

Mechatronics and the *Future* of Sensor Technology

Traditionally, a complete set of sensing equipment consists of a sensor, data acquisition hardware & software, a signal-conditioning unit, power supply, wiring and the know-how to connect these discrete components. Not only is the cost high, sometimes as expensive as thousands of dollars, the skill and efforts involved are significant.

The Mechatronics approach has allowed companies like Mechworks Systems Inc. to develop smarter and better sensors. Mechworks' proprietary technology enables users to achieve the same sensing results at less than half the traditional cost. The Mechworks leading Mechsense[®] family of smart sensor systems eliminates the need for additional costly sensing peripherals, such as signal conditioners, charge amplifiers, oscilloscopes and power supplies; typically needed to support traditional accelerometer systems.

Mechsense Digital is a completely integrated, yet low-cost sensing system. It is USB port-powered and it eliminates the need for sensing accessories such as signal conditioner, analog-to-digital converter and power supply. It integrates a 2 or 3-axis accelerometer with a re-configurable signal conditioning unit, a 12-bit analog to digital converter and power supply, all in one small, low-cost package. The accompanying Mechmanager[™] sensor software package, enables the user to conveniently collect, display and store data as well easily re-configure the sensor's operation as required. This all-in-one tool is ideal for academic research and industrial consulting.



Similar to the Mechsense Digital, Mechsense Hybrid eliminates the need for accessories such as a signal conditioner and an analog-to-digital converter. It offers a small, low-cost, user-configurable accelerometer solution that provides the flexibility of a digital configurable system, with analog outputs for interfacing with traditional data acquisition systems. The Mechsense Hybrid provides flexibility for users of various sensing equipment. The Hybrid system is also equipped with the Mechmanager software that allows the user to easily configure sensor's required operations.

The future of sensing technology is embedded in the integration of Mechatronics elements into one smart sensing system. Mechworks is devoted to the application of Mechatronics into its smart sensor products.

For more information regarding Mechsense sensor systems contact the author.

By: Kimberly Zheng
Mechworks Systems Inc.
145 Columbia Street West
Waterloo, Ontario N2L 3L2
kimberly@mechworkssys.com
<http://www.mechworkssys.com>