

# VMS Volume Measurement System

3D Laser Scanner for Volume and Surface Measurement

Robust 3D Laser Scanner System for harsh environmental conditions



## Triple-IN

Experts in Laser Distance Measurement

### Measuring, Monitoring, Machine automation

The **Volume Measurement System VMS** of Triple-IN provides accurate and reliable point by point distance measurements between the sensor and the nearest surface, using the time-of-flight principle. No matter whether indoor or outdoor, the VMS is the ideal equipment for solutions designed to optimize, manage, monitor and automate. It can answer all the challenging requirements that these solutions demand.

### Reliable and fast

With a scan rate of up to 30.000 points/second, the VMS ensures accurate real-time measurement data of the surroundings. Precise data can be achieved with materials of different reflectivity with a maximum response time of 35 ms for a scan profile of 1000 points.



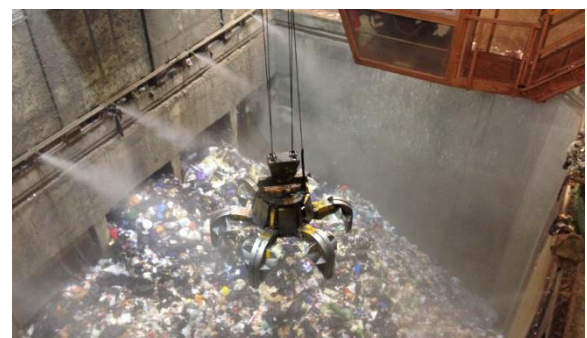
### Robust design

The VMS design ensures outdoor permanent installations with outstanding performances even with harsh environmental conditions. The IP67 rate and a wide operating temperature range, along with a dedicated enclosure with blower, form the basis for a low-maintenance product.



### Wide and extensive coverage

The combination of a rotating platform with a 2D scanner leads to a flexible and powerful 3D modular system for universal use in various applications. The RT360 performs 360 degrees horizontal scan angle, while the 2D laser scanner reaches up to 400 meters range with a field of view of 90°.



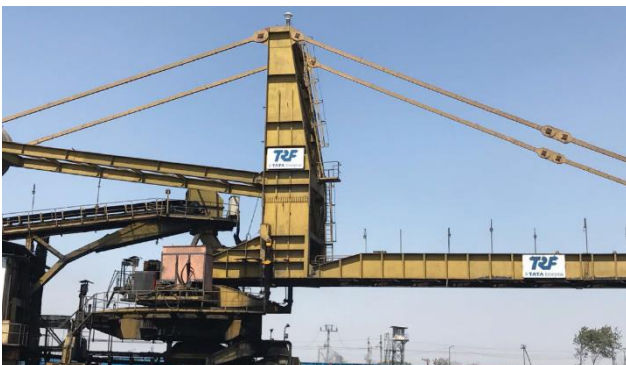
### Patented reliable technology

Triple-IN's patented KEM technology is the core of valuable products that provide measurements with high repeatability and accuracy on surfaces of different materials and colors. The time-of-flight principle determines each point distance considering the time taken by a transmitted pulse to be received back by the sensor.

## Build up your 3D Laser Scanner System in 6 steps

Advanced automation technology is a huge step forward for outdoor industrial fields which can be achieved only with high quality equipment and operational efficiency. Depending on the application and the specific site, different components could be necessary to fulfill the customer's requirements. A thoroughly tailored 3D laser scanner system can increase productivity and lead to a significant reduction of operating costs.

Therefore, the technical data of the 3D modular systems depends specifically on the composition of the system itself. It is however generally made up of the following components:



### Company Vision

Triple-IN's main efforts are focused in the development and commercialization of powerful 2D and 3D laser distance sensors and systems based on its patented KEM technology. The KEM method is the pillar of the idea to transfer the performances of complex and expensive measurement systems in low-cost sensors for indoor and outdoor automation applications. The strong willing for innovation constantly pushes Triple-IN to find new solutions in optics, array and scanning technologies, also joining forces with leading universities, research facilities or high technology partners, working closely sharing experience and knowledge.

### Triple-IN's Products

Continuous developments and innovations have led Triple-IN to the realization of several outstanding products currently operating in the most various environments. From the harshest open pit mine to the biggest airport, the KEM technology is supporting partners to run their applications and offer customized and affordable solutions to their clients. The Pulse Sensors (PS), the Pulse Array Camera sensors (PAC) and the Volume Measurement System (VMS) are only some of the successful Triple-IN products, always at the top of the list of reliability, precision and convenience.

### Application Center

To better meet partners' needs, Triple-IN has built up the Triple-IN Application Center (TAC), a team dedicated to listen to and support those challenges in the most efficient way. Sensors integration in desired applications is carefully followed up, focusing on the full satisfaction of customers' expectations.

TAC service is always at partners disposal, available contacting [tac@triple-in.de](mailto:tac@triple-in.de)

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