

## What's new in 3.3?

The following major changes have been made to TEMA between this release (3.3) and the previous release (3.1).

At a glance:

- **Lens Calibration** – A new Lens Calibration feature is developed. Will dramatically improve the accuracy in 2D and 3D tests.
- **General Usability** – Tracking optimization, improved image handling, user interface updates.
- **Relative Orientation** – Perform your camera orientation in 3D tests directly from two camera views, without a surveyed target (e.g. a cage). This feature will simplify the test procedure for all 3D users.
- **Presentational Improvements** – New diagram features for extended presentational possibilities.

In detail:

- **Usability:**
  - Relative image file searchpaths. With relative image file search paths it is easier to distribute TEMA tests.
  - Sort windows. Sorts the windows (test contents, camera view windows and diagrams) as tiled or cascade.
  - Improved icons for set t0 and goto t0 in the time toolbar.
  - Automatic adjustment of reference times for scale setup and coordinate systems setup when setting the frame rate or t0.
  - Open image sequence dialog: A “refresh”-button is added to the dialog. It will refresh the image cache stored in the files imglist.tmp. Also, all imglist.tmp files now have the file attribute hidden.
  - The camera type list can now be configured to only contain camera models from specific vendors.
- **Presentation:**
  - Added visualization of cameras and 6DOF in 3D diagrams.
  - Improved UI for manual legends in diagrams.
  - Improved UI for adding accuracy visualization in diagrams.
  - Added accuracy columns for the timetable.
- **Licensing and installation:**
  - Demo license. It is now possible to install a demo license of any configuration on a computer with TEMA already installed, without affecting the current installation.
  - TEMA now requires a reboot after installation if prompted for it during installation of the program. This removes potential licensing problems.
  - An additional check is made to ensure that the request.txt and license.txt files match when installing a license. This removes potential licensing problems.
- **Tracking:**
  - Greatly improved tracking and playing speed in AVI-files with incremental codecs, e.g. DivX and XviD.
  - Quadtracker: The function of the search area is adjusted so that the template is allowed to stretch outside the search area.
- **Analysis:**

- Lens calibration for 2D and 3D tests. A new lens calibration system for planar targets has been added. It is highly recommended to use it in both 2D and 3D tests as it improves the accuracy and traceability of the result. It is included in TEMA Motion and TEMA Automotive.
- Relative orientation for 3D tests. Perform your camera orientation in 3D tests directly from two camera views, without a surveyed target (e.g. a cage). This feature will simplify the test procedure for all 3D users.
- 3D interpolation. A cubic interpolation is automatically done on the 3D data on intervals with sleeping points in one or more camera views.