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GROWERTALKS

Cover Story

Tools and Tech from IPM

| *Chris Beytes*

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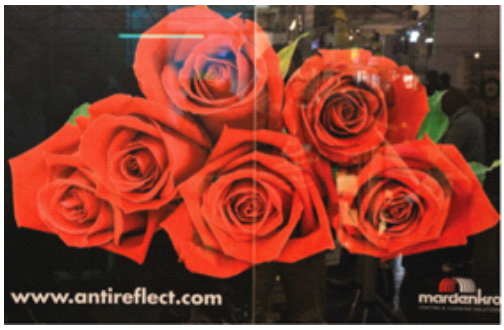
Now, I won't say the gap is anywhere near closed, but the 2017 installment of IPM, held January 23-27 in Essen, Germany, sported more cool new greenhouse tools than at any of the past IPMs I've attended. Gratifying!
Here are my top technology picks from the show. Granted, a few come with five- or six-figure price tags. But I found one that cost just $99.99—something even NTV couldn't boast.



Mardenkro AntiReflect Coating
Mardenkro is best known for shade paint designed to reduce the amount of light coming into a greenhouse; now they've introduced an anti-reflective coating that helps more light come through your glass—up to 3% or 4% more, they claim. It's especially effective in the winter, when angled sunlight is more likely to bounce off the glass. They also offer anti-condensate coatings for inside the greenhouse for even more light transmission. www.antireflect.com

Javo Ultra Pot Filler
Designed especially for North American container nurseries, Javo's Ultra Pot Filler can fill and drill pots up to 20 gal. (45 liter), drilling a hole up to 13 in. That will let you transplant from a 5-gal. pot into a 20-gal. pot much more quickly than by hand. But be warned: With that much soil volume, you'll need a continuous soil feed line. There's not a soil bin big enough to keep it supplied. "It's a beast of a machine," says Javo USA's Jay Honeycutt. This one is a prototype; three are on order. www.javousa.net

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3D Sensor Sorting System
By Dutch firm Willburg Projecten, this is a finished plant sorting system that uses a 3D scanner, rather than a camera, to sort finished plants by height or volume. The benefit is that it's much less expensive than typical sorting systems that use cameras and computers—up to 1/3 the cost, they say. The drawback is that it's less versatile—you can't sort by flower color, for instance. But if you simply want to segment your crop by size, this machine is for you. www.wilburgstolze.nl

Trayscan by TTA
Transplanter specialist TTA has developed an app that allows you to accurately measure the germination rate of your plugs using a low-cost Android tablet. Once you've downloaded the app ($99.99 at the Google Play store), you use the tablet to photograph a plug tray, set up the parameters you want to look for, then go snap all the other trays of that variety. The app will automatically calculate your germination rate. You can save the data and share in various ways. If you have multiple people counting your plug trays, you let your best grader set the parameters, then copy the parameters to the other tablets. Trayscan takes the human variation out of the task and speeds it up considerably, too. I asked about an iPad version and was told that it's coming, but really, why risk a $500 iPad in a dirty, wet greenhouse when a $100 tablet will do? www.tta-usa.co

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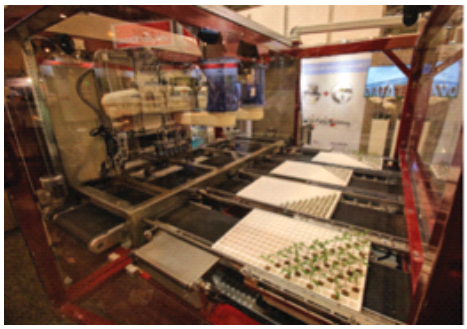
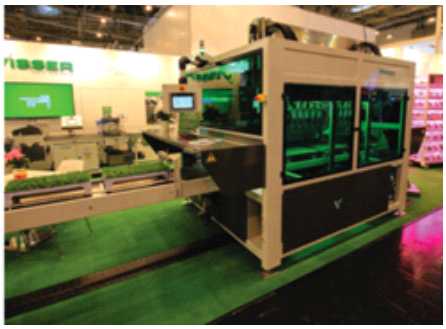

FL'EX Young Plant Sorter
Flier Systems' FL'EX Young Plant Sorter can grade plugs into three different sizes, plus dispose of duds. Like-sized plugs are planted together into trays, which go back into the greenhouse for finishing. What's unique is that it uses off-the-shelf Denso robotic arms to move a pair of six-gripper planting heads (one or two robots depending on size; the demo machine had two). Cameras and a computer analyze each plug, then tell the grippers whether it's small, medium, large or a dud. It can grade 8,000 to 9,000 plugs per hour, I was told. The machine looked crazy expensive, but it starts at just $120,000. www.fliersystems.com

Pic-O-Mat Vision
Visser's Pic-O-Mat Vision grades plugs just before they get planted, removing duds so you get 100% good plants in your packs or pots. The machine looks just like their standard Pic-O-Mat transplanter, but the
Pic-O-Mat Vision is equipped with cameras to grade the plugs as they're being carried from the plug tray to the finished container. They don't even slow down or stop for the camera; they just keep moving smoothly through the planting process. Good plugs get planted, while those that don't make the grade get dropped onto a conveyer and whisked away for disposal. Visser says a 24-gripper machine can plant 16,000 to 20,000 plugs per hour (12- and 16-gripper machines are also available). You can program up to 100 planting combinations, all accessible by touch screen. As for the green-tinted glass, I was told it's to help the camera see the plugs better. www.visser.eu

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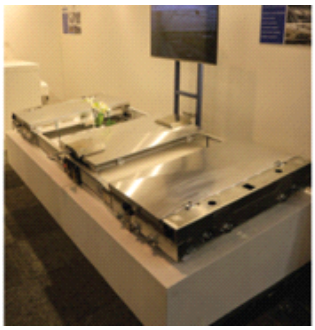


Logiqs 2D Shuttle
Dutch container bench systems are a very efficient way to move large quantities of plants in and out of a greenhouse range, and Logiqs hopes to make their internal transport systems even more efficient with their 2D Shuttle. It features a shuttle cart that travels on the heat pipes below the containers. It can more in two directions—up and down each bay and from bay to bay—to move the containers around the greenhouse. It can be programmed to move product for sorting, spacing and shipping at night. www.logiqs.nl/en

Rovero Roll-Air
Way back in the '90s, Dutch greenhouse builder Rovero introduced the first open-roof greenhouse to feature a rolling roof design. They've evolved the structure and rolling system over the years—it now features a gothic arch greenhouse shape for better snow and water shedding, and the motor is now a standard type, three-phase, with a gearbox, rather than a troublesome tube motor. It's powerful enough to move a football field's length of roof (300 ft.) with just one motor. www.rovero.nl **GT**