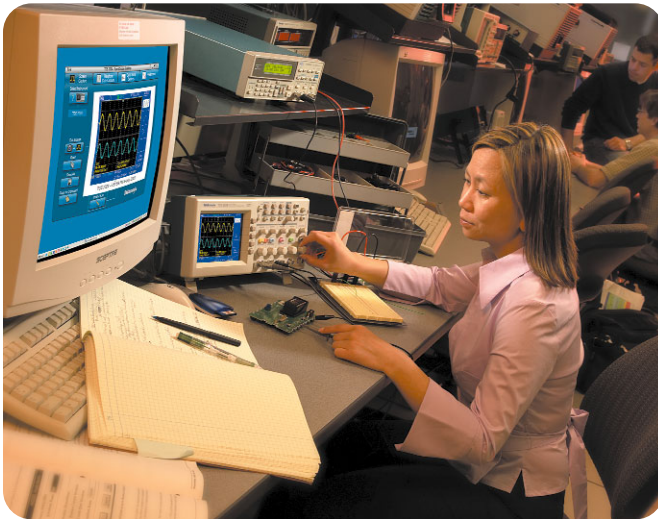


## Instructors and Students Gain Breakthroughs in Productivity with OpenChoice™ Software



### Solution Summary

Challenge	Develop substantial new laboratory experiments and course materials for the application of rapidly advancing electronic technology using far fewer staff resources.
Solution	Familiar Excel and Word toolbars and an innovative OpenChoice™ Desktop application provide the vehicle for seamless integration between the oscilloscope and personal computer.
Benefits	Instructors are able to develop new materials quickly and efficiently. Technology is more accessible to all skill levels. Students are comfortable with the software environment, able to focus on analysis, documentation, communications and teamwork.

In most modern organizations, the development of products is performed by an engineering team that includes engineering technologists and technicians, as well as theoretical scientists and design engineers. Applied technology can also be the central discipline for the manufacturing, field service, marketing and technical sales of electronic products.

To prepare individuals for application-oriented careers, Portland Community College (PCC) has developed highly regarded Electronic Engineering Technology (EET) programs for associate degree (technician) and university transfer baccalaureate (technologist) students. Both programs emphasize the practical application of engineering knowledge along with the theory of electronics.

### Keeping up with technology advances can be a real challenge for a shrinking staff

The documentation of analytical findings and preparation of reports that communicate with other team members are critical objectives of the EET programs. However, the development of course and laboratory materials to instill good analytical and written skills in students has become a real challenge for the instructional staff at PCC. Staffs have shrunk and budgets have been reduced because of declining revenues.

As the technology continues to evolve rapidly, lab equipment and experiments must be kept current in order to prepare students for the real world. Upgrading and replacing equipment can require a major investment in new course materials. Staff and students alike need to master the new hardware and software tools before they can apply them to their coursework – often a time burden and a distraction from their primary objectives.

***“It only took a few minutes to recognize the powerful impact that these software tools would have on both curriculum development and student learning. We now can move from raw data to finished analysis and reports completely within the familiar Microsoft Office desktop environment – a real breakthrough in the application of technology.”***

– Sid Antoch, Department Chair, Electronic Engineering Technology at Portland Community College

## Powerful new solutions for the PCC staff – familiar oscilloscopes equipped with industry-standard software

When the EET instructional staff upgraded their laboratory oscilloscopes to the Tektronix TDS1000 Series, they were pleased to find that the instrument's controls were very familiar and "analog-like" and they looked forward to addressing important new applications with them. However, they were concerned about the task of upgrading all of their lab manuals and curriculum guides to reflect the new instruments and applications. While PC software was available for the TDS1000 Series, the staff was concerned about the effort it would take to create new course materials. Over the last 20 years, the staff had been reduced from eight instructors to three, and they would be hard pressed to rewrite materials for 10 to 15 courses that might use them.

Initially, the staff had considered the Tektronix WaveStar™ software family as a means of controlling the oscilloscopes and transferring data to analysis and report writing programs on PCs. This would be a change from their previous LabVIEW environment, but WaveStar offered improved performance and a simpler interface – especially when used with Microsoft applications. However, it was determined that neither LabVIEW nor WaveStar was simple enough to use to save much staff time in the upgrade.

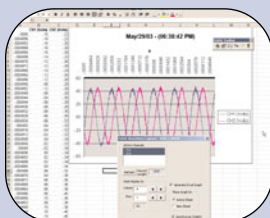
Fortunately, Tektronix was able to provide a new kind of PC software that addressed their needs directly. TDSPCS1 OpenChoice™ PC Communications software is a powerful suite of applications that provides instant, one-click access to setups, waveforms and screen images by seamlessly integrating Microsoft Excel and Word toolbars, or an innovative OpenChoice Desktop application, into the PC-oscilloscope environment. Using standard toolbars within the Excel 2000 and Word 2000 applications enables you to quickly and easily acquire data and screen images, analyze results and format data for reports. The OpenChoice Desktop application provides a simple means of saving data and screen images in files that can be exported to a wide variety of other Microsoft Windows-compatible applications such as MATLAB and LabVIEW, for detailed analysis or documentation. These components of Tektronix' OpenChoice software allow users to quickly and easily visualize, store, analyze, document, print and share waveforms, setups and measurement data using familiar applications.

The staff was ecstatic with the new approach. Software compatibility issues disappeared – replaced by powerful tools in a universally familiar environment that was second nature to both staff and students. Instructors began adapting new applications directly from their lab documents and new analysis routines from previous spreadsheets. Students were completely at ease from the start. They can now conduct experiments on their own and create analysis scenarios using the Excel toolbar with data from the oscilloscope. The CompactFlash® mass storage card also enables students to perform a quick check in the lab with the TDS1000 and TDS2000 Series and then take data home to analyze it and compose reports without the need to reformat or translate.

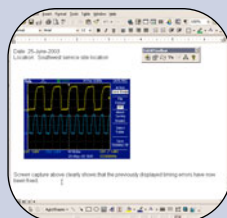
*"I was skeptical that any software could help us develop course materials more efficiently. As it turned out, the OpenChoice software approach has made our students and us much more productive, and in record time."*

– Sid Antoch, Department Chair, Electronic Engineering  
Technology at Portland Community College

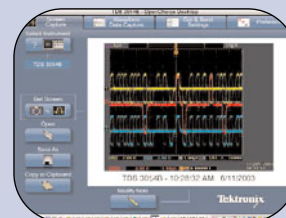
**The TDSPCS1 OpenChoice software is now available for the TDS1000, TDS2000 and TDS3000B Series oscilloscopes. See for yourself how easy and powerful this software can be – view the demonstration at [www.tektronix.com/openchoicedemo](http://www.tektronix.com/openchoicedemo).**



**Microsoft Excel  
Toolbar.**  
Automatically create graphs and charts for flexible data logging and analysis.



**Microsoft Word Toolbar.**  
Easily insert screen images and waveform data into documents to create detailed engineering reports and educational materials.



**OpenChoice™ Desktop  
Application.**  
Quickly and easily save data and screen images in a wide variety of file formats, such as .csv and .bmp.