

German Maglev Will Finally Run—in China

by Rainer Apel

If there is any future for the German magnetic levitation train technology, the Transrapid, it is because of the courageous decision of the Shanghai municipal authorities to give the go-ahead for a first commercial maglev line on Chinese territory, which would connect the city with the international trade zone and airport at Pudong, about 40 kilometers to the north. The project has the backing of the Chinese government, which views the Shanghai-Pudong route as the first stage in the construction of a national maglev grid, connecting the two most-populated cities, Beijing and Shanghai. The Chinese approval was confirmed on Nov. 20.

The construction of the Shanghai-Pudong line will cost up to \$1.5 billion, which is a lot of money by Chinese standards. But experts such as Wu Wenqi, from Shanghai Tongji University, calculate that building the route based on maglev technology will cost less than 25% than the same project would, using modern subway technology.

The maglev system is propelled by alternating magnets in the train and the track, avoiding any direct contact between train and track. This makes it possible for maglev trains to run at speeds twice or thrice that of modern, wheel-track systems, and their acceleration power is much higher. This renders superfluous most tunnels and circuitous routes, required to bypass uneven terrain, thereby reducing expenses and making construction work much easier. The maglev train is a revolutionary technology, and that is why the Chinese want it. The Shanghai-Pudong route will be the first maglev route outside of Germany.

By contrast, the German government, in January 2000, opted out of building the planned first commercial route between the nation's two most populated cities, Hamburg and Berlin. The decision was taken because of a mixture of ecologist opposition to modern technologies, and fiscal petty-mindedness, which prevented the government from granting another \$1.5 billion for the already much-delayed project—by German standards, that is not a lot of money. By February, the future of the maglev in Germany, for commercial use, was more than uncertain. At least, the worst, namely a total repudiation of the technology, was prevented, as the government guaranteed funds to continue and modernize the existing test track, a 34-kilometer route in northwestern Germany, at Lathen.

And at Lathen, the commitment of the Chinese was confirmed, when China's Prime Minister Zhu Rongji and Shang-

hai Mayor Xu Kuangdi took a test ride on the Transrapid in July. Xu Kuangdi said, after the ride at 450 km/hour, that his city wants the maglev system, not only because of several tens of millions of regular train users who require a more efficient system, but also because it is the railway technology of the 21st Century, and Shanghai wants to march in the forefront of this revolutionary development in the transport sector.

The Shanghai municipality is now committed to signing the essential pre-contracts by mid-December, and begin construction in February or March 2001. The first commercial maglev train is scheduled to leave Shanghai in February 2003—a date which is also crucial for China's national transport policy, because in the Spring of that year, the government is to decide which technology it will take for the envisaged new high-speed railway route between Beijing and Shanghai, which will be a grand project, with up to 1,300 km of tracks to be built.

Prospects for the United States

The development of maglev perspectives in China has contributed also to progress on the American side. On Oct. 11, the transportation ministers of Germany and the United States, Reinhard Klimmt and Rodney Slater, signed an agreement on governmental cooperation with the perspective of selecting at least one maglev line for commercial use on American soil, within two years. The proposed route between Washington, D.C. and Baltimore is viewed as the most likely one to be chosen, but there are several other projects that may become eligible, in the near future—not as alternate routes, but as additional ones. These would be extensions to other big Eastern urban centers such as Philadelphia, New York, Boston, and Pittsburgh. Also, projects between Chattanooga and Atlanta, between Cape Canaveral and Orlando, and a regional maglev metroliner in New Orleans have been proposed. On the West Coast, a big project connecting San Francisco with Sacramento, Los Angeles, San Diego, and with Las Vegas, is being discussed. There is a very strong lobby for such projects, particularly among people whose nerves have been destroyed by the chronic delays at overloaded U.S. airports. A train that takes a passenger from Washington, D.C. to New York in one hour, and from Atlanta to New York in two hours, would be a welcome alternative to a situation that can require three hours or more for a traveller to reach New York from Atlanta by plane.

While regional enthusiasm is growing, it depends on the next U.S. President and his Transportation Secretary, as well as the new Congress, whether a decision will be made to supply substantial Federal funding. As in Germany, this is a challenge to the budget balancers. But it is also a challenge to American pride: The United States should at least come in second, after China, with a maglev project. And that is exactly what many Germans expect the Americans to do, and many Chinese would be quite puzzled, if the Americans didn't.