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## PRESSE-INFORMATION PRESS RELEASE

### **Widening of the Swiss A4 trunk road to four lanes with NAVITRONIC Plus®**

### **Construction of Motorway without Tensioned Wire but with Swiss Precision**

**The A4 trunk road in Switzerland only had two lanes in the Zürich Weinland region. In the light of increasing volumes of traffic, the decision was made to widen the 20km section concerned to a four-lane motorway with separated carriageways for each direction. Swiss contractor Implenia AG used a SUPER 2100-2 paver equipped with NAVITRONIC Plus®, the 3D System for Machine Control developed by VÖGELE.**

With an average traffic volume of 20,000 to 25,000 vehicles per day, the A4 trunk road between Winterthur and Schaffhausen was one of the busiest two-lane stretches. Trunk roads of this kind usually are built without crossroads. In contrast to motorways, however, they do not have separated carriageways for each direction in most of the cases. Therefore, the Federal Council of Switzerland in Bern planned an enlargement of the dual-lane A4 trunk road to a four-lane mini-motorway. Mini-motorways are a Swiss particularity and, in contrast to regular motorways, built according to diminished standards. These mini-motorways, for instance, feature narrower carriageways and do not have hard shoulders the whole length.

#### **NAVITRONIC Plus® a premiere for the paving team**

The major construction job represented a premiere for the paving team of contractor Implenia AG, who were working with the NAVITRONIC Plus® 3D Machine Control System for the first time

ever. Once the system had been installed on the SUPER 2100-2, the team familiarized themselves with the technology. After all, the task was to place the foundation layer and base course for the new lanes on the basis of a 3D model without using a physical reference.

Foundation layers are bound base courses which, in the main, are made of recycled material. For the A4, a hot-mixed foundation course was placed with a share of recycled asphalt ranging between 50 and 60%.

On this job site, NAVITRONIC Plus® was combined with positioning equipment from Leica. Based on the route's digital design data, this technology picks up the paver's actual position by a total station and a 360° prism. High-precision sensors installed on the paver supply extra information on the screed's elevation and slope as well as the screed's position. The entirety of data collected is passed on to the positioning system's external computer and a comparison is made with the route's stored design data. Any deviations detected are finally transmitted to NAVITRONIC Plus®, which initiates a correction.

### **Tolerance requirements met right from the start**

So much for the basics. Once the paving team had built up their SUPER 2100-2 paver's AB 600-2 TP2 Extending Screed to a pave width of 9m, everything was to work perfectly right from the start. And indeed, after just a few metres, it was evident that the Implenia team had a perfect command of NAVITRONIC Plus®. Furthermore, it was no problem at all to meet the specified tolerance requirements of +/- 4mm. Placing the foundation layer and base course in a large width up to 9m turned out to be easy game for the paving team. And this was predominantly due to the VÖGELE 3D Machine Control System. The site manager was extremely enthusiastic: "We certainly didn't miss not working with a tensioned wire. Quite the opposite, in fact!"

**\*\* End of Press Release \*\***

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Text and photos available in digital form:

[www.pr-download.com/voegele10.zip](http://www.pr-download.com/voegele10.zip)

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*Voegele\_04\_1\_09\_Schweiz\_Fig.1.jpg*

Widening of the Swiss A4 trunk road to four lanes with NAVITRONIC Plus®.



*Voegele\_04\_1\_09\_Schweiz\_Fig.2.jpg*

Construction of motorway lanes without tensioned wire: NAVITRONIC Plus® the 3D System for Machine Control, guides the SUPER 2100-2 towards highly accurate paving results.



*Voegele\_04\_1\_09\_Schweiz\_Fig.3.jpg*

Feed with mix, paving, monitoring: The paving team managed all tasks with ease.