

Business Briefs

Infrastructure

Italian engineers build railway bridge in hours

Italian engineers built a one-kilometer railway bridge entirely from prefabricated segments, completing the high-speed track for the "Pontebbana" between Carnia and Pontebba in Italy's Alpine north, in 48 hours.

The bridge, near Venzona, was built of several hundred segments that were transported from the factory to the construction site in a convoy of 120 heavy-duty trucks, and 48 hours after the entire operation began, the bridge was completed.

Envisaging the future cross-border transit with Austria on that route, which is scheduled to begin 1993-94, the Austrian Railways offered the Italian Railways a new type of locomotive, capable of running on either the Italian or the Austrian electric currents. The locomotive, produced by the firm Simmering-Graz-Pauker, will save time previously lost during the usual changing of locomotives at the border.

Railways

Soviets plan grand high-speed project

The Soviet Union is planning construction of a high-speed rail line from Leningrad to Moscow, and two high-speed trunk lines from Moscow through Ukraine, terminating in Crimea, and through southern Russia, Rostov on Don, and extending through the North Caucasus into the Transcaucasus, according to Radio Moscow May 12, which called it "the super project of the century."

Radio Moscow added that a debate over the project has broken out in the Soviet press, citing a May 11 article in the daily *Sovetskaya Rossiya* calling for the "plan to be abandoned" on the basis of the alleged "huge costs" and "impact on the ecology."

The plan is, however, reportedly sound and precisely the type of major infrastructure project required to open the door to solving

the transport collapse at the heart of the Soviet economic breakdown. The plan is the longest high-speed rail network proposed anywhere in the world, and the proposed routes would link Russia's two largest cities, Moscow and Leningrad, with the Ukraine industrial belt and the U.S.S.R.'s two granaries, Ukraine and southern Russia. Future extensions of the "super project" could link up this north-south high-speed rail network westwards to meet the Central European Triangle advocated by the Schiller Institute, and eastwards to serve Russia's Volga and Urals industrial hubs.

Shipbuilding

Japan developing MHD propulsion

The Japan Foundation for Shipbuilding Advancement is readying a test next year of the world's first ship, the Yamato I, which will be propelled by superconducting magnets in a magnetohydrodynamic (MHD) system, according to the May 15 *New York Times* and a recent issue of *New Technology Week*.

The foundation has reportedly spent over \$30 million on the effort in the past three years. The advantage of the MHD technology, especially for submarine applications, is that it is virtually silent, as it involves no moving parts.

An electric current is passed through the weakly electrically conducting seawater, which is thereby separated into positively and negatively charged particles. Action of the superconducting magnets directs the flow of the water perpendicular to the magnetic field, pushing it out one end of the MHD channel. This thrust, similar to rocket thrust, moves the ship in the opposite direction of the flow of the water.

Aerospace

French, British plan 'super Concorde'

A "super Concorde" for the 21st century is being planned by French and British designers,

Reuters reported May 9. Aérospatiale of France and British Aerospace, which jointly built the Concorde supersonic airliner 20 years ago, have started studies on a revised model, Aérospatiale chairman Henri Martre told a news conference in Paris.

The super Concorde on the drawing board would fly nearly twice the range, 7,500 miles instead of 4,000 miles, and carry 200 passengers instead of 100. Technologies that have evolved since the plane first flew in 1969 would allow a reduction in engine noise, better subsonic performance, and a top speed of Mach 2.4, slightly faster than the original. It could fly from Paris to Tokyo in just over five hours. New construction materials could reduce the weight by 20%, thereby improving fuel efficiency.

"There is very strong demand for a successor to Concorde," Martre said. Studies in Europe and the United States show that such an aircraft could be economically viable, with a potential market of 300 to 500 units between 2005 and 2025.

The French and British airplane makers have agreed to spend \$36 million on research over the next five years. The development program could take \$11 billion, in which other partners may be able to join. U.S. efforts to build rival supersonic planes in the 1970s were halted on environmental grounds.

AIDS

Uganda is losing an entire generation

An entire generation in its most productive phase of life is being lost by Uganda, Prof. Olof Karlander wrote in the Swedish daily *Dagens Nyheter* May 9.

In the worst-hit parts of Uganda every second person between 15 and 45 years of age is carrying the AIDS virus. More than half a million children in Uganda are orphans, mostly because their parents died of AIDS, and in some hospitals every third mother who gives birth is AIDS infected.

Professor Karlander warned that the advanced sector might believe that AIDS is under control, but that is wrong. AIDS is now be-

coming the poor people's sickness, and "in the Third World it is not only a question of health but increasingly becoming a social catastrophe."

