Siemens traffic systems gets millions of vacationers to their summer destinations safely

Millions of motorists supported every day by guidance and tunnel security systems from Siemens

The summer holidays are just around the corner: millions of cars, motorcycles and buses will soon be traveling daily over Europe’s popular north-south highways. According to the Swiss traffic census, in July 2009, roughly 1.3 million vehicles passed through the Alps to vacation spots in the South via the country’s Gotthard, San Bernardino, Great St. Bernhard and Simplon tunnels alone. Siemens traffic systems support vacationers over thousands of kilometers. The company’s advanced control systems help reduce the number of traffic jams by automatically adjusting traffic guidance systems to changing traffic volumes and weather conditions. Fewer jams means safer travel, a cleaner environment and lower costs: according to the Federation of German Industries, clogged roads cost over €100 billion a year in Germany alone. Innovative technologies help optimize traffic flow guidance. Since Siemens equipped Austria’s autobahns with an intelligent traffic information and control system, there have been 40 percent fewer accidents. Travel times have also been sharply reduced. This is just one of the ways in which Siemens traffic systems are making holiday travel on Europe’s highways safer, more secure and more comfortable.

The control center used by the Southern Bavaria Highway Authority is a prime example of how Siemens transportation systems are being applied. The center uses the systems to control traffic from its location in the Bavarian city of Freimann near Munich. The Southern Bavaria Highway Authority is responsible for more than 1,100 kilometers of autobahn, including southern Germany’s heavily traveled Autobahns 8 and 9. The Freimann control center, which is considered to be one of the world’s most advanced, supports nearly one million vehicles a day. Siemens control systems automatically register traffic volumes and weather conditions and adjust electronic road signs accordingly. For example, speed limits can be reduced, traffic jam alerts activated, emergency lanes opened for traffic and traffic flows rerouted from overcrowded to less-traveled roads with the help of variable direction signs.
Tunnels are among the most dangerous sections of the autobahn. For example, dealing with breakdowns is considerably more difficult there than on open highways. Siemens tunnel technology turns the dark connecting links into secure high-tech transportation routes. Siemens researchers have developed a technology that reduces the risk and impact of tunnel fires. A new system recognizes overheated truck brakes even before tunnel entry so that an alarm can be sounded in the event of danger. A radio frequency identification (RFID) system registers information regarding the contents of hazardous material transporters even before they enter the tunnel and relays it to the control center so that fire services have the appropriate extinguishing agents on hand if fire breaks out. Tests of the new system will begin in the Aubing Tunnel near Munich in May.

Siemens technology is already ensuring safety in numerous tunnels in Germany, Austria and Switzerland. For example, Siemens has installed fire protection systems in all the tunnels on Zürich’s A3 western bypass and on the A4 link. The aim of the project, which was one of the largest highway projects to be implemented in Switzerland in the last few years, was to create a faster link between the economic centers of Zürich and central Switzerland. The highway link has also helped reduce traffic volumes in numerous communities besides Zürich.

Safety was a key focus in the planning and construction of the Swiss tunnel project. To guarantee optimal fire protection in the tunnels, Siemens relied on the FibroLaser fire detection system, which helps detect fires rapidly while precisely localizing their point of origin. At the same time, the system is largely immune to external influences such as smoke development. Its core element is a control and guidance element that is connected with a sensor cable, which consists of two optical fibers (fiber optic cables). The sensor cable for each control unit may be up to 4,000 meters long. The cable functions as a linear sensor and – divided into thousands of “individual sensors” by appropriate electronics and software – can accurately pinpoint temperature increases to within one meter. Siemens operates some 2,500 kilometers of FibroLaser around the world – a distance greater than that between Oslo in Norway and Sicily in the south of Italy.

Further Information and pictures are available on the Internet at: www.siemens.com/presse/traffic

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