

# Xilinx: Flawless Performance, 4x Training Growth at Less Cost

## Introduction

Technological skills are best learned through hands-on experience. Toolwire provides companies with experiential learning products and services, including hands-on labs. This case study is an example of how Toolwire delivers tangible, measurable business benefits.

## Xilinx - The World Leader in Programmable Logic

Xilinx is the world leader in programmable logic, a semiconductor technology that allows end users to program devices anytime, anywhere, in the lab or in the field. Xilinx is a \$1.6 billion company and is enjoying double digit growth.

The Xilinx Educational Services Group delivers instructor-led training to their worldwide user base in both physical classroom settings and Web-based virtual classrooms. Xilinx customers pay for instructor-led training just as customers of enterprise software companies do today.

## The Challenge - Worldwide Training on Xilinx Design Software

Xilinx must roll out new products, technologies, and software rapidly to remain competitive. This means educating 50,000 worldwide users on new design methodologies and on using Xilinx design software to select and configure the best Xilinx chip for a given application.

In 2000, Xilinx was training more than 2,500 people every year. The training business set a goal of doubling their training capacity, while reducing training costs. Well-trained users require fewer support resources, and they tend to recommend Xilinx to others.

The challenge was to deliver hands-on labs cost-effectively, while preserving the high-performance training customers expected.

The current approach was costly and inefficient, involving loading the company's design software onto expensive laptops and shipping them to training locations worldwide. Each laptop had to be prepped, shipped to the training location, and then shipped back to Xilinx to be prepped for the next training event. Laptop shipping costs alone were approximately \$1,500 per class, and roughly one quarter of the machines were lost or damaged in shipping each year.

Xilinx had six full-time employees configuring training laptops and testing course software. The company also had eight classroom facilities, for which it also had to maintain the course software. Moreover, instructors had to be flown to training locations, and trainers and sales engineers had to be onsite to make sure the laptops and software were operating correctly.

The process was costly, labor intensive, and unreliable. Xilinx needed a better way to deliver hands-on labs.

## The Innovation - Remote, Hands-on Training

Xilinx needed an automated, remotely accessible system that would allow one person to



### Organization

- Xilinx

### Business

- Programmable Logic

### Challenge

- Unwieldy and expensive lab setups

### Results

- Greater reach and reduced deployment time by leveraging Toolwire LiveLabs

“Setting up a class in any given city used to take up to 18 hours. With Toolwire, I can set up a class in any city in the world in two minutes.”

Dick LaForge  
Training Director  
Xilinx Inc.

turn every class around the globe on and off. It needed the system to make sure that the computers used for training students would be prepped correctly, made accessible during the class, then prepared for the next event after the class was over.

Xilinx also needed a way for users to see and control hardware boards with Xilinx chips, to put their training to practice. Users had to be able to see the actual chips and control the design process as if they were sitting in front of the actual devices. Previously, the only way to accomplish this was to send boards along with the laptops. The high cost of the boards—as much as \$7,000 each—limited the number of trainees and still cost Xilinx hundreds of thousands of dollars every year. A remote, hands-on training solution would directly address these issues.

## The Decision - LiveLabs from Toolwire

Xilinx selected Toolwire's LiveLabs solution because it satisfied their need for remotely accessible, hands-on training. Toolwire even provided realistic remote access to the hardware boards. LiveLabs allows a single administrator to set up every course around the globe, eliminating the cumbersome laptop setup and shipping process. According to Patrice Anderson of Xilinx, "To have a solution that's focused, where you only have to load the software once, you don't have to ship anything or have all those logistical problems, and you don't have to assign the people to manage it—that is a huge advantage."

Xilinx design software is graphically complex and running these applications over the Internet was therefore a major challenge. Toolwire provided dedicated bandwidth and infrastructure to enable world-class performance anywhere in the world.

## The Results - Flawless Performance, 4x Training Growth at Less Cost

Xilinx was able to re-deploy their six IT staff and it no longer needed to lease the 100+ laptops or send out equipment or personnel to training locations, saving thousands of dollars.

Xilinx saved enormous capital expense and maintenance costs by replacing high-end workstations in its classrooms with low cost Internet terminals. "You can rent classrooms that have PCs that are not necessarily powerful enough for the Xilinx software. You're using the processor at Toolwire, and that's a big advantage because Xilinx software can require pretty heavy compute resources that not every facility provides," says Xilinx's Patrice Anderson. Remote access to hardware boards also saved Xilinx hundreds of thousands of dollars per year.

***Toolwire helped Xilinx quadruple training capacity from 2,500 to 10,000 per year while driving down capital infrastructure and personnel costs.***

***Xilinx also saved thousands of dollars in shipping costs, and eliminated 100 laptops and 50+ workstations in capital expense.***

***Now Xilinx can deliver the same training, in the same environments, across the globe, around the clock.***

To date, Toolwire's system has performed flawlessly. In the past, classes were often cancelled because of shipping problems or set-up glitches. Since adopting Toolwire's solution, Xilinx has not had to cancel a single class.

As Xilinx Training Director Dick LaForge put it, "This is the tool that I'd been seeking for 10-15 years as a training manager. It's a tool that let me set my software up and my partners' software up once. And if something happened—if I had a change of rev[ision] of any of our software, all I had to do was set it up on their machine."

The Toolwire system helps Xilinx maximize the amount of training they can deliver, while minimizing infrastructure requirements. Xilinx has doubled its initial goal, quadrupling the number of people they train—from 2,500 to 10,000 per year—at a time when the rest of the electronics design automation tools market has scaled back training by approximately 40 percent. Xilinx went from training in a handful of company-owned facilities and customer sites, to 70+ pre-qualified locations in North America alone.

Before Toolwire, 50 percent of the Xilinx market was untapped because of travel logistics and expense. Now there's no need to travel, no prohibitive travel expense; therefore, many more users are going to training.

Xilinx used to take several weeks from the time a customer requested training to delivering the training. With Toolwire, this timeframe was reduced to as little as one day. Time to training delivery from point of customer demand has been reduced by several weeks on average and proximity to customer locations has increased significantly. This has enabled the company's Education Services business unit to increase revenues by adding more customers.

To experience the Toolwire difference visit [www.toolwire.com](http://www.toolwire.com) or just call toll free at 866.935.8665