Redefining Reality: A New Approach for Scientists, Manufacturers and Industry

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Fast-paced developments in new technologies pose constant challenges in the chemical and pharmaceutical processing industries. The quick adoption of new skills and methods is required to keep up with this progress. Even though data handling and laboratory automation have improved extraordinarily in recent decades, the redesign of lab workspaces is still pending. The choice of devices is often limited by the corresponding automation system and the two-way communication of the equipment.

In order to overcome this restriction, we have developed Labworldsoft® 6.0, a software package that allows its users to select their laboratory equipment with maximum flexibility, without sacrificing processing, networking and documenting capability. Based upon this independent platform, we have designed a concept for the lab of the future, utilizing augmented reality (AR). This innovative technology offers incredible potential to support the workflow and productivity of scientists and researchers. It empowers the user with the ability to monitor and control devices and to display additional information.

Another focus of our interest is on the development of a multi-user virtual-reality (VR) platform that offers an unrivalled possibility to communicate and exchange ideas within the chemical and pharmaceutical sector. VR allows us to create content, environments and scenarios that perfectly match the needs of training, planning and technical support. The opportunity to interact virtually with objects is of inestimable value for mechanical engineering and the planning of chemistry plants alike. It is also extremely important for the analysis of 3D-objects, *i.e.*, protein structures and molecules.

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