

WITOS Paving Docu

DIGITAL DOCUMENTATION OF ASPHALT PAVING JOB SITES

- » Documents both paver and paving data
- » Can even be used on job sites without a mobile phone connection
- » Daily job site reports via the WITOS Paving server



01 : 05
Hours Minutes

C30526 WSI-567
Machine ID

18.05.2018
Date

DELIVERY NOTES →

170.0
Tonnels

293
Metres

17.0
kg/m³

Complete order

WITOS Paving Docu

Smart solution

for digital job site documentation



Clients are increasingly demanding the use of intelligent process-management systems. WITOS Paving Docu is a reliable and straightforward solution for the digital documentation and analysis of small and mid-sized job sites. It is the ideal tool in cases where precise data recording is required, where there is no need for active process optimization.

This system complements VÖGELE's two, existing products for documenting and analysing job site data: the RoadScan non-contacting temperature-measurement system and the WITOS Paving Plus comprehensive process-management solution. When faced with increased customer requirements or larger-scale projects, contractors can upgrade at any time from WITOS Paving Docu to the full version, WITOS Paving Plus – all it takes is an activation code.

The data cycle for all parties on the job site and for construction managers back at the office.

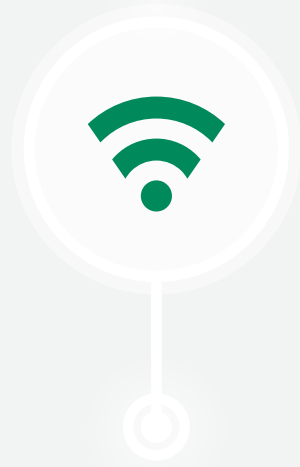
The paver establishes a WiFi network on site. It functions as a server, transmitting data to the tablets and smartphones of all parties. This way, everyone at a job site has access to the same information.

At the end of the day's paving operations, the recorded data are sent to predefined recipients. Compiled in tables and charts, these data make up for the job site documentation, e.g. for clients.

At the end of the day's paving operations, the recorded data are sent by e-mail to defined recipients.

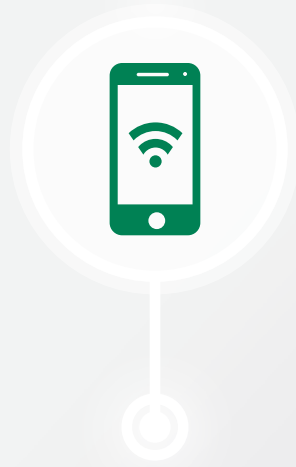


WITOS Paving Docu at a glance



Establishes connection automatically

The WITOS Paving Docu app is connected with the paver's WiFi network by scanning in the QR code on the display of the paver operator's console. After installation, jobs can be initiated via the app or the paver operator's ErgoPlus 3 console. In this context, a "job" is the planned daily laydown rate of a specific paving project. The app features intuitive menu navigation, so users can familiarize themselves with the application quickly even without specific prior knowledge or extensive training.



Can be used without a mobile phone connection

The paver creates a WiFi network with a range of about 50m and acts as the server on the job site. In other words, data can still be recorded even in dead zones. As soon as the VÖGELE paver reaches an area with mobile phone coverage, it then transmits all the data and parameters it has recorded to the WITOS Paving server.



Entry of delivery notes

Delivery notes can either be scanned in using a QR code or recorded manually in the application. The advantage in this case is that delivery notes are also stored digitally and not just in analogue form.



Convenient paving control

WITOS Paving Docu continuously documents the paved surface area and paved material quantity and uses these data to calculate the areal density.



Precise recording and rapid analysis of data

The application makes it possible to record and analyse numerous paver and paving data, such as pave width, pave speed, interruptions to paving and effective paving time. If working additionally with the VÖGELE RoadScan, paving temperatures can also be documented and analysed.



