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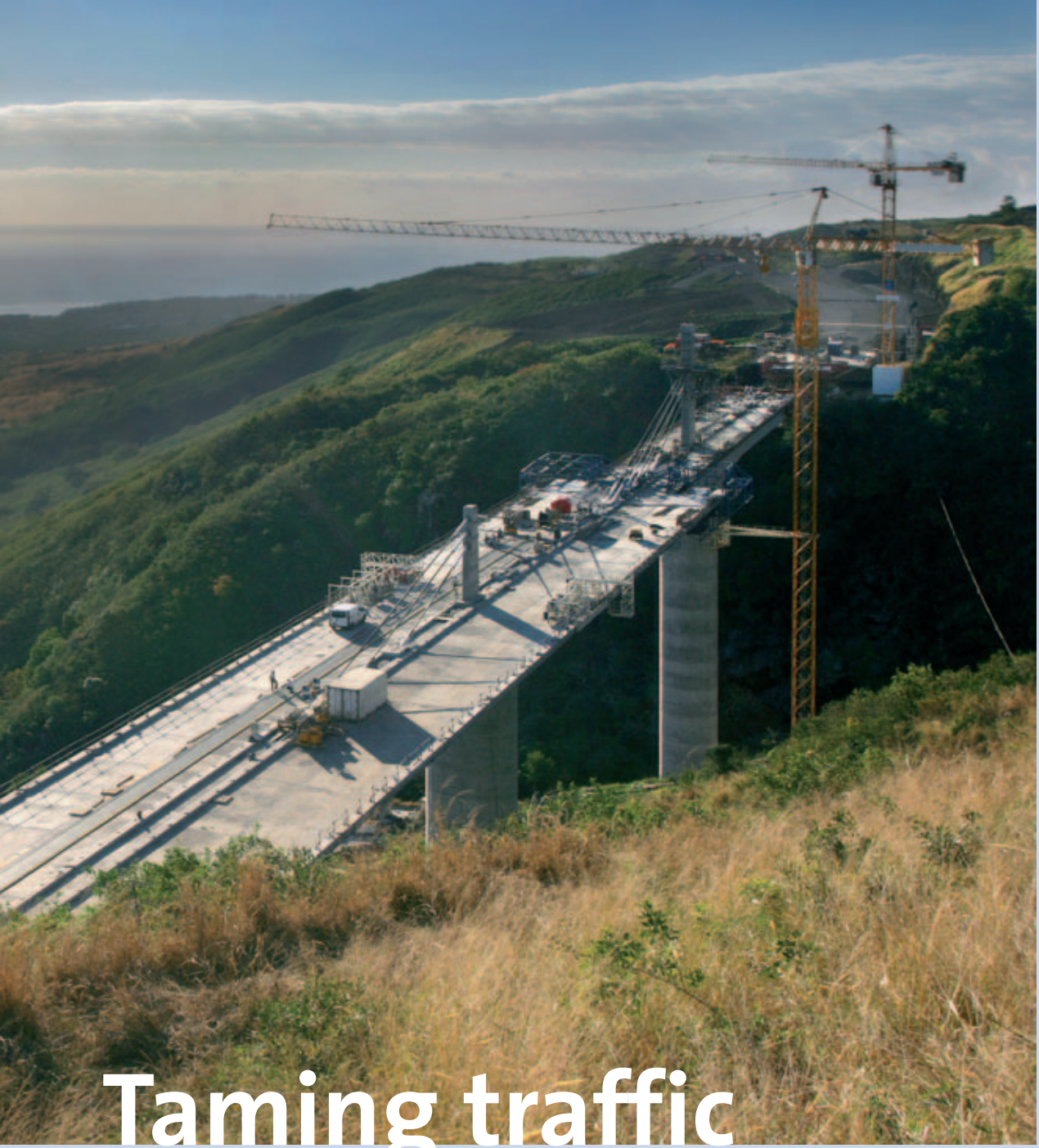
Just off the plane and already stuck in a traffic jam: for many tourists, their dream vacation on the tropical volcano island of La Réunion begins with workday-like stress. Long before they can unpack their sun-cream on the beach at Boucan Canot, they have to fight their way through the traffic chaos on the west coast of the island.

Stop-and-go with serious economic consequences: La Réunion, French overseas département and the southernmost point in the European Union, lives from tourism. A paradise for hikers, surfers and adventurers, the mountainous island attracts more than 400,000 vacationers each year – of which more than three quarters come from the 'metropolis', as the inhabitants call France, the mother country. Visitors have a hard time in the traffic: there are over

Steep coastline and elevated plains: the six-lane highway negotiates uncountable valleys, gorges and cliffs.



