



# Panorama

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## • 4. EMM-Check Customer's Day 2017

The **4. EMM-Check Customer's Day** will take place this year on 26<sup>th</sup> of September at Maritim Hotel Frankfurt in Frankfurt/Main as already announced. Interesting presentations and an exchange of experience on topics like "field of view safety, field of view standardization and field of view simulation" are waiting for you.



Focus of the presentations will be new functions and the further development of **EMM-Check**. This includes the following topics:

- new standards in EMM-Check
  - „ISO 5006:2017“ (Earth Moving Machinery)
  - „DIN EN 16842“ (Forklift Trucks)
- Selection and optimal positioning of visual aids
- Simulation of working lights in the working environment around vehicles and on the vehicle geometry
- Automation of vehicle kinematics and animations
- Virtual Reality-Cluster with HTC Vive® for a team based view evaluation
- Hands-on HTC Vive®

The event starts at 9:30 in the morning (Arrival of participants from 9:00 in the morning) and ends about 5:00 in the afternoon. We kindly ask for your soon registration since the number of participants is limited.

We look forward to your participation!

## • New option in preview 1 („Track“)

A new option for creating a "distance map" has been implemented in Preview 1 ("Track").

A distance map allows you to analyze the distance between the view beams from the eye point to the defined track and the geometry of the vehicle. This new options makes it easy to predict possible view restrictions e. g. caused by the hood of a tractor.



The image on the left side only shows the relevant areas of a distance map. In the right image all areas will be displayed.

## • Changes in standard „ISO 5006:2017“

### Adjustments in the calculation and evaluation process for excavators

The analysis of the field of view during the movement of the boom has been revised since the paragraph 8.3.3.3 of ISO 5006:2017 leaves a lot of room for interpretation.

After intense discussions with **EMM-Check** users and technical testing organizations the following solution has been implemented:

- Every position of the boom must be stored in a separate scene before starting the analysis.
- For each position of the boom the direct view on the RB opposite to the driver (typically RB3) will be calculated. In addition the indirect view through mirrors and cameras will be calculated. If the criteria for the relevant RB are met, the test is passed. If the tests for all positions of the boom have been passed, the test according to paragraph 8.3.3.3 is passed.
- The number of mirrors will not be evaluated. The reason is that in some cases more than two mirrors are attached to a vehicle. This case is not regulated by ISO 5006:2017. The intention of paragraph 8.3.3.3 is to ensure the

REKNOW GmbH & Co. KG  
Neumünstersche Straße 14  
20251 Hamburg  
Germany

Registergericht:  
Hamburg  
HRA: 114880

REKNOW Verwaltungs GmbH  
Neumünstersche Straße 14  
20251 Hamburg  
Germany

Registergericht:  
Hamburg  
HRB: 123110

fon : +49(0) 40 / 98 76 00 02  
fax : +49(0) 40 / 98 76 00 04  
eMail : info@reknow.de  
Internet: www.reknow.de

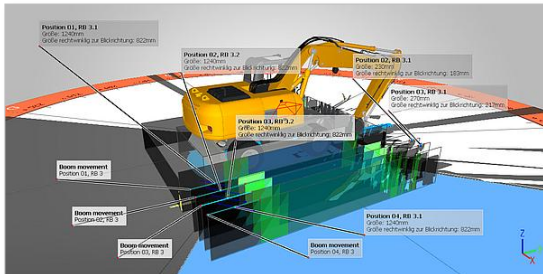
Geschäftsführer:  
Dipl.-Ing. (FH) Dirk Janßen  
Dipl.-Ing. Sebastian Schneider

Kreissparkasse Walsrode  
BLZ : 251 523 75  
Kto-Nr. : 1094671  
IBAN : DE35 2515 2375 0001 0946 71  
SWIFT-BIC: NOLADE21WAL

Steuernummer: 49/654/00864  
Ust-ID-Nr. : DE 259 307 098

visibility field on the RB opposite to the driver to prevent accidents with persons around the machine.

