TEST & MEASUREMENT
Impossible Insights Made Possible Through Minimally Invasive Force & Pressure Measurement
Tekscan is the world’s leading innovator and manufacturer of tactile pressure and force measurement solutions for test and measurement. From force measurement to pressure mapping, our sensing solutions provide unique data and insight to validate your technology, reduce costs, and enhance product design and quality, for optimal results. Our passion for sensor technology, investment in research, and engineering expertise enable us to help meet your application challenge.

**Pressure Mapping**
Tekscan’s pressure mapping systems provide data you can’t get anywhere else by accurately measuring and analyzing interface pressure between two surfaces.

**Force Sensing**
Tekscan’s FlexiForce sensors economically measure load and force between two surfaces utilizing a minimally invasive form factor.
“I encountered Tekscan and had the feeling of an engineer’s dream come true. Working with granular materials and soil-structure interaction, one encounters problems with large stress variations. My observations in a journal paper published by ASTM in 1997 continue to hold: “The ability of the grid-based tactile pressure sensor’s system to provide real-time normal stress distribution over an area is unmatched by any other known technique. This ability provides us with an insight into the behavior and mechanisms of geomaterials that could not have been imagined previously.”

SAMUEL G. PAIKOWSKY
ScD, Professor
Geotechnical Engineering
Research Lab
University of Massachusetts

“Tekscan came in for a demonstration, and within five minutes we were watching a live output from our system and our jaws hit the floor. It literally made the pressure sensitive film we had been using look like bear skins and knives. It was that much of a quantum leap improvement. The Tekscan system paid for itself in the first five minutes. We got almost priceless information from it.”

DAVE OTTO
Former Senior Research Engineer
DuPont

“TMMK has been using the I-Scan system for the last two years, resulting in over 3,000 push/pull tests. The I-Scan provides our Safety and Engineering team with an accurate measuring device to record push/pull forces on a majority of our parts. The Tekscan system is easy to use and very dependable and has helped improve our ergonomic initiative.”

JOHN WHITAKER
Assembly Safety Specialist
Toyota Motor Manufacturing Kentucky
Pressure Mapping

General Purpose System

I-Scan®: The various options for sensors and data acquisition electronics available make I-Scan a versatile research toolbox, creating endless possibilities for applications.

Application-Specific Systems

TireScan™: A durable system that measures tire footprints.

BPMS™: (Body Pressure Measurement System) Maps interface pressure between a human body and a support surface.

Wiper™: Measures wiper blade to windshield interface force profiles.

Grip™: Maps interface pressure for hand and finger gripping applications.

Force Sensing

Force Sensors

FlexiForce® sensors are paper-thin, lightweight, and flexible. These sensors are available off-the-shelf in a variety of sizes and force ranges that can connect to your own data acquisition electronics.

General Purpose System

Economical Load and Force Measurement Systems (ELF™): Tekscan’s ELF is a cost-effective load and force measurement system consisting of data acquisition hardware, software, and FlexiForce sensors.
Pressure Mapping Systems

Our complete pressure mapping systems consist of sensors, data acquisition electronics, and software which runs directly on your laptop or desktop PC. With various options for sensor models and software add-ons, we provide solutions to upgrade your system as your needs evolve.

**Sensors:**
- Minimally invasive high resolution sensor that is thin and flexible
- Over 200 standard sensors with different shapes, sizes, resolutions and pressure ranges
- Customizable to unique form factors and pressure ranges to meet specific applications

**Electronics:**
- Scan thousands of sensing points within each sensor
- Data is instantly relayed to the software on your PC via a USB cable
- High speed and wireless options available

**Software:**
- Software displays the pressure distribution data, in multiple formats, for superior analysis
- Real-time display of pressure sensor data in 2D & 3D
- Display peak pressures and center of force

**Applications:**
- Impact & Crash Dummies
- Hand Grip & Ergonomics
- Brake Pads
- Roller Nip Profile
SENSOR TECHNOLOGY
Each sensor consists of a matrix of rows and columns of a semi-conductive material that changes its electrical resistance when force is applied to it. These rows and columns intersect to form sensing elements. By electronically scanning and measuring the change in resistance at each individual sensing element, the timing, force, and location of contacts on the sensor surface can be determined.