Taming traffic in a tropical paradise

La Réunion – a vacation paradise east of Madagascar.
The spectacular Tamarins Route is
being built to prevent impending gridlock.

300,000 cars for barely 777,000 inhabitants. Parked bumper to bumper, the cars would stretch out over 112 kilometers, thus covering half of the circumference of the island. Nearly 40% of the inhabitants live on the west coast and rely on the fully overloaded National Road Number 1. The important rum and raw sugar industries suffer from the poor traffic infrastructure. And the situation is getting worse: the population is set to jump 20% by 2015, exceeding the 1-million inhabitant mark. With the existing road network that would mean absolute gridlock.

After three quarters of an hour in a traffic jam, tourists pass the weekly market in Saint-Paul, where merchants vie for the attention of visitors with creole cuisine and spicy 'carri' dishes. On the other side of the road, several construction cranes jut out of the steep mountainsides. Harbingers of the Tamarins Route – a 34-kilometer long highway which, beginning in 2009, will relieve some of the pressure on the coastal road. Local and international construction specialists have been working on the six-lane highway between Saint-Paul and L'Étang-Salé since 2003. France and the Region La Réunion will bear most of the estimated €970 million in construction costs, with

Small island, great distances

Visible progress: the daily traffic jams on the west coast will soon be a thing of the past.

Bridging the gorge: construction workers are progressing at a rate of about 8 meters per week on the Trois-Bassins Viaduct.

the rest coming from the European Union. The construction project was awarded in sections. Bilfinger Berger's Civil division along with Razel, its French subsidiary, undertook complex earth and civil engineering works for the first two construction sections.

The Tamarins Route scales the heights of the west coast, revealing magical views of the Indian Ocean again and again. For the engineers, the route reveals something altogether different: more than 120 deep gorges and rocky cliffs along with dangerous hurricanes and torrential rains that present a special challenge. In two days it can rain as much as it does over two years in Germany and the tropical cyclones bring with them wind speeds of up to 240 kilometers an hour. It was with good reason that the Tamarins Route was named after the native Tamarinde: the tree is the symbol of La Réunion because of its ability to withstand the forces of nature.

"The old national road bridges had no deep foundations", marvels Peter Dilmann, site manager at Bilfinger Berger. A technology with disastrous consequences: in March 2007, a bridge on the coastal road collapsed. "One of the piles was washed away by heavy rains and the others all collapsed like dominoes", explains the foundation engineering expert. Luckily, no-one was injured because there is a curfew when such storms rage over the island. The new viaduct has six supporting columns, each up to 45 meters high and anchored up to 33 meters deep into the ground. Razel is building an s-shaped route on these strong pillars that manages the climb from the coast to the highlands. There, traffic will soon flow through two parallel tunnels, thereby maintaining the unique savannah landscape. In the mountain, workers come up against the hardest rock layers on the entire island and must rely on special 'terminator' stone-crushing machines from France to dig several thousand cubic meters of stone and earth out of the tunnel pipes. "Thousands of years of volcanic activity have mixed the powder-

Bridges despite tropical storms

like layers of earth with huge basalt boulders", says Éric Mercier, site manager at Razel. "Oftentimes the boulders were so big and hard that we had to break them down with hydraulic hammers before they could be transported.

Just before the future exit to the vacation village of Saint-Leu, the highest bridge on the route rises into the southern sky. At a height of 50 meters, the Trois-Bassins Viaduct crosses a 375-meter wide gorge. The external prestressing of the bridge panels has a number of advantages over bridges whose prestressing tendons are integrated into the concrete cross-section. The load-bearing system is easier to control and cheaper to maintain because the prestressing tendons run outside of the concrete cross-section. If necessary, they can simply be exchanged.

Cutting through volcanic rock with the 'terminator'

Local construction companies are also benefiting from the know-how of the European experts: "90% of our team is made up of local skilled workers, who we have trained extensively", explains Éric Mercier. In total, the construction project has provided 3,000 jobs and 700 apprenticeships. The French government has great hopes for the new highway in the battle against an unemployment rate of 30%. "The Tamarins Route will provide a tremendous boost to the local economy", says Philippe Berne, Vice-President of La Réunion, "It opens up excellent perspectives in the future development of the region."