

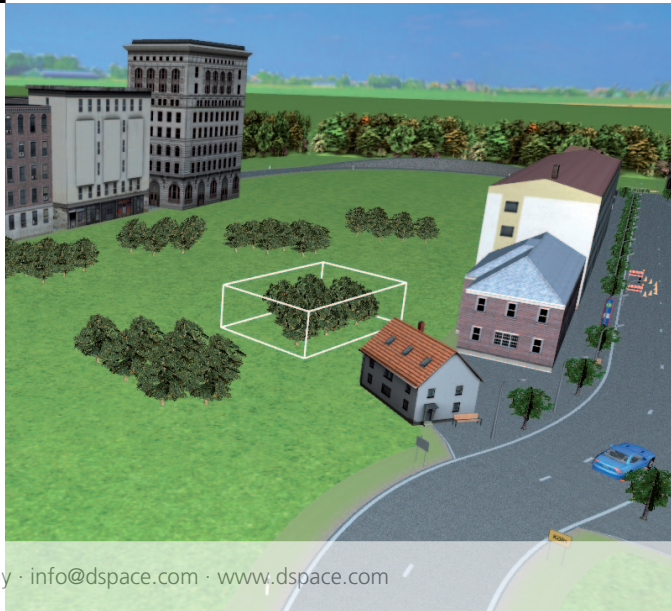


Seeing is Knowing

In developing controllers for applications like vehicle dynamics or driver assistance systems, simulations are crucial. The best way to understand the behavior of a simulated system is animated visualization in realistic 3-D scenes. dSPACE MotionDesk has successfully visualized the kinematic movement of simulated objects in the 3-D world for more than 10 years. Now a brand new version has arrived, redesigned to face the challenges of the future.



MotionDesk: 3-D visualization software optimized for driver assistance systems





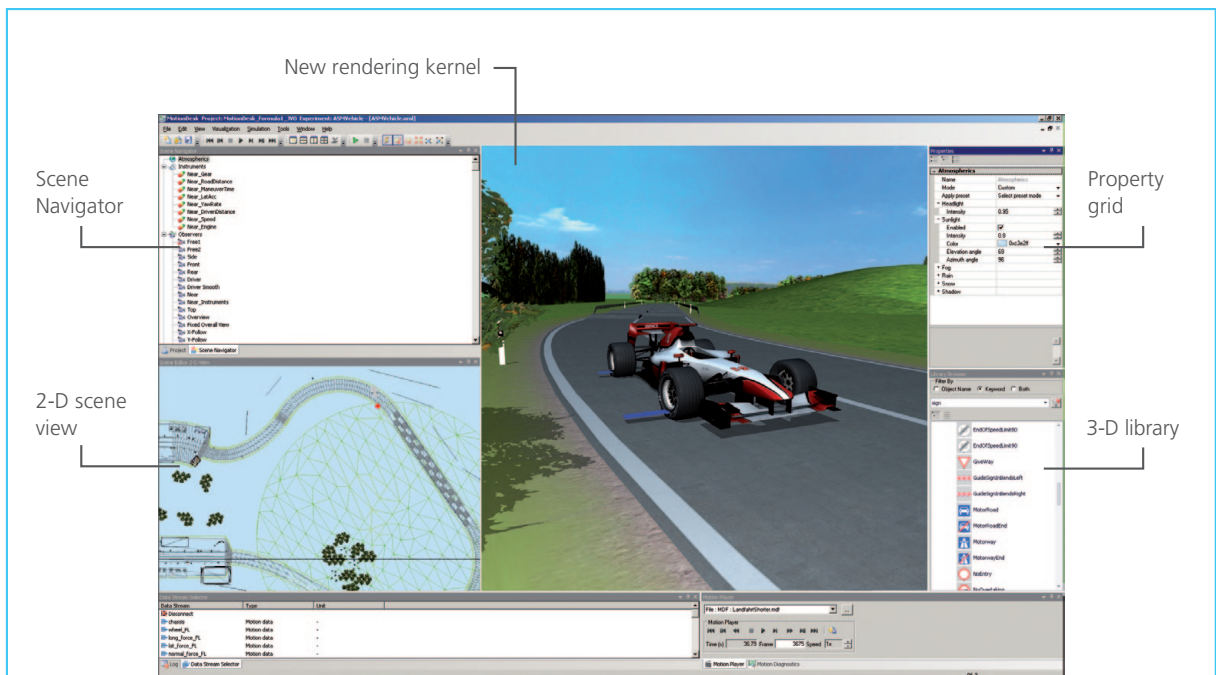
High complexity and a reliably high frame rate result in a stunning, realistic simulation.

