Hydrostatic Levelling System with Laser Sensors, P. RÖJSEL, W. STIEFLER, MAX-LAB - A hydrostatic levelling system that uses laser triangulation sensors for sensing the water level in the levelling vessels has been developed. The laser triangulation sensors makes the design rather rugged. It is easy to move the sensor vessel from measuring point to measuring point without splashing water on the sensor surfaces since the distance from the sensor to the water level is several centimetres. The resolution of these sensors are in the µm range. The sensors have been used to align and check the MAX II machine components.