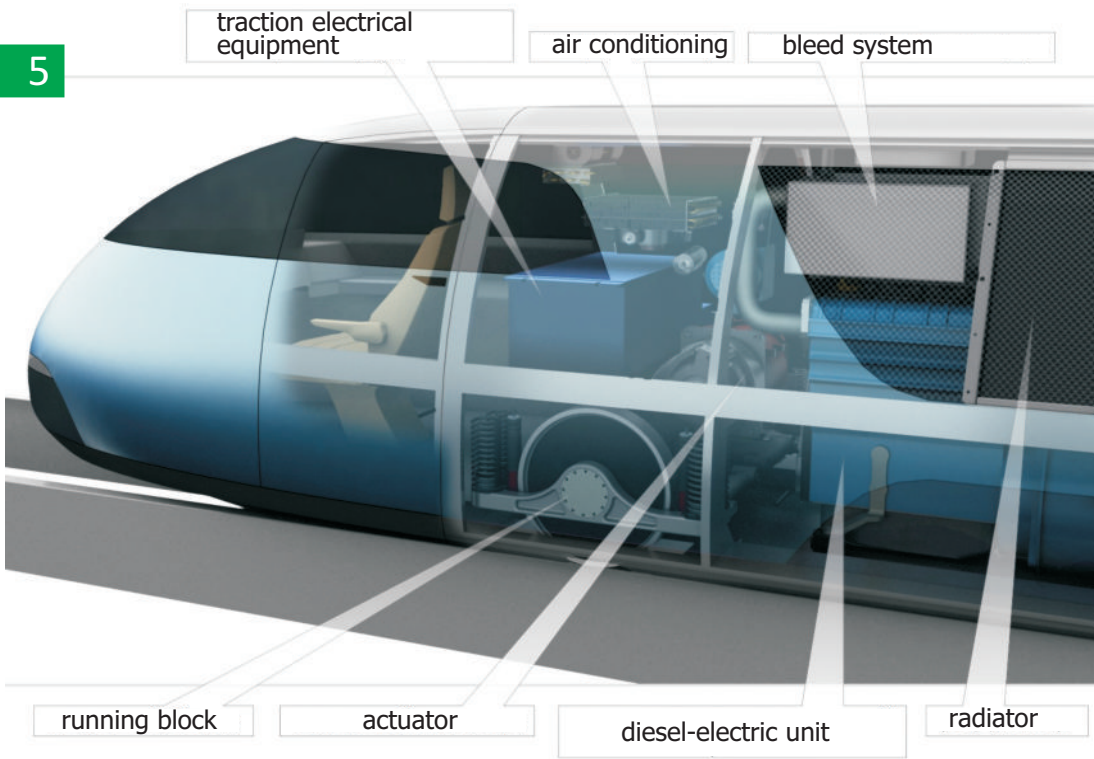
5.5—6.5 million AUD/km

0.5—1.0 million AUD/km