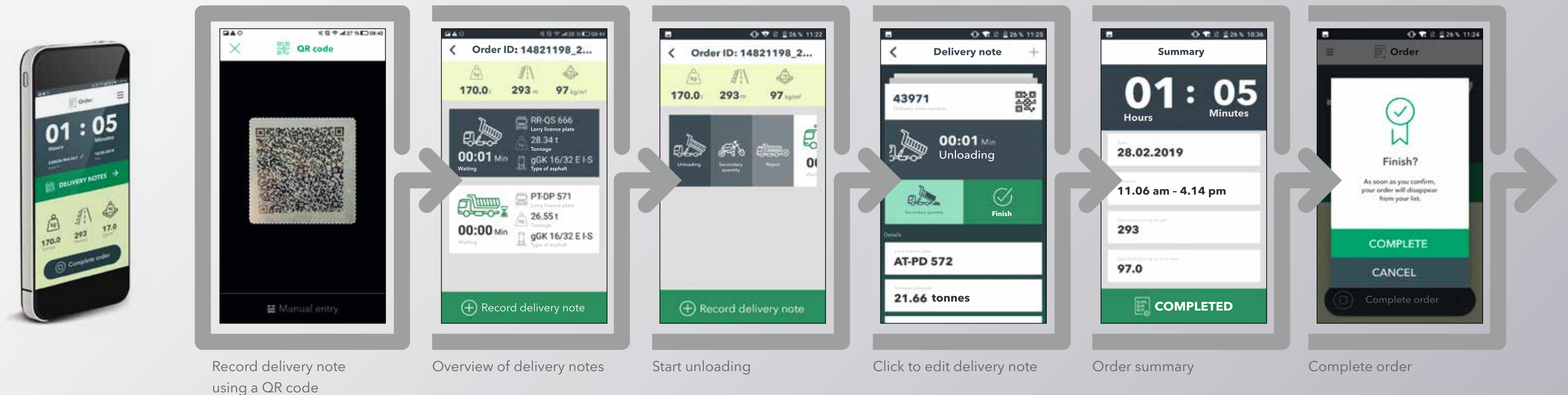
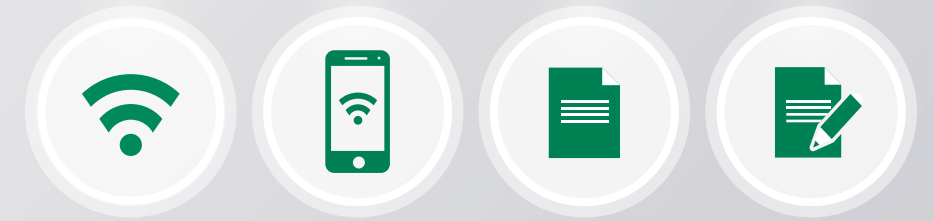
Daily job site report

The job site report encompasses job site data, such as the job site and the most important paving parameters. If RoadScan is in use, the thermography data compiled from the asphalt temperatures are also included. At the end of a day's paving, the report can be automatically e-mailed via the WITOS Paving server to selected recipients in the form of a PDF file.

Communication with WITOS Paving Docu

Orders and delivery notes

Digitally managing orders and delivery notes is a major advantage, because all parties have simultaneous access to a complete set of information. Users clearly see the order ID, the lorry license plate, the tonnage for a planned section and the progression. Has the lorry started unloading? How long will that take and has the order already been completed? Everyone knows what's going on. What is more, digitally recording delivery notes provides additional verification that a delivery was made in the event the paper version gets lost.



Communication with WITOS Paving Docu

Sending job site reports



Job site reports are becoming increasingly important. They help to make the efficiency and cost-effectiveness of a construction project transparent, and the clearly structured documentation supports definitive statements on overall quality. Clear, intuitive diagrams effectively show the operating efficiency, paving temperature and the logistics chain. With WITOS Paving Docu, reports are sent either automatically – to a selected group of recipients within a defined period after a project has been completed – or manually – via a download link to a previously entered group of recipients.

