

## HP to Co-develop Mobile Digital Laboratory for Education Market

## Overview

HP and Saltire Scientific are teaming to develop for the education market the Mobile Digital Laboratory (MDL) – an easy-to-use, high-performance solution that allows secondary school mathematics and science students to collect and analyze real world data in real time.

The MDL is ideal for mathematics and science teachers as they meet the challenges of curriculum reform. This is the latest innovation from HP's Calculators division, which is celebrating its 35th anniversary in the handheld calculator market this year.

Mobile Digital Laboratory for enhanced classroom learning

The easy-to-use MDL enables math and science students to quickly capture nearly imperceptible everyday data – such as the flicker of fluorescent lights and human voice waveforms – and mathematically analyze them using familiar functions on an HP calculator. This allows students to experience the phenomenon while simultaneously seeing the data in graphical or numerical form, allowing them to connect mathematics to their everyday experiences.

The MDL solution is composed of an input probe or sensor attachment; a small Saltire Data Streamer, which translates the probe signals into numerical data; and a powerful HP 39gs or 40gs Graphing Calculator, which analyzes the numerical data. When the data streamer hardware with probe attachment is plugged into the calculator's serial port, the calculator automatically recognizes the type of probe and immediately displays the stream of incoming data. In comparison, traditional data loggers require users to pre-select data collection duration and frequency, which entails more time-intensive set up and a steeper learning curve.

MDL highlights include:

- Intuitive and easy to use: Students maximize classroom learning time as they can start collecting and analyzing data immediately with virtually no set-up. Teachers save lesson planning time as they are no longer required to pre-determine experiment parameters for the desired outcome.
- Interactive, real-time data collection: Students are able to see a continuous stream of data and can pan, zoom in and capture datasets that look interesting as they happen.
- Fast data collection: The MDL can read and graphically display more than 2,000 samples per second.
- Familiar analysis tools: MDL works seamlessly with the HP 39gs and 40gs Graphing Calculators' standard statistical analysis tools so there is no need to learn a new toolset to analyze the collected data.

Editorial contacts:

Mike Hockey, HP +1 281 927 9379 mike.hockey@hp.com

Stephanie Kennedy Porter Novelli for HP +1 408 369 4645 stephanie kennedy@porternovelli.com

HP Media Hotline +1 866 266 7272 pr@hp.com www.hp.com/go/newsroom

Hewlett-Packard Company 3000 Hanover Street Palo Alto, CA 94304 www.hp.com

- Portable size: Data streamer hardware is up to 10 times smaller than traditional data loggers.
- Low-cost, high-performance solution: The affordable HP 39gs and 40gs Graphing Calculators boast advanced ARM processors that enable the calculators to work with the data streamer hardware.
- Variety of data types to analyze: A range of probes such as a microphone probe, light probe and gas pressure sensor will enable students to study phenomena such as the relationship between human voice pitch and the corresponding waveform frequency and amplitude, graphical representation of a flickering light and the inverse relationship between air volume and pressure.

## **About HP Calculators**

This year marks the HP Calculator division's 35th anniversary in the handheld calculator market, having introduced the world's first scientific pocket calculator – the HP-35 -- in 1972 to deliver portable "computing power" into the hands of everyday users. Today, HP's high-end graphing calculators offer more connectivity options and greater configurability than other calculators in their class, and the HP 12c Financial Calculator has become an industry standard in the business and finance community with more than 15 million units sold to date.

Information about HP's complete line of graphing, scientific and financial calculators, as well as on-demand training videos, computer-based training and step-by-step learning modules for each of HP's current calculators is available at <a href="https://www.hp.com/calculators">www.hp.com/calculators</a>.

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