



MAKSIM Kick-Off Meeting.

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## MAKSIM – DIGITALIZE THE ASSET MANAGEMENT OF ELECTRICAL DISTRIBUTION GRIDS

Current maintenance and renewal planning of electrical equipment is mostly based on empirical values, expert knowledge or statistics. The required data basis results from regular on-site inspections of the equipment by the maintenance personnel of the grid operators. These approaches are already reaching their limits today due to a mostly inadequate database.

Measuring and diagnostic systems for condition monitoring of equipment could close this gap. Embedded in already existing asset management strategies, data analyses on online monitoring data of the entire park of electrical equipment would open up new business processes, methods and strategies for grid operators. However, the starting point for the implementation of such approaches are low-cost technological solutions tailored to the application of the distribution grid from many sub-disciplines, such as measurement and diagnostic technologies, low-cost sensors, data processing, ICT, data management or algorithms and condition monitoring.

A simple adaptation of standard measuring methods from the high voltage level is usually not possible in view of the financial expenditure for those measuring systems. However, sensor systems are known from other industrial sectors which show positive economies of scale due to very high quantities. In the automotive, consumer or process industries, for example, cost-effective microelectromechanical systems (MEMS) are used, which in addition to sensors contain integrated signal processing and communication interfaces.

This is exactly where the partners of the MAKSIM (Measurement, information and communication technology to digitalize the asset management of electrical distribution networks) project come in. Measurement methods based on MEMS are newly developed within the framework of laboratory and field tests. In addition, sensor-related evaluation algorithms, superimposed data analysis and condition evaluation methods are developed and a cost-effective information platform is set up.