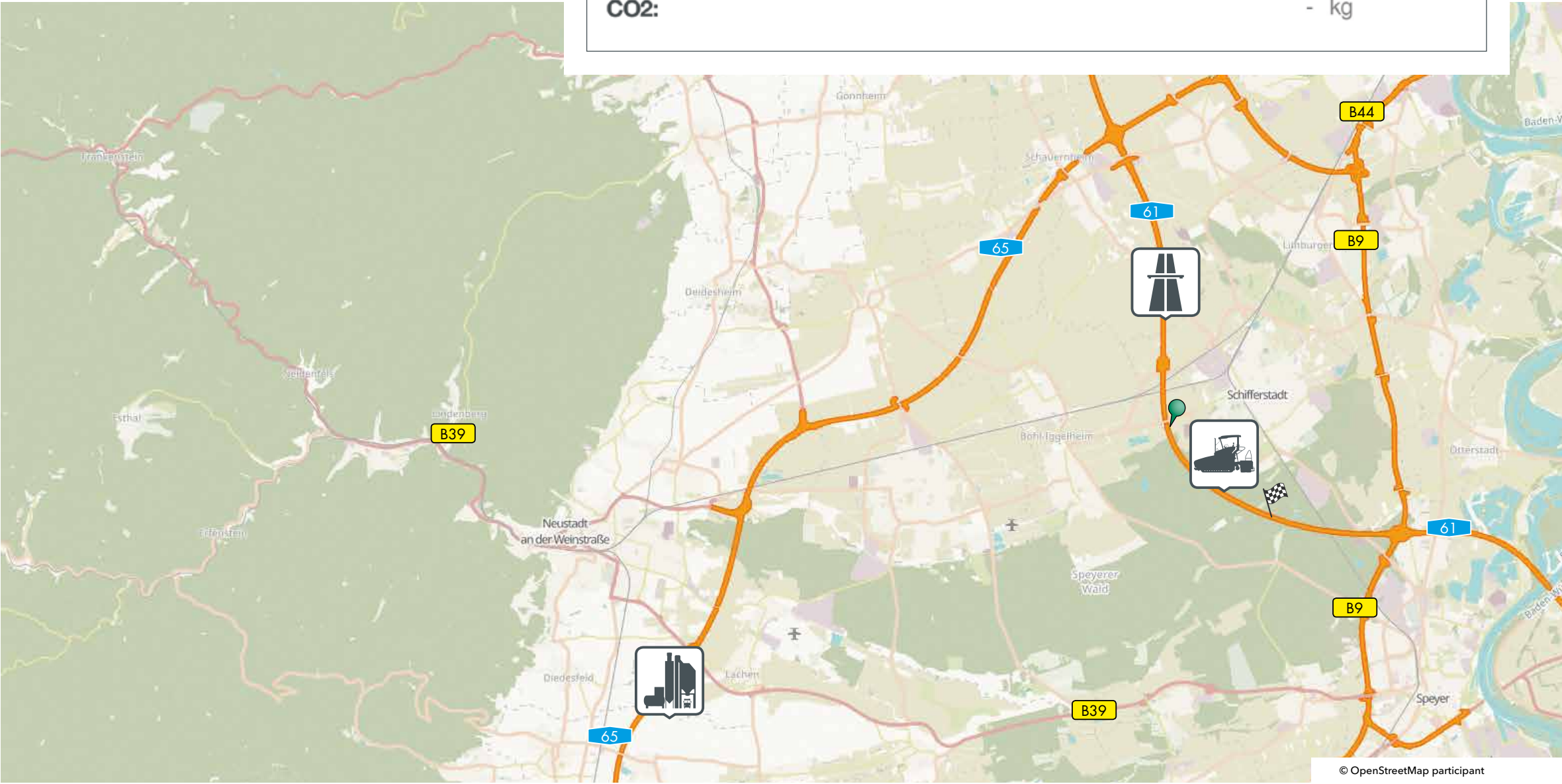


Paving parameters at a glance

At the end of a day's paving operations or some other time period entered by the user, the system automatically generates a job site report. There is no need to actively log into the system for this.

