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Urban Rail Transport Is Booming In France

During this year and up to spring 2001 at least 120km of reserved rights of way for metro, light rail, VAL, and guided bus will open throughout France---with more in the pipeline.

FROM Lille in the north to Montpellier in the south, and from Rennes in the west to Nancy and Strasbourg in the east, French provincial cities are embracing rail-based public transport with unbridled enthusiasm. The trend has taken such a hold that up to 2010 it is expected that

about 30 cities will install their own urban transport systems on reserved rights of way at a cost of about FFr 70 billion (\$US 9.4 billion).



The Optonic modular concept developed by Alstom is demonstrated in the stylish Citadis vehicles for Lyon.

This is in complete contrast to the situation prior to the early 1990s. The tram, as it was then called, was unpopular in France due to its image as an old-fashioned, slow, and uncomfortable mode of transport. Indeed, the image was so bad that in Rouen both light rail services are marketed along with bus services as Métrobus. Highway pollution, increasing fuel costs and some spectacular technical advances in vehicle systems and design have, however, changed the perception in a remarkably short period of time.

This year has seen the opening of extensions to two LRT lines in Nantes (10km at a cost of FFr 1.3 billion), the first LRT line in Montpellier (15.2km, FFr 2.3 billion), an extension of the Lyon rubber-tyred metro to Gerland (2.4km, FFr 1 billion), the opening of LRT lines B and C in Strasbourg (12.6km, FFr 1.6 billion), the first LRT line in Orléans (18km, FFr 1.9 billion), and Line 2 of VAL in Lille (20km, FFr 6.8 billion).

In addition, the first two LRT lines in Lyon (18.7km, FFr 2.3 billion) will open in January 2001, Nancy is about to open a rubber-tyred guided tram line, and a 1.5km test section has opened in the Breton capital, Rennes, to demonstrate the VAL 208 vehicle. Revenue service on the automated light metro line is due to start in Rennes in 2002. An LRT extension in Grenoble to Palais de Justice is due to open in March 2001. In July, the city council in Marseille agreed an expansion plan that will see 5.6km of metro extensions and 15.4km of new light rail lines by 2005.

Also in the next few years, Bordeaux, Valenciennes, and Toulon will open light rail lines, Toulouse will extend its VAL network, Mulhouse will inaugurate a dual-mode tram-train system, and guided road vehicles will also start operating in Rouen, Maubeuge, and Caen.

The importance that the government attaches to these developments has been demonstrated twice this year with Prime Minister, Mr Lionel Jospin, officiating at the openings in Strasbourg on September 1 and Lille on October 27.

The second section of Line 2 of the VAL automated guideway transit

(AGT) system in Lille between Tourcoing and Dron hospital includes 3.5km of new track, five stations, and a depot/workshop. Line 2 (including Line 1bis) is now complete and, at 32km in length, is claimed to be the longest fully-automated, driverless mass transit line in the world.

The AGT system for Rennes will be 9.5km long with 7km underground. There will be 15 stations. Track has been laid over 60% of the network and electrification of the southern part of the line is complete. Rennes has a population of about 500,000 and the AGT is expected to transport 75,000 people each working day---more than 19 million each year.

The city will introduce a combined VAL-bus tariff while additional park-and-ride facilities are designed to encourage car drivers to use public transport. The object is to reverse the trend between individual and public transport, so that the latter is more frequently chosen.

The most ambitious current project is in Bordeaux where three LRT lines are being built simultaneously. Work started in February. The first 24.5km phase with 53 stations is due to open at the end of 2002 or the beginning of 2003. The remaining 19.2km with 31 stations will be brought progressively into operation up to 2006. Total cost at January 2000 values is FFr 6.7 billion.

On completion, Line A will be 19.9km long with a capacity of 4500 passengers/hour, Line B will be 15.4km long with similar capacity, and Line C will be 8km long with a capacity of 3000 passengers/hour. A total of five stations will offer interchange with French National Railways (SNCF) services.

Ms Véronique Guillermo, a spokeswoman for the urban community of Bordeaux (CUB) commented: "Our task is very ambitious and our approach is very big. There will be a lot of disruption in the city during construction but the population is impatient for progress."

She added that bus services would be remodelled and up to 15 new park-and-ride facilities (possibly free) will be provided. "About 2000 parking places will disappear because of construction works, and these will be compensated for by the park-and-ride developments.

"We are also taking the opportunity to rebuild streets and squares and we have other architectural projects too. We have a sophisticated population and we want the light rail system and the vehicles to have high aesthetic standards and elegance to reflect the city. We want it to be more than just a transport system," Guillermo added.

On completion of the network, 37% of the city's population, 50% of workers in the CUB, and 65% of all students within CUB will be within 500m of an LRT station.

Bordeaux is one of six French cities that have ordered vehicles from the Citadis family built by Alstom. The modular concept was launched in September 1999 and today Alstom has orders for more than 300 vehicles, including export orders from Melbourne, Rotterdam, and Dublin.

The modularity of Citadis offers both technical and aesthetic choice to the customer while promising reliability through the use of service-proven technology. Alstom gives a rule of thumb answer to the question of what can be customised and what is standard. "Everything you can see can be tailored, and everything you can't is standard."

Alstom has patented a design process known as Optionic Design to try to accommodate individual customer choices. This means that vehicles can be adapted to a range of dimensions, floor heights, cab styles, number of doors, and types of materials and technologies.

Montpellier was the first city to introduce Citadis on a brand new network. It opened on July 1 this year with a fleet of type 301 vehicles that cost FFr 11 million each. The network carried its one millionth passenger on August 17. Passenger receipts in August were 9% ahead of expectation.

The Montpellier vehicles are powered by the Onix traction package with IGBT. Top speed is 70km/h and commercial speed 20km/h. Work is due to start on a 19km second line between Jacou and St Jean de Védas in 2003, with opening scheduled in 2005. A third line between Juvignac and Lattes should open between 2007 and 2010.

Lyon has ordered Citadis TGA 302 models, which are slightly longer and narrower than the Montpellier vehicles but have the same number of seats. Bordeaux will operate two types of vehicle, one nearly 44m long for lines A and B, the other 33m long for Line C.

Nantes, which has the longest light rail network in France, has a fleet of pre-Citadis Alstom vehicles, but in April this year decided to buy 23 of the Adtranz modular LRV offering, Incentro. These five-section articulated vehicles are 36.4m long and 2.4m wide and run on three bogies. At 33 tonnes it lays claim to being the lightest LRV in the world for its length. The vehicles, type AT6/5L, can carry 259 passengers, 76 of them seated.

In order to achieve the lowest possible floor level, electrical equipment was switched to the roof area. Narrower seats and the removal of interior steps have created more room to reduce station dwell time. Incentro's cousin, the stylish Eurotram operates in Strasbourg.

Fully automatic, driverless VAL vehicles for Lille and Rennes are supplied by Matra Transport International, which, since becoming part of Siemens, has moved production to Vienna. The latest vehicle out of Austria was the first brand new VAL 208 vehicle, painted in Rennes Metropole colours, which began demonstration runs on October 20 on a 1.5km section between the depot/workshop and the second station, Le Blosne.

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