TIMING DISTRIBUTION
AND SYNCHRONIZATION
COMPLETE SOLUTIONS
FROM ONE SINGLE SOURCE
The Timing Distribution System (TDS) is our answer to the need of disseminating the most precise timing signal from the master clock throughout a large-scale research facility. Due to the all-optical technology the distributed signals suffer minimal added phase noise and drift and thus ensure synchronization of the clients on the femtosecond time scale over long distances. Our system is based on modular devices, all designed and fabricated in-house. The result is a fully integrated customized turn-key system according to the site specific requirements. All system components are also available for individual stand-alone applications. The Timing Distribution System is ideally suited for fourth-generation accelerator facilities, laser amplifier chains, or geodetic observatories.

The main building blocks of the Timing Distribution System are an ultra low noise optical master oscillator that is synchronized to the master RF clock, a splitting and amplification unit to provide multiple optical signals to be distributed to the various clients, dispersion compensated fiber links, and detection and stabilization electronics to provide the error signals and the stabilization thereof.
The design and integration of the Timing Distribution System into the control system of the facility is an intensive process of close collaboration between Menlo Systems and our customer. We build on a strong relationship and offer reliable support at all times.

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Menlo Systems GmbH is a leading developer and global supplier of instrumentation for high-precision metrology. The company with headquarters in Martinsried near Munich is known for its Nobel Prize winning optical frequency comb technology. With subsidiaries in the US and China and a global distributor network, Menlo Systems is closely connected to its customers from science and industry. The main product lines are optical frequency combs, time and frequency distribution, Terahertz systems, ultrafast and ultrastable lasers, and corresponding control electronics. Besides standard production, Menlo Systems develops and manufactures custom made solutions for laser-based precision measurements.