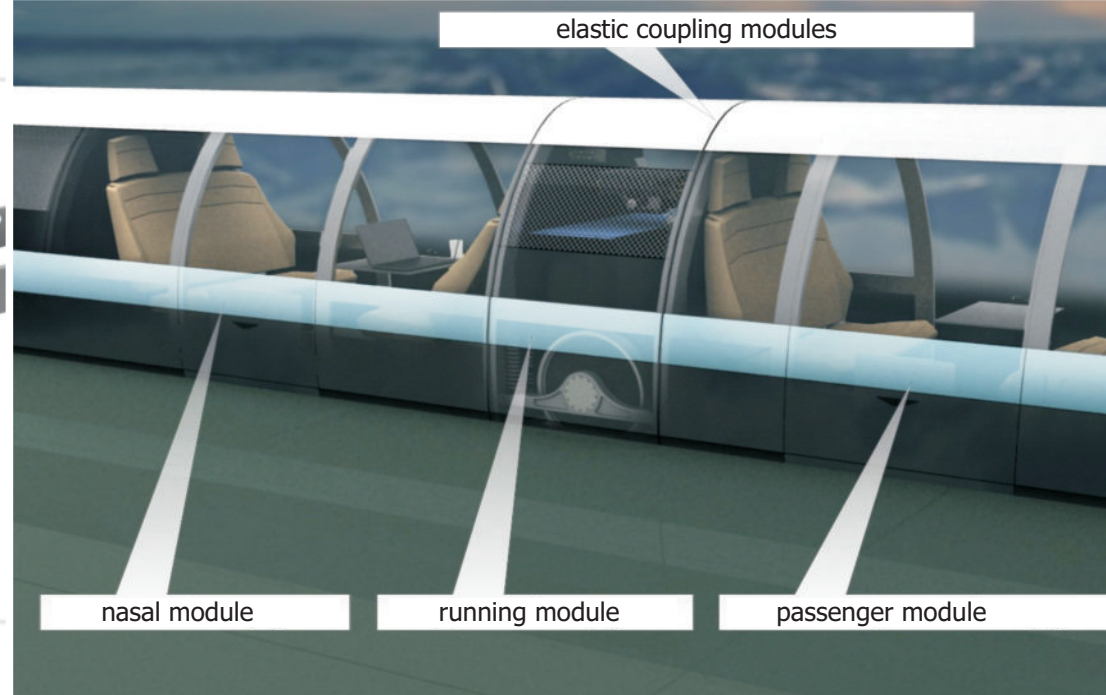
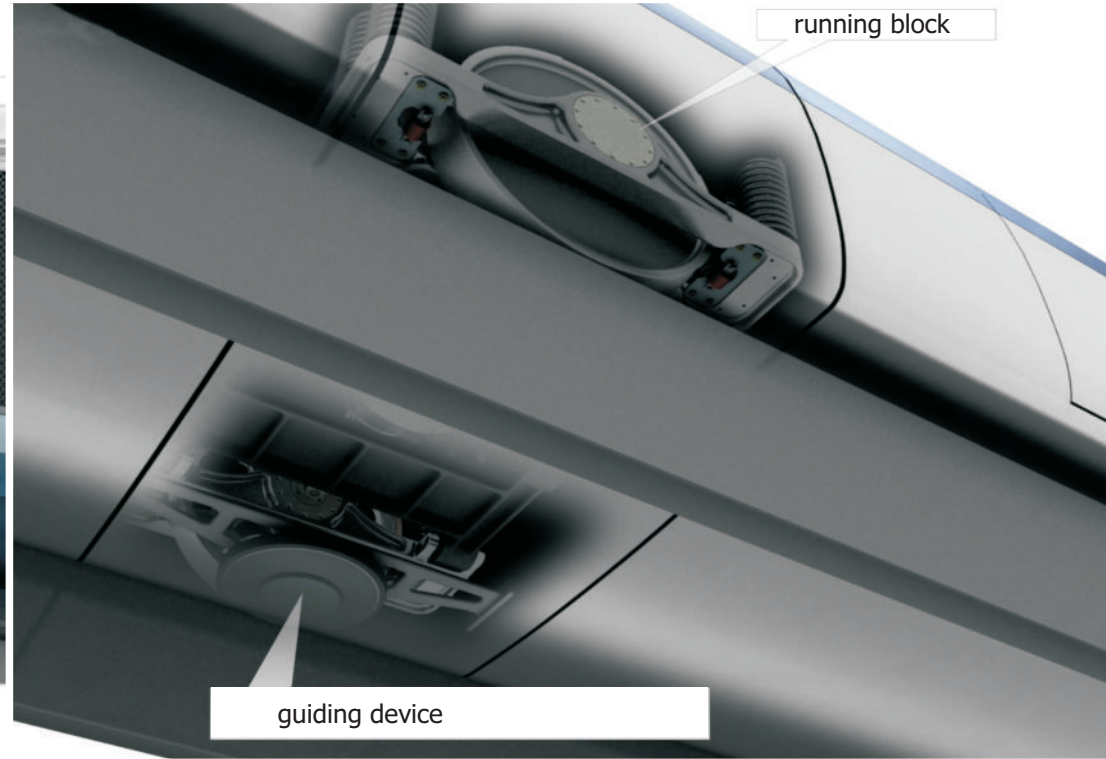
0.5—1.0 million AUD/km