The first page of the report shows a summary of all paving parameters: job site, duration, paving performance data, mixing plant deliveries, etc. Details on logistics, paving efficiency and paving temperature are shown on the subsequent pages.

| | |
|--|---|
| Duration: | 15.03.2019 07:54 to 18:54 |
| Paving length specified (actual): | - (2198) m |
| Paving surface area specified (actual): | - (8971) m² |
| Layer thickness: | 4.0 cm |
| Lorries/number of delivery notes specified (actual): | - (12) Lorries with (37) delivery notes |
| Quantity specified (actual): | - (952.98) t |
| Ø Screed width specified (actual): | - (4.08) m |
| Ø Pave speed specified (actual): | - (4.0) m/min |
| Ø Laydown rate specified (actual): | - (103.0) t/h |
| Ø Areal density specified (actual): | - (106.2) kg/m² |
| CO2: | - kg |

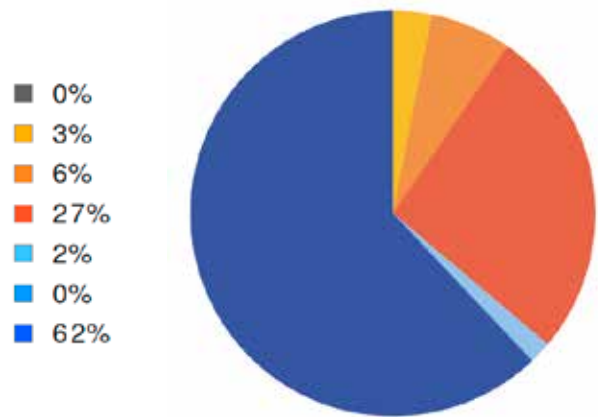
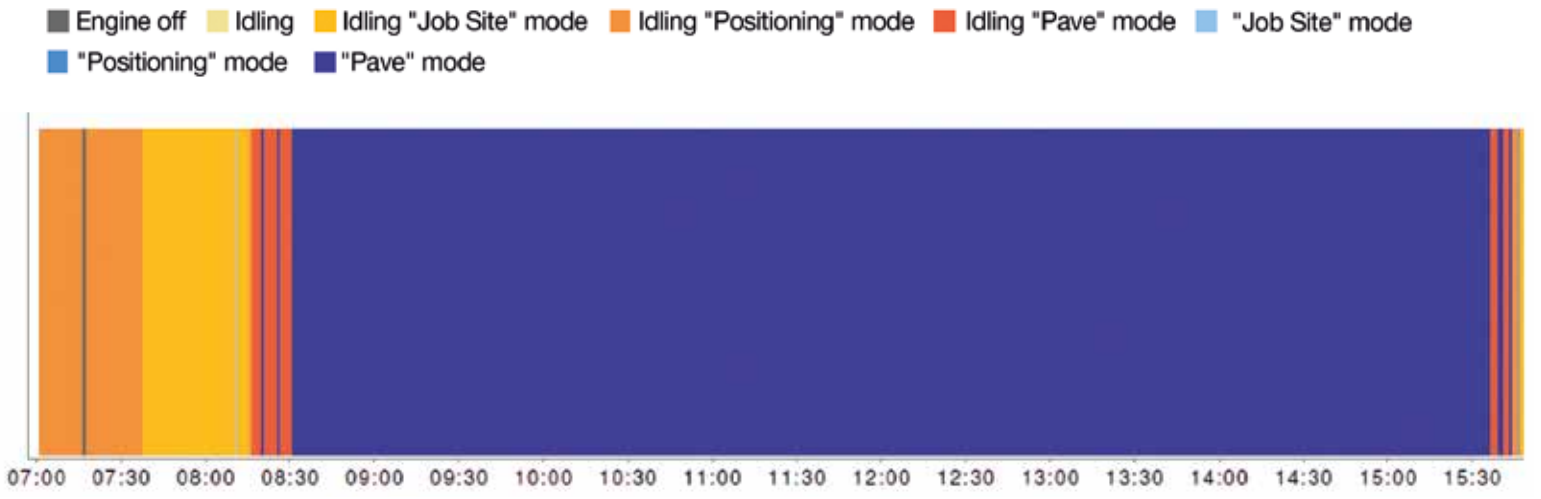
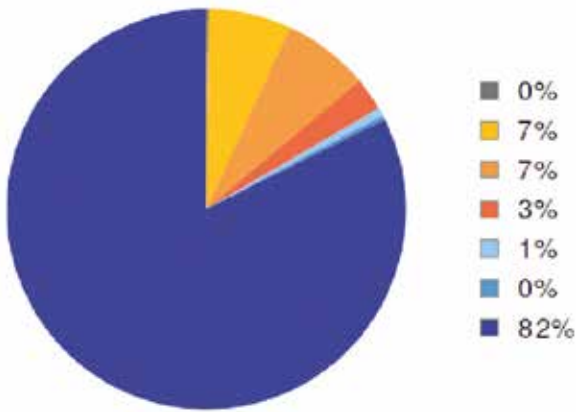


