Distributed power
Freeing up space on board and improving train access

> The principal

Progress made in the field of electronic power components has made it possible to considerably reduce the size of train traction systems. They can thus now be distributed below the floors of cars, rather than being concentrated in the lead and rear power cars, as in current TGVs™.

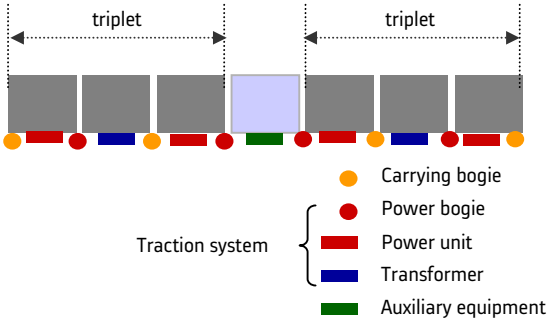
The AGV™, the latest generation of very high-speed trains developed by Alstom, does away with the concentrated power set-up, in favour of a system whereby power is distributed throughout the entire trainset. This design frees up extra space for passengers in the power cars. The result is 20% extra floor space, which can be used as operators see fit: either to increase the capacity of the train by installing extra seating, or to create dedicated areas such as lounges, business areas or leisure zones.

Distributed power also means cars can be accessed all along the platform, as opposed to traditional trainsets, whose power cars take up the beginning and end of the platform (as well as the middle in the case of double trainsets).

Position of power bogie on an AGV™

> How does it work?

Alstom's power distribution set-up is based on the "triplet" principle. Cars are arranged in groups of three: two cars have an engine unit attached to a "power" bogie, and are placed either side of a car featuring a transformer on a "trailer" bogie. To form a trainset, "triplets" are grouped together, with a car placed between each set carrying auxiliary equipment. The length of the train thus varies according to the number of triplets assembled.



The "triplet" design of the distributed power system offers maximum modularity

> The benefits

- **Space on board:** the AGV™ features 20% extra space, and offers a capacity of 300 to 700 passengers.
- **Modularity:** unlike the TGV™, which must be made up of one or two trainsets of eight cars, the AGV™ can be configured in several versions, with seven, eight, ten, eleven, thirteen or fourteen carriages. This design offers operators a range of trains to meet every capacity requirement.
- **Energy consumption** the new design consumes 30% less energy than a TGV™.
- **Maintenance:** reducing the number of bogies when compared to traditional trains and increasing passenger capacity reduces maintenance costs by 30%.

The AGV™'s power bogies are built at Alstom's Le Creusot site

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