Karlander warned that "AIDS is a catastrophe in high speed" and because of that, we are not reacting quickly enough. He called for immediately educating especially the female population in sexual behavior, and emphasized the importance of economic development.

Labor

Fear of U.S. becoming nation of unskilled

Amar Bose, an inventor and Massachusetts Institute of Technology professor, warned a group in Washington honoring the 200th anniversary of the U.S. patent and copyright system May 10, that America is becoming a nation of unskilled laborers.

"If Congress does not wake up and fundamentally restructure our education system, within 40 years the United States will be the country of unskilled laborers working for foreign-owned corporations," Bose said. "Americans will be unable to spell invention, let alone make inventions." He cited statistics, including the 700,000 high school dropouts in 1988. More frightening, he said, was that out of 3.8 million 18-year-olds "in 1988, 700,000 high school graduates could not read their diplomas."

Bose, Philip Leder, a Harvard University geneticist and co-inventor who first patented a cancer-prone mouse, and other speakers said education is the key to technological advances that will be required for the United States to compete internationally.

In the April 27 *Science* magazine, Richard C. Atkinson, chancellor of the University of California at San Diego, projected that the future supply of scientists and engineers in the U.S. will not come close to meeting the demand: "The demographics of the college-age population combined with estimates of the percentage of students who will pursue careers in science and engineering indicate significant shortfalls between supply and demand for the

next several decades at both the baccalaureate and Ph.D. levels. If these projections are realized, the shortage of technical personnel will have a major impact on economic growth, international competitiveness, and national security."

Defense

Advanced lasers deployed for blinding

"Blinding lasers: the nastiest weapon?" is the headline of an article appearing in the March 1990 issue of *Military Technology*, a European publication. The article, which details the use of lasers for blinding military personnel, is one of the first publications outside of *EIR* to underscore that laser weapons are not merely the weapons of the future, but have already been deployed.

In one case, a so-called "laser dazzle gun" was identified on a British frigate last year while it was patrolling the Persian Gulf. Similar weapons have been identified on Soviet warships.

Brig. Bengt Anderberg, head of the Planning Department of the Swedish Army Staff who authored the report, said that anti-personnel weapons designed to blind military personnel are the first deployable weapons and have a profound impact on war-fighting.

Echoing the *EIR* Special Report, "Electromagnetic-Effect Weapons: The Technology and Strategic Implications," published in 1988, the article stated that "Relatively cheap, small, and hand-held anti-eye laser weapons could be fielded in large quantities during the 1990s. *EIR* has hypothesized that such blinding weapons caused the Aug. 28, 1988 Ramstein Air Show disaster.

"The impact on the future battlefield of laser weapons will be considerable. They will effect operations and battle techniques. The use of an anti-eye laser as a common weapon on the battlefield will certainly change the situation of the infantryman. . . . All armies will have to write training manuals and design training devices based on new battle doctrines adapted to the laser environment."

● **A REVOLUTIONARY** "synthetic pulse and antenna radar" is being tested at the French proving grounds at Iles du Levant. It provides an omnidirectional constant computer image of the sky and uses VHF waves, reducing the advantages of stealth technologies, and enables planes to "see" without emitting an easily detectable radar beam.

● **INDONESIA'S** national development planning board has asked the Japanese to fund a final feasibility and site determination study for its first nuclear plant, a 600-megawatt reactor, reported the May *Nuclear News*. Japan has never yet used its Overseas Development Assistance Budget for a nuclear project.

● **AIDS** infection rates in Thailand are rising, Dr. Mechai Viravaidya, secretary general of the Population and Community Development Association, told Reuters May 9. Of 10,000 youth tested in the latest Army recruitment drive in the 17 northern provinces, 250, or 2.5%, tested positive.

● **HALF** of all West Germans want to give railway investments top priority, according to an opinion poll published by the Bonn-based INFAS institute. Only 10% would give highway investments priority.

● **THE SCHILLER** Institute's "European triangle" railroad development proposal was reported in the Swiss Italian-language magazine *Gazzetta Ticinese* April 27, which called it an "attractive" plan. "The Europe of the year 2000 could be based on the Paris-Berlin-Vienna triangle. . . . We could create the highest concentration of productive energy ever seen in the world."

● **ARGENTINA'S** assistant secretary of public finances, Raúl Cuello, has called for an investigation of Bunge and Born, Continental Grain, Cargill, Louis Dreyfus, and André, for conspiracy to avoid taxes and controlling 35% of the grain export market.