

# RiPRECISION MLS



RIEGL Software for  
Mobile Scan Data Adjustment



RiPRECISION MLS automatically performs adjustments of GNSS/INS trajectories to merge overlapping mobile scan data. It further allows the scan data to be fitted to given control objects.

This results in a consistent point cloud of enhanced precision and increased georeferencing accuracy.



## The Next Generation of Mobile Scan Data Adjustment

### Typical Applications of Mobile Laser Scanning

- Street Mapping
- Railway Mapping
- Marine Mapping
- Mapping of Transportation Infrastructure
- City Modeling
- Fast Mapping of Construction Sites
- Mapping of Coastal Lines
- Surveying of Mining / Bulk Materials
- Civil Engineering



Scan this QR code with your smartphone to get further information about RiPRECISION MLS.

[www.riegl.com](http://www.riegl.com)



RIEGL LMS GmbH, Austria

RIEGL USA Inc.

RIEGL Japan Ltd.

RIEGL China Ltd.



## Our Goal - More Precision in Less Time

- Initial Situation
- Concept of RiPRECISION MLS
- RiPRECISION MLS Working Principles
- RiPRECISION MLS Results

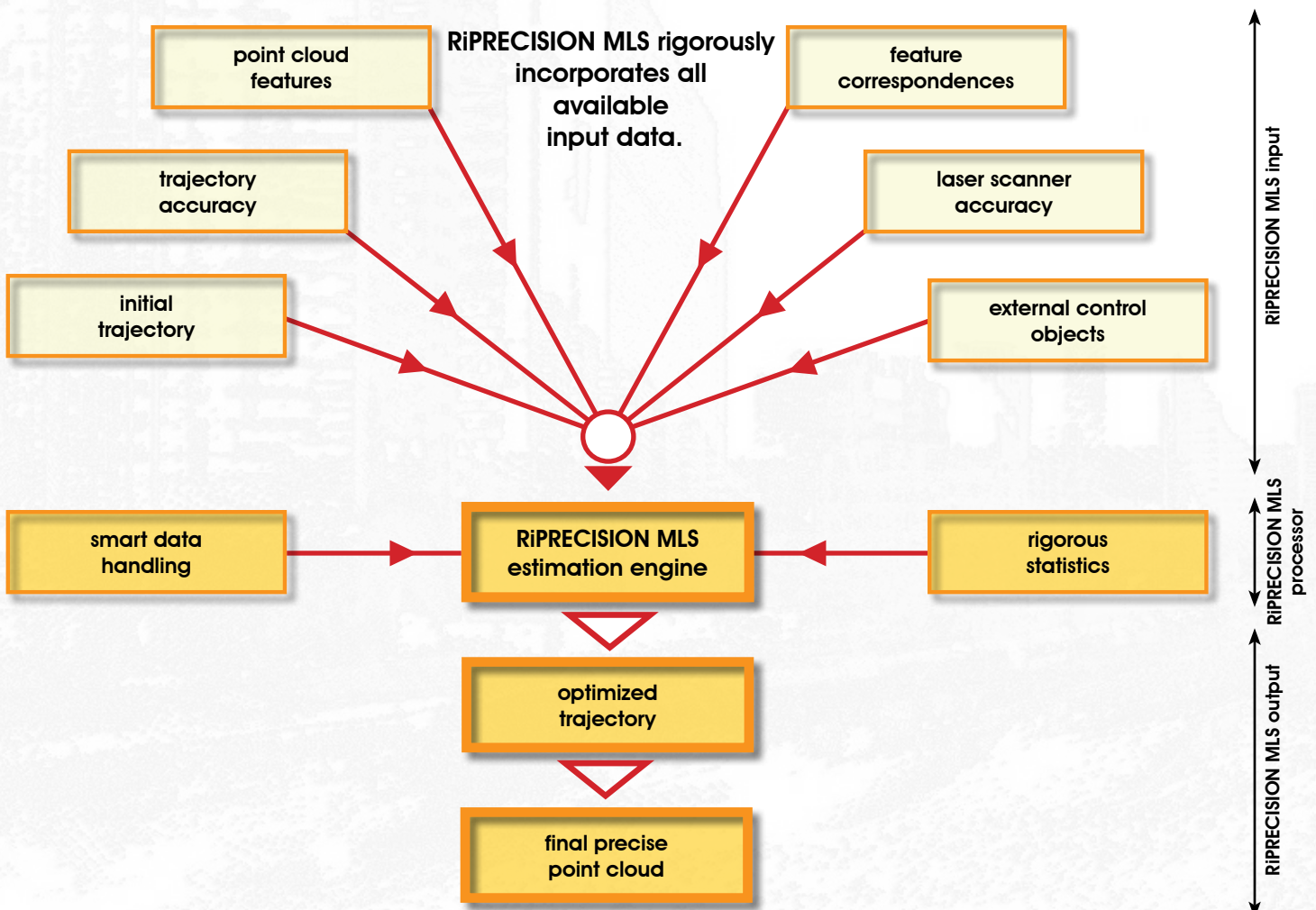