1.0—2.0 million AUD/km

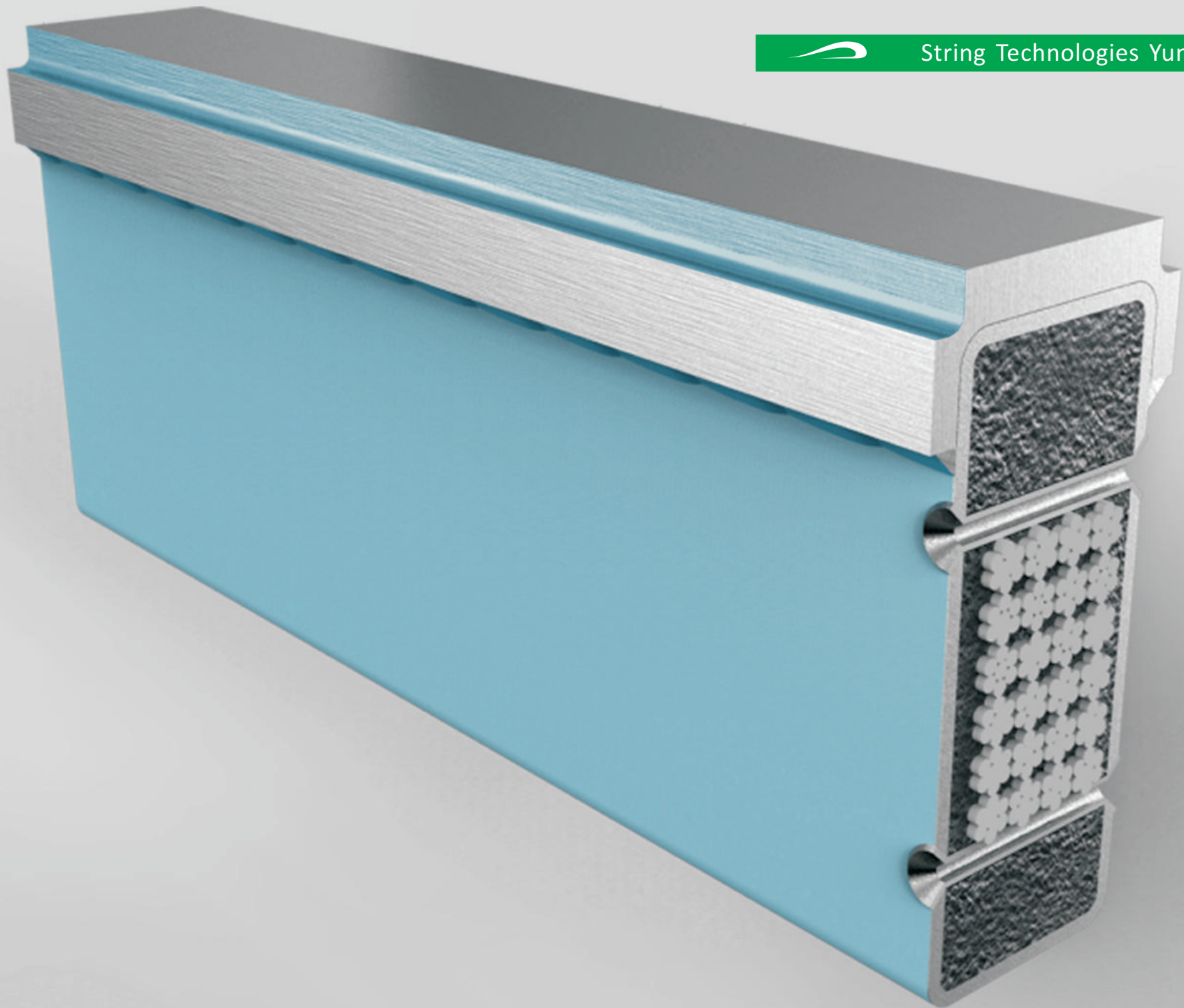
0.5—1.0 million AUD/km



Design features of high-speed unibus



Australian string ring highway



String rail STY at 1:1 scale

Australian string ring highway

Australian string ring highway

String Transport Yunitskiy (STY) — "second tier" rail transport in which the elevated track structure is supported on the height of 5—10 meters forming spans of 40—50 meters or more. The basis of STY track structure are specially constructed string rails (or farm-string), which pre-tension — string — provides the necessary strength, smoothness and durability. The design of STY track structure is a type of vehicle overpass, hanging and cable-stayed bridges with minimized material consumption and thus — value.

STY rolling stock is a rail car with steel wheels, also called unibus. This unibus — is the most effective vehicle of all currently known (car, airplane, helicopter, high-speed railway train, Transrapid).

STY tracks are clean, all-weather and natural disasters resistant (floods, earthquakes, hurricanes, tsunamis, extreme cold and heat, etc.) and also for the cases of vandalism and terrorism.

The length of STY high-speed ring road along the coast of Australia (depending on the trace): 12,000—14,000 km. The estimated cost of STY transcontinental highway is 125 billion AUD. After optimization and industrial development of STY highway, certification of road section, project cost can be reduced to 100 billion AUD. For comparison, a trail based on the best world technologies and traditional high-speed railroad (overpass execution), would cost for the customer — 600—800 billion AUD.

The length of STY high-speed ring highway third stage (branches of rings, depending on the trace): 2,000—5,000 km.

The averaged value of STY high-speed (in the long term — up to 500 km/hour) double-track trail in Australia is 8.0—11.5 million AUD/km including:

- track structure and support	5.5—6.5 million AUD/km
- stations, terminals, depots, terminals	0.5—1.0 million AUD/km
- high-speed units	0.5—1.0 million AUD/km
- security, governance, energy and communications	1.0—2.0 million AUD/km
- other	0.5—1.0 million AUD/km

The cost of STY high-speed highway depends on:

- terrain (supports height and length of spans depends on it);
