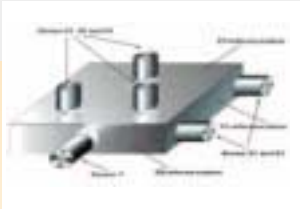
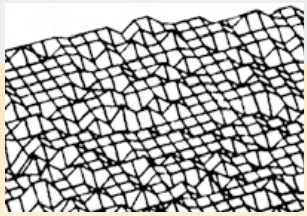
Technologies that set PI apart:

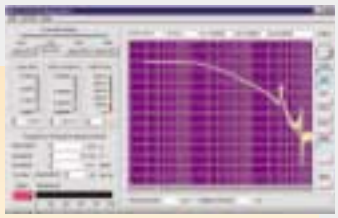
Parallel Kinematics Multi-Axis Micro- & Nano-positioning Systems
reduced inertia, faster response, more compact, higher stiffness, no accumulation of errors, no moving cables (no friction), parallel metrology (higher multi-axis precision).



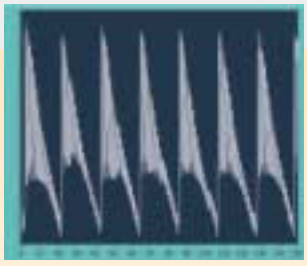
Parallel Metrology
monitors all controlled degrees of freedom simultaneously; allows active trajectory control.



Active Trajectory Control
allows active elimination of runout and off-axis errors to sub-nanometer and sub-microradian precision.



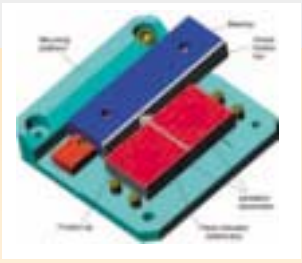
Dynamic Digital Linearization
reduces phase lag and non-linearity in high-speed positioning, scanning and tracking applications. Improves effective bandwidth up to 3 orders of magnitude.



InputShaping®
Eliminates self-generated ringing of components inside and outside the servo-loop. Allows settling within one period of the resonant frequency.

Capacitive Sensors
Non-contact, absolute measuring devices providing sub-nanometer resolution, very high linearity and high bandwidth. Excellent for parallel-metrology configurations.

PICMA® Technology
A new monolithic piezo actuator design with all-ceramic insulation, insensitive to humidity and providing significantly higher reliability, lifetime and operating temperature ranges than conventional piezo actuators. Ideal for vacuum applications.



PI*line*™ Piezo Motors
are based on a novel solid-state ultrasonic piezo-ceramic drive. They are lightweight, low-profile and provide a number of advantages over conventional motors, such as negligible EMI, ultra-fast response, auto-locking, zero-backlash and excellent power-to-weight ratio.

Nanopositioning, Nanomechanics Leadership

PI has been developing and manufacturing products in the field of nanomechanics and nanotechnology for more than 30 years. During this time, we have achieved and continually consolidated our position as a global market leader. Prime examples of our core competencies and cutting-edge technology are to be found in the development of parallel kinematics—integrated 6-axis positioners based on the Hexapod—and in the field of nanopositioning with piezoceramic actuators.

PI employs more than 300 staff worldwide and maintains sales, support and service offices in Germany, the USA, England, France, Italy, Japan and China with nanometrology capabilities on three continents. PI is represented in many countries around the world.

At the Heart of our Systems: the Piezo Effect

One small step for Pierre Curie—one great leap for the world. The piezo effect—Pierre Curie's discovery of about a hundred years ago—now forms the basis of the smallest mechanical, electronic or control-technology products. When voltage is applied to piezoelectric crystals or ceramics, they expand. We exploit this effect to create positioning systems with nanometer accuracy.

PI Products—Innovation & Superior Quality

PI has been ISO 9001 certified since 1994. Our products are characterized by their quality and innovation. Developed to give the highest degree of precision, we employ the most-modern tools and software for product development like FEM calculations and simulations. To determine the performance level of our products, we had to design equipment capable of resolving to fractions of a nanometer, pushing measurement accuracies to the limit.

Precision Advances

Over the years we have seen many technological advances make the transition from the laboratory to daily life, advances requiring the utmost in positioning accuracy, advances inconceivable without PI. Finer and finer structures on semiconductor wafers for cost-effective mass-production of high-performance electronics, or higher and higher density in telecommunications streams with millisecond switching from network to network, all in the minimum amount of space: this is where PI is at home.

PI's Customers

PI customers come from all sectors of manufacturing, quality assurance, research and development. And they are spread across many branches of industry:

- Astronomy
- Semiconductors
- Semiconductor Test Systems
- Medical Engineering
- Bio- / Nanotechnology
- Telecommunications
- Precision Engineering
- Aerospace Engineering

PI's customers even include national standardization institutes.

As our customer, you also profit from our more than 30 years' experience in micro- and nanopositioning technology. You will join an ever-increasing number of renowned companies and institutes whose products are at the cutting edge of innovation, research and technology. PI moves the nanoworld.

PI USA. The east coast office in Auburn, MA, also hosts a service department with nano metrology equipment.

PI Headquarters, Karlsruhe, Germany. PI employs the world's most experienced design and manufacturing teams for nanopositioning and nanomechanics products.