The equipment of this laboratory was significantly upgraded few years ago. In parallel result of such activities is a magnet measurement process control tool (PCT), which is a set of such components are systematically measured at the PSI magnet measurement laboratory and experiment capabilities. To assure that all magnetic field quality specifications are met, setup and a new 64 bit Linux PC platform at PSI. The main activities around MMDACS, environment, which is based on EPICS. Major features of this system were presented at the ICALEPCS’13 conference. Since then, the system was continuously showing its high efficiency and reliability in all magnet measurement and control system experts. Recently, this set was enhanced by an advanced magnet measurement data acquisition and control system (MMDACS) was created. The system was implemented as a part of the PSI controls environment, which is based on EPICS.

The presented in this paper PCT has been in use for magnet measurements at PSI for about one year. Moving Wire Setup
A single stretched moving wire method is suitable for harmonics measurements in multipole magnets. The idea of this technique is relatively simple: move a wire along a cylindrical surface in the magnet aperture and measure the magnetic flux change as a function of the rotation angle. Main setup components
- Newport XPS motion controller with advanced trajectory and synchronization features (external triggering).
- Two pairs of linear motorized stages Newport M-ILS150CC.
- Keysight 3458A digital multimeter.
- The wire is stretched between two holders mounted on vertical stages. The stages are configured (as XY groups) to synchronously move both ends of the wire along a specified arc. As a result, the system gets ready to execute any cylindrical wire motion. The measurements are handled by the moving wire process control (MWPC) application that communicates with the XPS unit and DMM device over the computer network. The application is based on the EPICS synApp software package. The XPS support part of this package was modified to fit PSI data acquisition and measurement requirements and run reliably on any 32 or 64 bit Linux PC. The application is accompanied by a set of MEDM and cdaq4 GUI panels, which are very easy to use. They guide a user through a sequence of required measurement and data acquisition steps, which are controlled by the state machine software. These steps can be described as follows. - A desired wire trajectory is defined. The trajectory is a set of reference points through which the wire has to be moved as a number of equivalent points in which the wire unit will generate trigger signals for the DMM device and write corresponding wire coordinates into its local memory buffer. - The wire trajectory information is saved into a wire trajectory definition file. Based on this file, the MWPC application configures the XPS unit to execute the specified trajectory. - The MWPC application sends the command to the XPS unit to execute that trajectory. - The XPS unit executes the specified wire trajectory. The XPS external trigger signals are caught by the DMM device, which saves the information about the flux change induced voltage of the moving wire at trigger moments into its internal buffer. The MWPC application assures that the DMM device configuration follows the XPS unit settings. - When the wire motion is finished, the MWMC application transfers the XPS and DMM device internal memory buffers to the EPICS waveform records associated with a two-dimensional (2D) wire trajectory representation and corresponding wire voltages, which immediately makes all measurement data available for archiving, processing, modeling, etc.

CONCLUSIONS
The presented in this paper PCT has been in use for magnet measurements at PSI for about one year. The system was successfully used by magnet measurement and control system experts and implemented as a user-friendly GUI panels and powerful state machine software behind them, the PCT consistently shows its high reliability. It acts as a very efficient assistant that guides magnet measurement operators through the most optimized steps for each measurement method.