

# client profile

Soldering irons piled on top of soldering spools. A collage of cords, power strips, tweezers. Pliers and rolls of labels peek through transparent electrostatic dissipative packaging bags.

This might have been what one experienced before Steve Darmanin of Flextronics International identified the need for better organization and flexibility in his production facility. Flextronics International is a global provider of electronics manufacturing services to communications, networking, computer, medical and consumer original equipment manufacturers. Since 1997, Darmanin has been the Engineer Services Supervisor at their Palm Harbor, Florida Regional Manufacturing Operation. The Palm Harbor location focuses on producing electronic assemblies using both through-hole and surface-mount technology.

## Challenge: constant change

In the Palm Harbor facility's High Mix-Low Volume manufacturing environment, most products go through the same manufacturing procedure until the wave solder process. At this stage, both the operators and the facility equipment have to be ready to move and change to complete the product successfully. Assembling printed circuit boards requires tiny components and specialized tools to be stored within easy reach of the operator. In addition, Flextronics frequently performs box-build manufacturing, which requires the facility configuration to be easily modified.

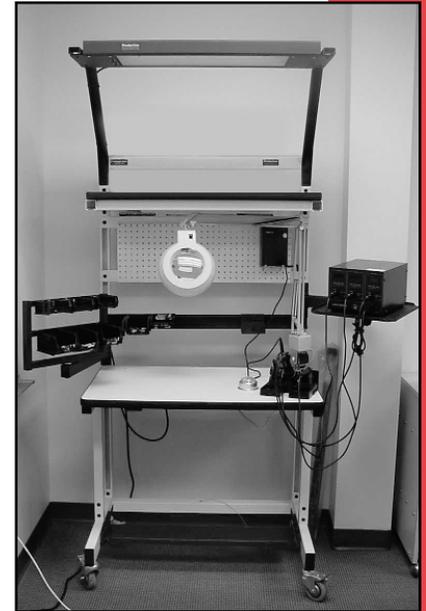
Darmanin realized that the infrastructure of the Palm Harbor facility was not easily adaptable to respond to increased manufacturing demands, therefore hindering productivity. It was time to look for a modular, flexible solution. "We had long, heavy, six and eight foot benches that [couldn't] be moved quickly," Darmanin recalls. The workbenches had become a dumping ground for tools and materials. One of the biggest challenges was coping with functional test equipment that was sitting out on the long benches. It was only needed once or twice a quarter, and in the way the rest of the time. Darmanin wondered where this test equipment could be stored when not in use, yet still be convenient to retrieve when needed for testing.

## A new concept in workstations

Darmanin and his colleagues contacted Techni-Tool, a full-line electronic distributor, who proposed several solutions that would clean up the dumping ground, organize tools, arrange equipment and provide an improved work environment for operators. Since Flextronics had very specific functionality in mind, they developed a custom workstation concept they appropriately coined the "Flex Bench."

Unlike many manufacturing facilities, operators would not be assigned to a specific workstation. Workstations at Flextronics would be task specific, housing the appropriate tools and testing equipment. Since operators would migrate to different workstations, every station required height adjustability to meet ergonomic standards and operator comfort. The Flex Bench needed to be relatively narrow—compared to the long tables that traditionally fill manufacturing facilities—include wheels for easy movement and provide other ergonomic comforts such as overhead lighting and footrests. Production Basics was invited to submit a design for the Flex Bench

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**Production  
BASICS**

“These benches were truly a breakthrough in philosophy.”



along with other assembly furniture manufacturers. Being a custom-designed item and realizing the important role the workstation would play in the Flextronics facility, Production Basics researched how the workstation would be used, built a demo unit and provided it to Flextronics for evaluation. Darmanin recalls, “Most all other manufacturers

wouldn’t build a demo. It was important to Flextronics that we get a demo to touch and feel before we commit to the new work bench concept.”

Flextronics used the demo workstation in their facility and provided feedback on the use and

functionality to Production Basics. Production Basics then integrated the suggestions into a final design. The combination of creative construction and starting with a “rough draft” helped create the most practical workstation for Flextronics.

### **The Flex Bench is born**

Excited about a quality-constructed workstation that fit their needs, Flextronics chose Production Basics to provide 200 workstations. The Flex Bench used today in Palm Harbor is 36 inches wide, with a 64-inch high Upright Open Frame, adjustable worksurface height and cantilevered leg design. To make it easy for any person to position a workstation, heavy-duty, 5-inch locking casters were installed on all units. Overhead and under-shelf fluorescent lights illuminate the working area. A platform footrest with an adjustable angle is an

ergonomic feature that assembly operators appreciate. Stations are outfitted with the appropriate accessories—items such as laminate shelving, bin rails, CPU holders and swing-arm monitor trays—to help organize materials and equipment. Workstations include integrated power strips, making it easy to plug in and power-up. When the Flex Bench is not being used, Flextronics rolls them to an area in the facility best described as the Flex Bench parking lot.

### **Keeping customers satisfied**

With the Flex Bench, Flextronics can configure their build areas in the most efficient way and quickly respond to changes in manufacturing flow. Although it was originally intended for test equipment, the Flex Bench plays many assembly roles. This week, you might see the Flex Bench in a Box Build area; next week it might be rolled over to the back end of a linear assembly line. Darmanin notes that when a manufacturing line needs more capacity due to an overload of product build requirements, operators roll four or five Flex Benches parallel to the existing line. It takes less than 15 minutes to add the extra workstations and start assembling. Flextronics is able to immediately increase their productivity and continue to provide quality, on-time product to their customers. Flextronics can now effectively manage manufacturing fluctuations while maintaining seamless customer service.

How does Darmanin feel about working with Production Basics? “Production Basics helped us all through the initial start-up of the Flex Bench. We were quite demanding in the beginning and [Production Basics] hung in there to make us happy.” Darmanin and his colleagues know how important it is to exceed customer expectations and were pleased to experience the same level of service they strive to provide.

Darmanin asserts, “These benches were truly a breakthrough in philosophy when dealing with assembly benches.” Driven by a need for portability and flexibility, Flextronics presented their concept of mobile, task-specific workstations. Production Basics listened to Flextronics and worked to make the concept a reality. Flextronics’ forward thinking and Production Basics’ workstation expertise flowed together to creatively tackle a manufacturing challenge.