

### **New wheel loader weighing system rises to the challenge in gravel plant**

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**The Hartmann Group has been operating the quartz gravel plant in Cramberg in the German state of Rhineland-Palatinate for about 25 years. With a quartz content of 99 percent, the quartz sand and quartz gravel excavated there is a very high-quality material. As a result, it is suitable for a wide range of uses, such as the manufacture of ready-mix concrete and concrete goods for the construction industry, in gardening and landscaping as well as for the production of refractory materials.**

This material is therefore in demand across Europe and is transported from Cramberg to as far away as England and the Benelux countries. Transporting the quartz sand and gravel to its destination requires numerous trucks using wheel loaders. During loading, it is critical that the permissible total weight of the trucks is within a tolerance of two percent, as steep penalties are levied in the event of overloading. For example, a 40 tonne truck may only weigh the approved 40 tonnes with a tolerance of up to two percent. Otherwise, both the driver and the owner may be charged fines. Each truck is therefore weighed on a weighbridge before leaving the plant. If the weight shown on the scale is too high, the dump truck must return to the loading point to unload sand or gravel. There, the only option is the complete emptying and reloading or at least a portion of the material must be shovelled out by hand. This is not only cumbersome but is also extremely time consuming.

Therefore, many gravel plants are increasingly using weighing systems – as is Hartmann on their two Volvo wheel loaders. These vehicles are equipped with MOBA's new Wheel Loader Weighing system. The weight in the bucket is determined by means of pressure sensors that measure the hydraulic pressure

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in front of and behind the hydraulic cylinder. Because the respective position of the bucket is also critical here, a slope sensor on the arm and a two-axis slope sensor measure the precise position. The exact weight can thereby be determined. The MOBA system displays the weight in real time on the 3.5 inch screen. Alternatively, an intended target weight can be entered and the system then counts down the loaded weight to zero. Dynamic weighing and loading exactly according to the approved weight are entirely possible without needing to interrupt the work process.

Adolf Noske, long-standing employee of the gravel plant, works with the scale daily. "The weighing system is very easy to operate. There's not much to keep track of and it has exactly the information that you need. As a pure overload monitor, it is ideal", explains Noske. When loading up to 60 trucks daily, the advantages quickly become apparent: "We save a great deal of time and effort, since we can stay within the weight limit directly while loading and the trucks do not need to be driven from the scale back to the loading location to be filled further or, if too heavy, unloaded accordingly", says wheel loader driver Noske. Even if drivers change frequently, operation of the MOBA Wheel Loader Scale system is unproblematic. This is because the simple, clear menu navigation and the well-arranged design make the system self-explanatory and intuitive to use. The driver can make entries and selections by means of encoders or buttons. As a result, the weighing system is easy to operate even with gloves. The display is also adapted to the requirements in the gravel plant: the colour display can be read easily even in direct sunlight and in the dark as it features various display modes. Both the sensors and the controller communicate via CAN bus, thereby keeping the amount of wiring very low. The MOBA Wheel Loader Weighing system can also be retrofitted.

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## About MOBA

With more than 40 years of experience in the development and manufacture of measurement and control technology, identification and weighing systems for construction machines and waste disposal vehicles, MOBA is a globally recognised expert in the field of mobile automation. MOBA is one of the leading system specialists and OEM partners in the industry. With headquarters in Limburg, branch offices in Dresden, Langenlonsheim and Merenberg as well as eight subsidiaries and an international dealer network, MOBA is present in all large growth markets. Company sales grew over the past decade from 23 million euros in 2003 to nearly 50 million euros in 2013; the number of employees increased in this period from 185 to 465.



*Loading the trucks, it is critical that the permissible total weight of the trucks*



*Working with a weighing system, the driver already knows, how much material he loads*



*Clearly arranged information on the display in the cabin*

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Further information and downloads of press texts and images available at [www.moba.de](http://www.moba.de).

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