Paving efficiency

The starting point for optimizing a job site operation is to analyse paving efficiency. Users need to be able to see how many hours of a job were taken up by standstills and non-paving times in order to identify potentials for improvement in the value chain and take the necessary steps.

WITOS Paving Docu is a product developed by VÖGELE. As the machine manufacturer and technology leader, we can supply you with all the most important machine data, such as idling, repositioning or paving times, for analysis with WITOS Paving Docu. Status data are calculated automatically via the operating mode switch on the paver and visualized in informative, intuitive diagrams.

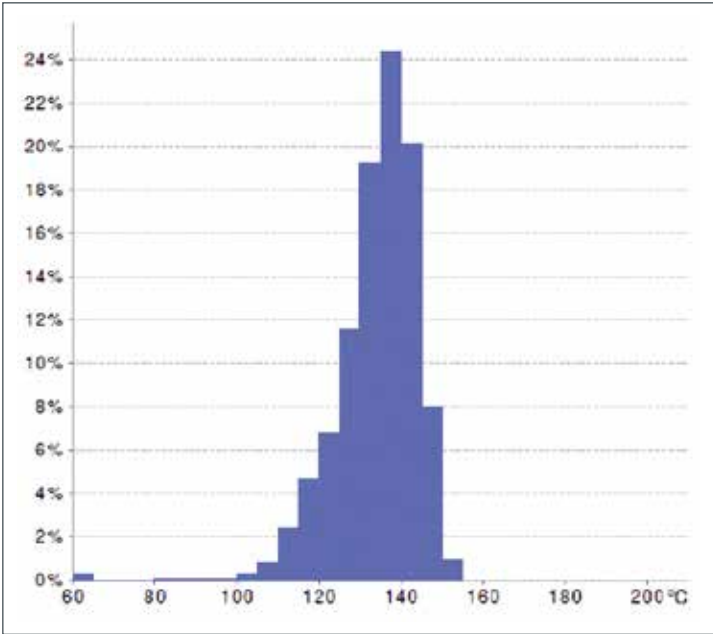
Regular analysis of the logistics processes and paving measures improves our customers' paving efficiency and hence also their cost-efficiency.



Visualization of typical daily paving operations: paving work only accounts for 62% of the working day. The paver spends about one-third of its time idling and waiting, for instance for mix.

WITOS Paving Docu supports the analysis of the construction project and helps site managers to better coordinate and optimize logistics processes.