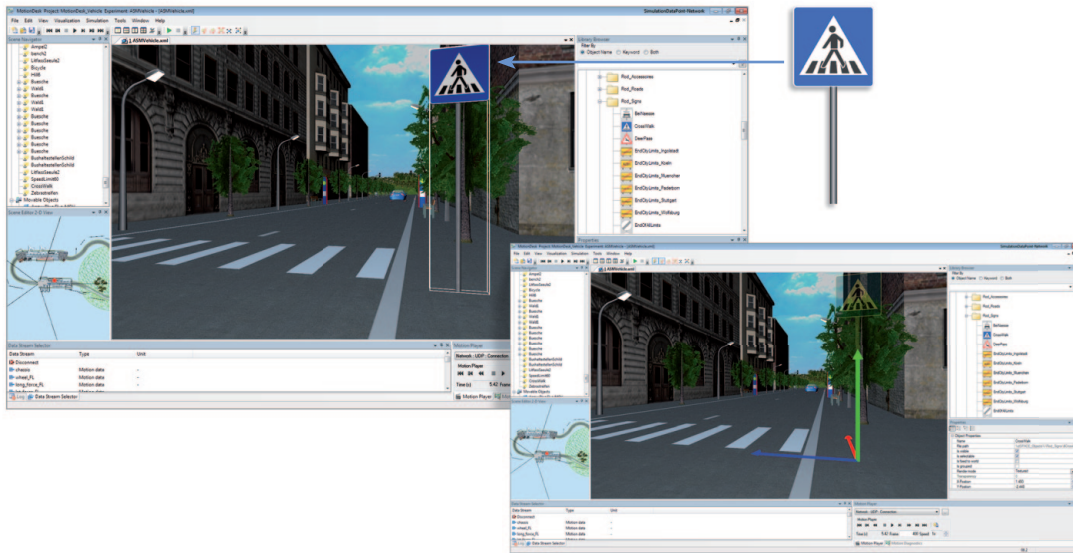
With MotionDesk, simulations are vivid and easy to understand through visualization of the simulated system and its surroundings. MotionDesk reads the data from a dSPACE Simulator, dSPACE VEOS® or MATLAB®/

Simulink® and displays the animation of the moving objects (vehicle, wheels, steering wheel, etc.) in real time. The graphical visualization gives users a clear understanding of how the simulated objects actually

behave. For example, several simulations can be integrated in one single animation. This method is ideal for reference comparisons, where different vehicle dynamics strategies can be compared with one another.

Everything you need in one tool – for example, the 3-D library with completely new objects.





3-D objects – like the traffic sign shown here – are simply added to the scene by drag & drop. Their size, position, rotation and other attributes can then all be modified.

Make It Real

MotionDesk is the perfect tool to visualize any kind of vehicle dynamics development and driving maneuvers, such as lane change, μ split, cornering, etc. From Version 3.0, MotionDesk gives enhanced support to all aspects of advanced driver assistance systems (ADAS), where the complexity of an action has to be seen to be understood. When camera-based ADAS are tested, the simulation must be realistic enough for object recognition, and a high frame rate is crucial. MotionDesk's completely new rendering engine guarantees much more detailed and realistic visualization, and even complex scenes are rendered at a steady 60 frames per second.

Very Convenient, Very Quick, Very Useful

The new version is also easier to

handle. All important operations such as 3-D scene creation can now be done in one tool, mainly by drag & drop. With MotionDesk's new 3-D Scene Editor, 3-D scenes can be developed much more quickly and efficiently than with an external scene editor. The new, comprehensive library of 3-D objects lets developers set up scenes very quickly by simply selecting and positioning the objects. A 3-D Library Browser helps them find the objects they need: for example, by keyword search.

Seamless Change from Older Versions

Migrating projects from an older MotionDesk version is easy. All existing projects run immediately, and users can choose the old 3-D look or the new look. Users can also integrate custom objects that comply with the COLLADA or VRML2

standard, and group objects to structure and handle scenes more conveniently.

MotionDesk can also display changing weather conditions like rainfall and snow. Coming dSPACE Releases will bring further functionalities, such as highly realistic shadow visualization.

With its technological redesign and extensions, MotionDesk is ready for developing and testing the intelligent mechatronic systems for the mobility of the future – especially advanced driver assistance. ■

The same scene in different weather conditions – sunshine, rain, fog.

