Within the Clemps project (Closed-Loop Embedded MEMS-based Precision Stage) we investigate the fabrication of MEMS-based stages with up to three degrees of freedom. These stages are to be used in, for example, transmission electron microscopy applications and probe based data storage. The project is a close cooperation with the MA group of IMPACT.

The desired stages are characterized by a number of challenging demands, such as large strokes of tens of micrometers, high resolution and stability, high speed, and low power consumption. Furthermore, the presence of high-resolution thermal- or capacitive sensors enables closed-loop feedback for nanometer accurate positioning of the stages.

Financing organisation: Point-One

Groups involved: Transducers Science and Technology (TST, MESA+) and Mechanical Automation (MA, IMPACT)

Companies involved: Demcon and FEI Company