- climatic factors (seasonal temperature variations, calculated wind speed, strength of underlying soil, likelihood of frost, floods, earthquakes, etc.);
- taken from STY draft (rated speed, capacity of units, estimated passenger and cargo traffic, slopes and radii of curvature of track structures, etc.);
- the optimization of design decisions at the design stage (bench tests and certification testing of site in real climatic conditions of the Project). Optimization will save up to 1.5—2.5 mln AUD/km, which provide the economic effect of 18—30 billion AUD with the length of road — 12 thousand km.



Specific high-capacity drive of a high-speed unit at a speed of 360 km/hour (or 100 m/sec): 8—12 kW/pass. For comparison, a similar rate in high-speed railway — 50—70 kW/pass., sport car has a top speed of 360 km/hour — 500 kW/pass.

Specific fuel consumption (calculation of electrical energy into fuel) of high-speed unit at 360 km/hour (or 100 m/sec): 0.6—0.9 litres/100 pass.-km. For comparison, a similar rate in high-speed railway — 3.9—5.5 litres/100 pass.-km.

STY high-speed roads in Australia will be built with the same standards as an urban STY. Therefore, Australia will have a single communication network designed for movement, not only multi-passenger (20—50 pass. and more), but also in the future — personal (1—2 pers.) and "family" (3—6 pers.) high-speed unibus developing speed to 500 km/hour on the main roads. In urban areas this rate can be limited to 120 km/hour. This infrastructure will make a revolution of the 21st century in any economy, comparable in scale (and even exceeding) revolution, which made the car in the 20th century.

Carrying capacity of STY high-speed double-track trail (total in opposite directions) is — 1 million people per day. On sections of the route where number of passengers will be higher, more ways can be arranged. With an average trip distance of 500 km Australian string ring highway can serve over 20 million users per day, i.e. the whole population. STY track structure will be combined with communication lines and power lines (they will be "protected" in string rail), supports — with wind and solar power stations. Such a communication system will pay for itself in 3-5 years.



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