Paving temperature



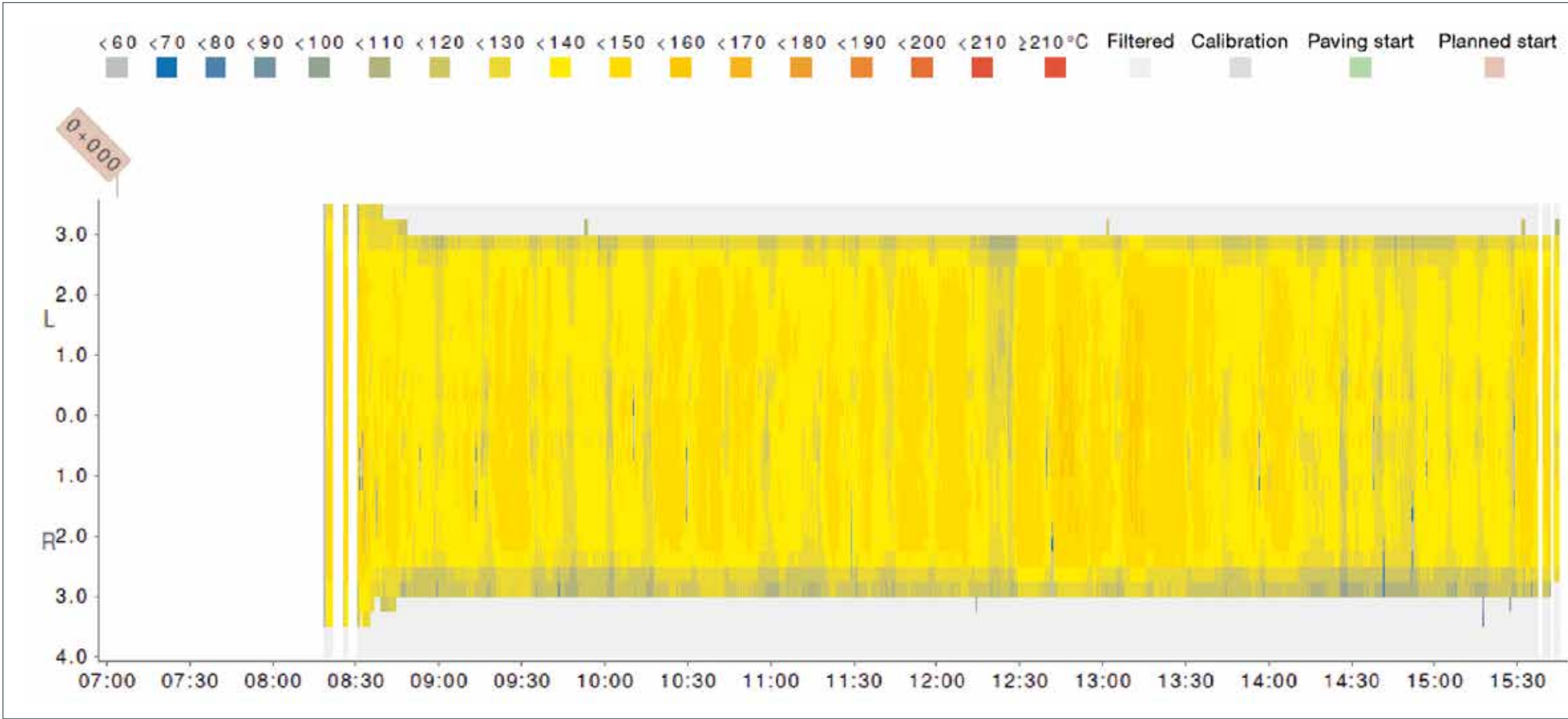
The bar chart on the left shows that 98% of the paved material was within the target temperature range.

The temperature strip in the diagram below shows that the temperature was very homogeneous overall. There are very few deviations into colder areas (blue) and these are visible more at the edges of the paved section. Hotter material was delivered at 12.50 and 1.15 pm. Data from the delivery notes can be used to check which lorry delivered this material.

