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Substantial Improvements for New Generation of Wearable Data Collection Terminals for Distribution Centers Applications

Totes Isotoner makes the Switch for Pallet Building Process; Key Evaluation Criteria

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Wearable mobile data collection devices have been around for many years, but are enjoying a new lease on life after a first wave of equipment in the 1990s that many felt weren't quite up to the rigors of distribution center life.

"The original wearable computers often didn't get the ergonomics quite right," said LXE's **Mark Dessommes** on a recent videocast from Supply Chain Digest "The weight and how it was distributed often weren't ideal"

That videocast, *Leveraging Existing Wireless and AIDC Networks to Reduce Costs and Increase Productivity*, is now available on-demand and provides a number of smart ideas: **Wireless and AIDC Networks Videocast**.)

"Wearable" mobile wireless terminals are generally worn on the lower forearm, connected to a "ring" type bar code scanner worn on a finger.

As a result, wearables allow operators to work in effect "hands free," just as they can with voice-enabled terminals. In fact, wearables can themselves be voice-enabled, allowing operators to work hands free even in they have to sometimes scan bar codes as part of a distribution center process.

When first released in the mid-1990s, tens of thousands of wearables were sold, but a few very large buyers, such as UPS, represented a high percentage of total sales. Many customers did not like the ergonomics, and there were concerns about durability. For a number of years, very little progress was made in terms of new product development.

That started to change a few years ago, as new gen-

In the past few years, totes relooked at wearable computers and made the change in its DC. Now, operators scan a carton anywhere on the divert lane and quickly see the pallet position number on the terminal on their arms.

erations of equipment first came to market. The new devices were lighter, brighter, and much easier for operators to use. As just one of many examples, now the ring scanners can be linked wirelessly to the terminal via a "bluetooth" connection, whereas in the past they had a tethered cable connection that could bother operators and be easily damaged.

totes Isotoner in Cincinnati provides a good example of the impact of these improvements. When totes first automated its new distribution center in 1998, the iconic manufacturer of umbrellas, slippers, gloves and other products took a look at wearable computers for pallet builders at the end of sortation system divert lines, but worries about durability and other issues led the company to go with fixed scanners. But that meant operators had to look at a computer monitor after manually moving a carton passed the fixed scanner to see what pallet a carton needed to be placed on. That took

extra seconds that added up over tens of thou-sands of cartons per day.

In the past few years, totes relooked at wear-able computers and made the change in its DC. Now, operators scan a carton anywhere on the divert lane and quickly see the pallet position number on the terminal on their arms. The process both shaves valuable seconds off the pallet building process and gives pallet builders more flexibility in selecting which cartons on the conveyor to process.

"Wearables" are Making a Bigger Impact in Distribution

What to Consider in Evaluating Wearables

LXE's Dessommes says there are a number of factors to consider when evaluating wearables computers. Those include:

- Durability: Be sure to consider how "rugged" your applications will be
- Battery life: It may be worth trading off a bit more weight for longer battery life
- Expandability: What options, such as voice or RFID capabilities, can be added later to the terminal
- Flexibility in wearing options: How can the

"system" be configured to best meet specific applica-tion or individual operator needs?
- The usual wireless terminal considerations: the dis-play, keypads, scanner options, etc.

Regardless, manufacturers and distributors of automatic identification equipment report growing interest in wear-able devices for distribution applications.

"We are seeing a real surge in demand for wearables says **Nick Gobora**, vice president of sales for AIDC solu-tion provider Barcoding Inc, noting that many companies are taking a path similar to what totes did, selectively adding wearables for some applications within a DC.