At the opening of the MME2010, Johan Engelen demonstrated the world’s smallest instrument. Arvid Jense of the Artez music school has created a special composition for this event.

The instrument is composed of resonating mass/spring systems which are actuated electrostatically by comb drives. Read out is performed capacitively on a second set of comb drives connected to the resonating mass. The resonance frequencies are in the audible range.

The “Micronium” as it was dubbed, is the result of a three year team effort. The initial design of the masks, vacuum system and electronic circuitry was realized by 2nd year EL students Jethro Beekman, Laurens Fortgens, Derk de Graaf and Sander Vocke in a B2 project. The devices are realised in SOI wafers, using DRIE and vapour HF for release by Meint de Boer, Ke-Chun Ma, Leon Woldering and Johan Engelen. Advanced Technology bachelor students Auke Been and Geert Folkertsma perfected a second version of the mask set. The electronics was perfected by EL students Hylco de Boer and Jasper Keuning.

The Micronium has attracted worldwide interest. A video of the MME2010 event appeared on YouTube.