### Initial Situation

The quality of point clouds acquired by kinematic laser scanning using, e.g., the *RIEGL VMX-450* Mobile Laser Mapping System or the *RIEGL VMZ Hybrid* Mobile Laser Mapping System crucially depends on the quality of the underlying platform GNSS/INS trajectory. Due to variable GNSS accuracies in the trajectory solution the resulting point cloud shows discrepancies between overlapping scan data as well as deviations from the true position. Manually correcting these shortcomings is a time-consuming and extremely difficult job.

### Concept of RiPRECISION MLS

RiPRECISION MLS automatically conducts the whole workflow from scan data analysis to trajectory adjustment without any user interaction. Applying highly efficient and powerful procedures RiPRECISION MLS is capable of processing large amounts of data with impressively short computation times. To facilitate utmost performance, RiPRECISION MLS has been tightly embedded into RiPROCESS.

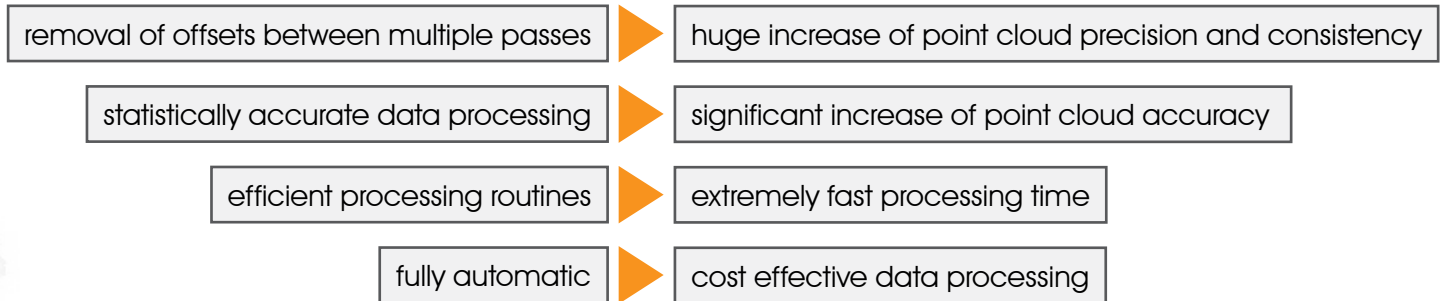
### RiPRECISION MLS Working Principles



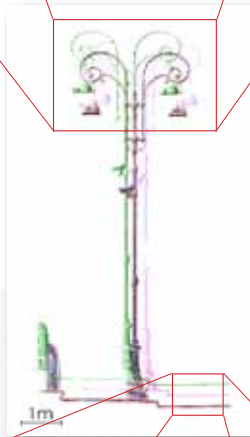
## RiPRECISION MLS Results

RiPRECISION MLS sets new standards for the quality of multi-pass scan data by transferring the extremely high precision of the raw laser measurements to the entire point cloud.

