

AMEC SPIE Est

Underground manoeuvres in th

The safety improvement work in the Maurice Lemaire tunnel will take three years to complete.

AMEC SPIE Est's personnel have already completed one aspect of their assignment: removing hundreds of electrical devices.

➤ The Maurice Lemaire tunnel in eastern France, between the Haut-Rhin and Vosges départements, is France's longest road tunnel, measuring 6,950 m. In common with all tunnels longer than 1,000 m in the country, it recently underwent a safety audit. This inspection revealed the need to carry out safety improvement works. The operator, Société Autoroutes Paris-Rhin-Rhône (SAPRR), made the necessary decision this year. The first stages in this work entailed removing all of the existing electrical equipment. The contract for this service was awarded to the Motorways department of AMEC SPIE Est's Sud Bourgogne office and the Industrial department of the Alsace Sud office. Over an eight-week period, 28 employees from both offices, assisted by personnel from subcontractors, carried out this work, which was made particularly arduous by a challenging environment. "We had

to cope with the dirtiness of the tunnel, risks connected with the build-up of toxic gases, and headroom of only 1.60 m in the ventilation shafts" explains David Harriche, head of the Bourgogne/Franche-Comté regional office's Motorways department. A number of special accident prevention measures were implemented, such as a traceability system for personnel in the tunnel, an always-on radio link between the personnel in the tunnel and a supervisor at the base, and the installation of a powerful ventilation system. "We had to adjust the ventilation every day, to ensure that employees received enough oxygen and to prevent any risk of carbon monoxide poisoning" notes David Harriche. Thanks to excellent preparation before work at the site began, close cooperation between the two offices and a highly motivated team, there were no accidents and the deadline set by SAPRR was met. ■



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e Vosges mountains



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- 1** The complete AMEC SPIE Est team from the Sud Bourgogne and Alsace Sud offices at the entrance to the Maurice Lemaire tunnel.
- 2** Gilles Keckhut removing low-voltage cables. In all, 60 km of cables were removed.
- 3** Removing high-voltage cables through a hatch in the ventilation shaft.
- 4** Thierry Muntz removing cable ducts. A total of 30 km were removed.
- 5** Removing high-voltage cables through a hatch in the ventilation shaft.
- 6** Removing the distribution cabinets in the intermediate substations.
- 7** Preparing to remove a high-voltage cable in a ventilation shaft.
- 8** Removing the cabinets. In all, 100 cabinets were taken out.
- 9** Waste sorting centre. The operation required eight skips, which were replaced daily.

> Services

- Creation of 40 access hatches in the ventilation shafts.
 - Removal of:
 - 30 km of cable ducts
 - 100 km of cables
 - 2,000 light fittings
 - 70 cameras
 - 50 emergency telephones
 - 500 signal boards
 - 100 electrical cabinets
- The contract was worth a total of €1.161 million, with a 60% share for the Sud Bourgogne office and 40% for the Alsace Sud office.