Four sensors for asphalt paving

Levelling is mostly done with asphalt pavers with leveling technology. On an access road in Valencia, Spain, foundation work was done without leveling technology. For the upper layers, four sensors were employed, connected via CAN.

The Big Sonic-Ski with four sensors (Photo: Moba)

The route connecting Manises and Riba Roja in the province of Valencia is an important stretch of one of the access roads to the major Spanish city of Valencia. Constantly increasing traffic volumes, currently running at more than 30,000 vehicles per day, and particularly the growing heavy goods traffic, have contributed in the past to serious traffic problems and to overloading on the narrow, heavily curved and well-worn road, which led the provincial government to commission the complete reconstruction of the connecting road: the CV-370.

The aim of the project is to double the number of lanes, separate the two traffic directions and build roundabouts in order to increase safety and road capacity and achieve improved access. The project is now in its final phase, whose schedule includes the task of laying the asphalt paving.

The Big Sonic-Ski with four sensors (Photo: Moba)

Precision in levelling with a fourth ultrasound sensor

The Bertolín Group, the construction company tasked with the project, deployed the Moba-matic leveling system with Big Sonic-Ski fitted into a Volvo and an ABG paver for the job. But there is something special about this deployment: for the first time, Bertolín decided to use the system with four ultrasound sensors. "We have already had very good experience with the Big Sonic-Ski. But up to now we have always deployed the three-sensor version", says Dolores Escrichuela, Asphalt Manager at the Bertolín Group. However, Moba dealer Tecmaserm recommended using four sensors on this project.

The logic behind the recommendation was that foundation work on the road, which is 10.5 m wide in each direction, was done without the use of leveling technology, which meant not being able to produce quite the same level of precision. But with the two topmost layers to be laid to a thickness of 5 cm and 3 cm respectively, Bertolín decided to deploy two pavers, each fitted with Moba-matic and the Big Sonic-Ski. "The first paver worked with a Big Sonic-Ski using four sensors on both sides of the road, while the paver behind it, which had already been equipped with a Big Sonic-Ski, was fitted with a fourth sensor. This allowed us to level out uneven surfaces without problems and to stick to the required leveling precision," reports Dolores Escrichuela.

"The fourth sensor proved its value during this project, as the leveling precision we achieved was the best possible. And the fourth sensor is also very helpful in repair work. This was due to the fact that it could also detect and level out unevenness at distances of between 4 and 7 m. With fewer than four sensors, this is impossible. And on bridge sections too the system with four sensors allows us to work with very high precision," says Cristóbal Ramírez of Tecmaserm. And installing the fourth sensor on the Big Sonic-Ski was no problem either: "Thanks to the CAN bus it is easy to integrate the sensor into the system later. And the control panel is also laid out to allow this, and begins to show the fourth sensor as soon as it has been installed."

The Big Sonic-Ski with four sensors (Photo: Moba)

Savings on materials and ease of use

"The system has definitely saved us material. In comparison with other projects where we didn't use leveling technology our consumption of materials was certainly lower," says Escrichuela. "It is very important to us that any such system should work reliably, everywhere and all the time. Because every hour that a paver is out of service costs us money and messes up our overall site coordination." Just as important for the construction company was the system's user-friendliness. "And the customer was very happy - both with the reliability and the easy, intuitive operation of the new Moba-matic II," Ramirez tells us.

As was the case on the previous version, the main functions can be operated using only four buttons on the control panel. The large display shows the sensors and for the first time both sides of the screed can be controlled by a single control panel. With the design facilitating night time use, and a display that remains readable even in sunny conditions, the control panel is adapted for use on the construction site.