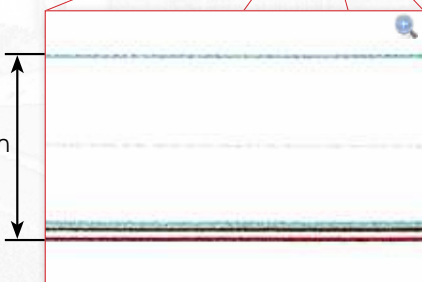
As an option, RiPRECISION MLS additionally allows for the rigorous adjustment to external control objects.



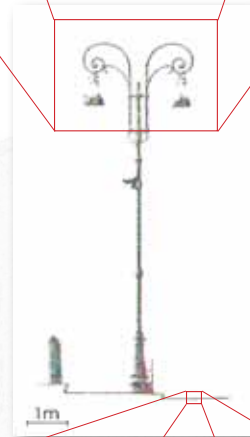
• point cloud of overlapping runs based on initial GNSS/INS trajectory



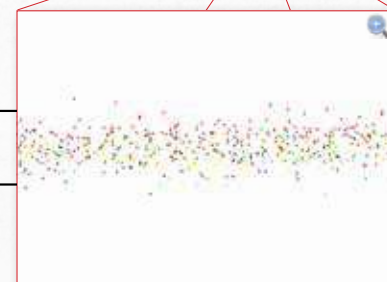
70 cm



• point cloud after trajectory improvement using RiPRECISION MLS



1 cm



RiPRECISION MLS

**RiPRECISION MLS delivers fully automatic precise and consistent point clouds!**

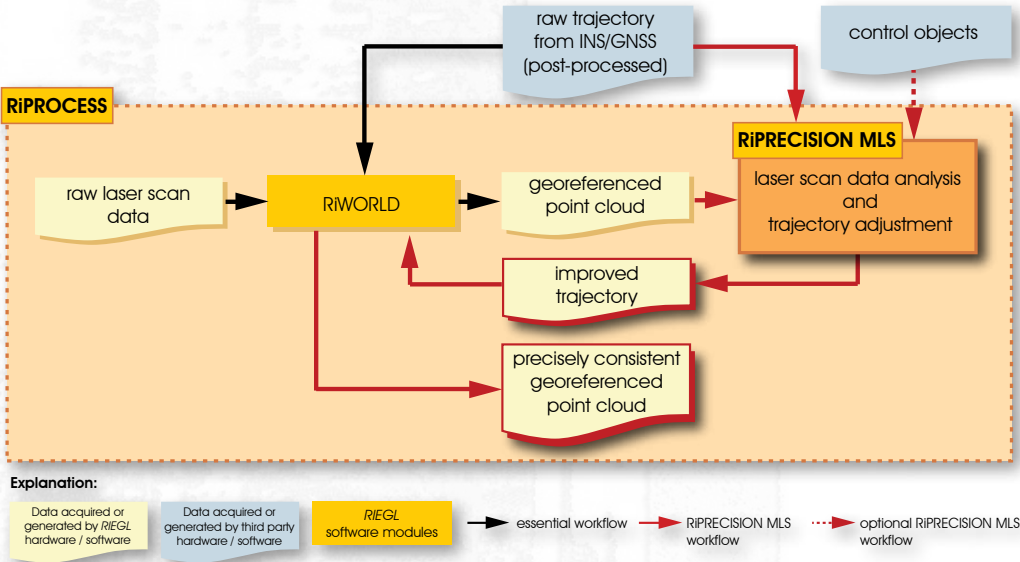
## Key Facts

- Main Features
- RiPRECISION MLS Workflow within RiPROCESS

### RiPRECISION MLS Main Features

- fully automatic adjustment of mobile scan data
- handles multiple scan data overlaps
- optional adjustment to external control objects
- point cloud features accurately merged with initial trajectory quality
- extremely fast and robust processing
- smooth improvement of both trajectory position and orientation

### RiPRECISION MLS Workflow within RiPROCESS



RiPROCESS Datasheet



RIEGL VMX-450 Datasheet



RIEGL VMZ Infosheet



RiWORLD Datasheet

Visit our website for further information about the full RIEGL hard- and software portfolio.

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