- The results for each position of the boom will be displayed beside the relevant RB. This way all results can be seen at the same time. The report contains a separate chapter showing the results of the boom movement analysis. The following image shows the visualization of the results for each boom position.

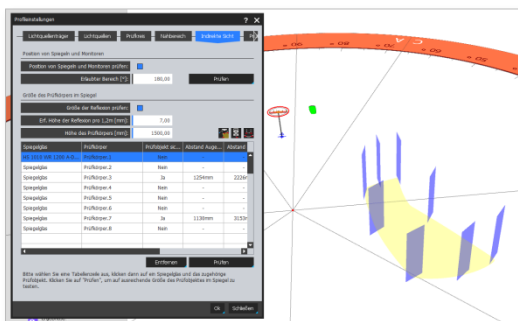


### Automated creation of test objects

Three options for creating test objects for measuring the reflection size of a test object in a mirror according to ISO 5006:2017 are now available:

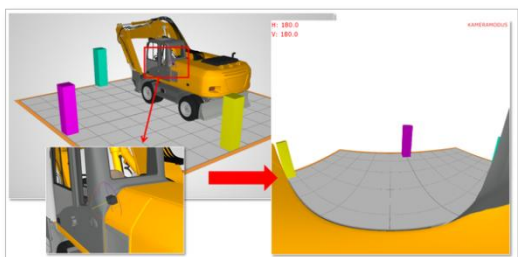
- Create test objects at the edge of a mirror visibility field
- Create test objects behind the vehicle
- Create test objects at the test circle and the RB

The following image shows eight test objects placed at the edge of a mirror visibility field on the floor. After creation the test objects can be modified separately.



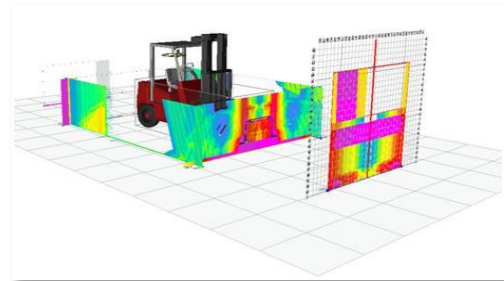
### Camera opening angles up to 360°

The opening angle of a generic camera can now be adjusted up to 180° vertical and 360° horizontal. The extended opening angles will be taken into account in analyses according to any standard and within the camera mode.



### Announcement of "DIN EN 16842"

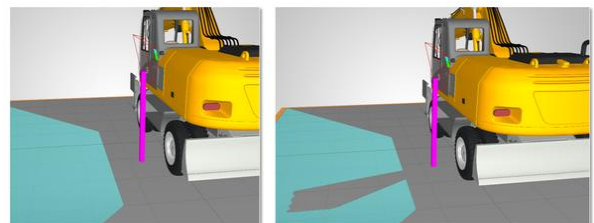
REKNOW currently works on the implementation of the standard "DIN EN 16842-1/2" in **EMM-Check**. This standard replaces the DIN EN 16307 for fork lift trucks and will be presented at the Customer's Day for the first time!



### Calculation offset for camera visibility fields

A new property for defining an offset is available in the properties dialog of a camera. During the calculation of a camera visibility field a certain area from the focal point of the camera in view direction will not be taken into account because otherwise the camera housing would block the visibility fields. An offset value of 100mm means that objects within the first 100mm from the focal point of the camera will not be taken into account.

The following image shows an offset of 1000mm (left) compared to 50mm (right). In the left image the obstacle is ignored in the camera visibility field.



### Dates in 2017

Please note the following date:

- Agritechnica 2017
  - 12.-18. of November 2017, Hannover
  - REKNOW at the booth of MEKRA Lang
  - You'll find us in hall 17, booth D51

### Information / Contact

Current information regarding **EMM-Check** can be found on our website [www.reknow.de/emm-check](http://www.reknow.de/emm-check).

In order to contact us, you can give us a call  
+49 (0)40 98 76 00 02  
or contact our hotline

0800 735 66 99  
free from German landline

or send us a mail: [info@reknow.de](mailto:info@reknow.de)