DEPENDING ON THE MIX, THERE IS A SPECIFIC TEMPERATURE RANGE THAT IS PARTICULARLY SUITABLE FOR PAVING AND SUBSEQUENT COMPACTION. THANKS TO THE VISUALIZATION OF TEMPERATURES, A COMPARISON CAN BE MADE WITH THE SPECIFIED VALUES.

Making quality measurable is one of the major challenges for contractors and clients worldwide. In road construction, it is particularly important to verify that a constant temperature of the freshly paved asphalt has been maintained, as this is a key criterion for ensuring the quality and durability of roads. Visualizing paving temperature in a diagram helps to answer the following questions:

- Was the paved material hot enough at all times?
- Was material that was too cold (or even too hot) paved in some spots?
- What could have caused the paving material to cool?
- How much of the mix was paved in the specified temperature range?



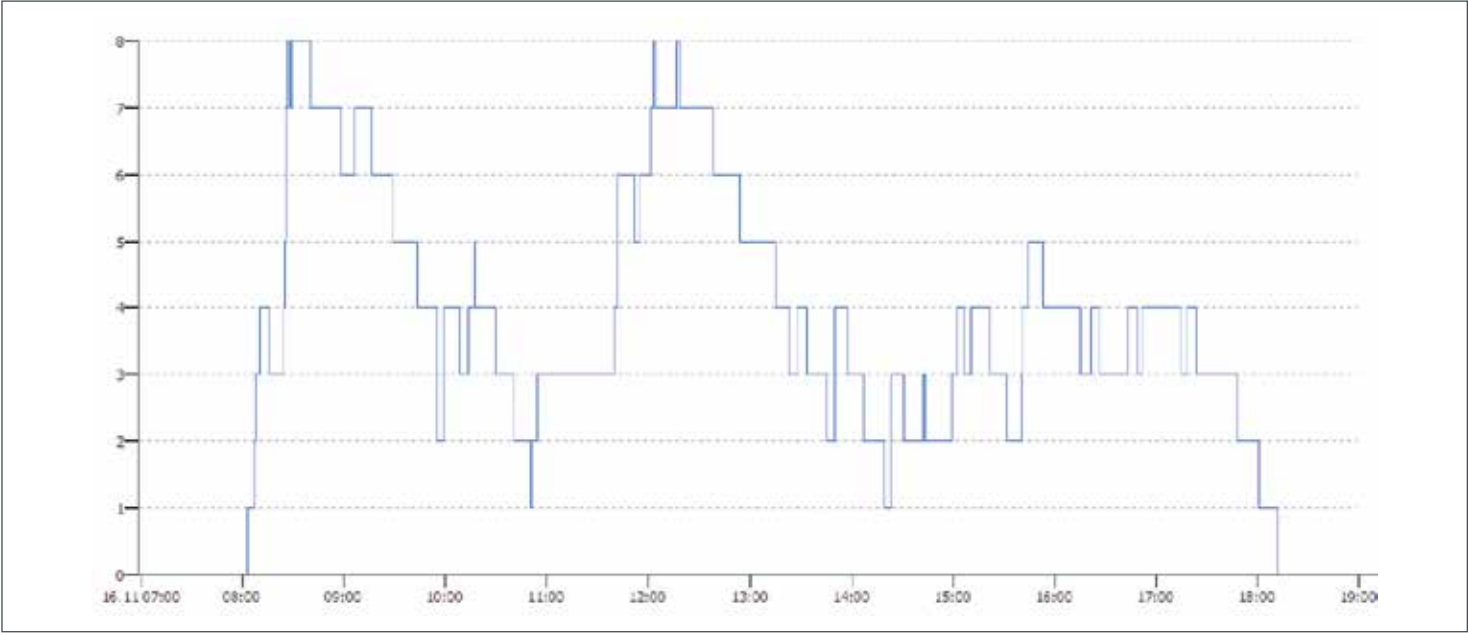
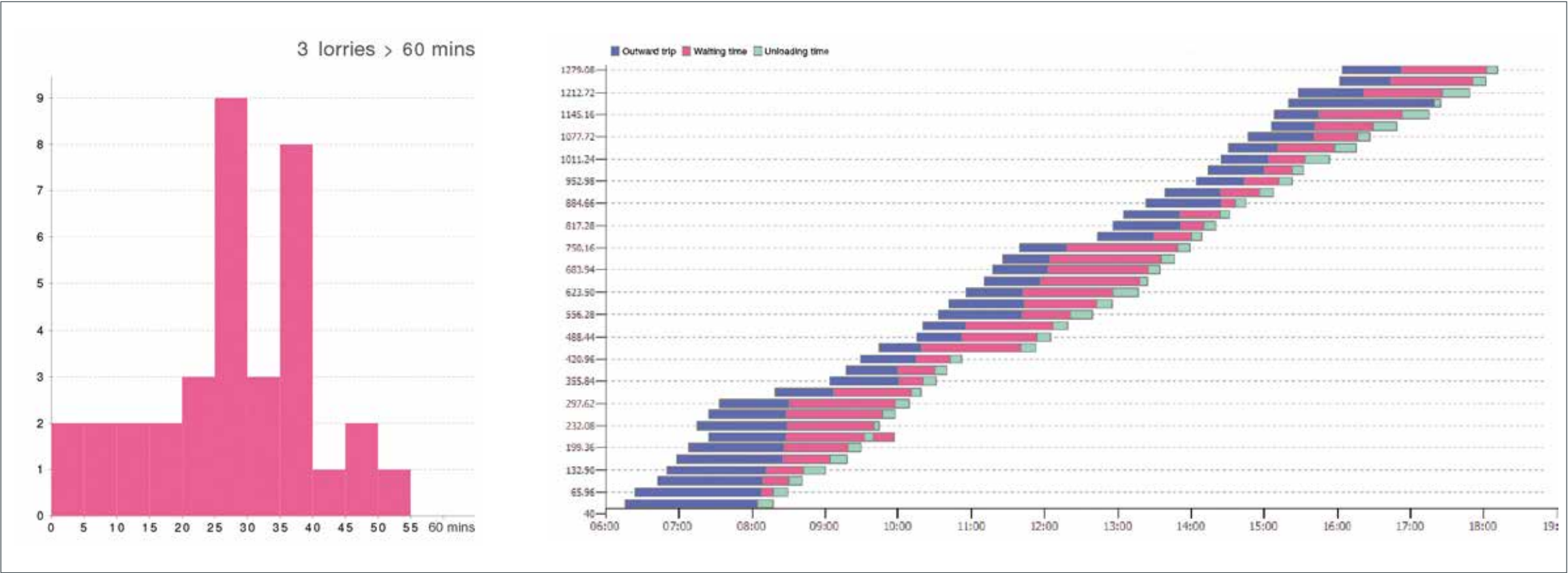
Feed lorry delivery chain

DELIVERY NOTES

Delivery notes stored in the system provide information on which lorry is where and at what time.

Delivery logistics is a decisive factor in job site organization. If the delivery chain is well-timed, the paver always has a sufficient supply of mix. The continuous flow of material avoids waiting times caused by standstills, idling, positioning again, etc. A non-stop paving process is the best prerequisite for maintaining a homogeneous mix. In this way, the paved surface can be optimally prepared for the subsequent roller passes. The result is a durable carriageway with high load-bearing capacity.

The bar chart on the right shows the number of lorries on the Y-axis as a function of the respective waiting times at a job site on the X-axis. Example: two lorries each waited over 5, 10, 15, 20 mins. Nine lorries waited over 25 mins. The progression chart below documents how many lorries were at the job site at what time.



Comparing data delivers insights

If the delivery chain data, including the lorry arrival, waiting and unloading times, is compared with the data on paving temperature, users can determine if overly cool paving material was due to a lorry arriving late or rather having to wait too long at the job site.

Weak points in the delivery chain are revealed and can be eliminated.



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