

FLOOR EQUIPMENT

What you'll need on the floor

The server, the workstations, the scanners and the printers: what we recommend, what we've used, and where you're free to do it your way.

Your floor, your way

Here's what I've learned over the last ten years: most mailers know what they want, and they're going to do it their way. That isn't flippancy, it's reality. Many shops have a systems administrator, or a whole division, who will build what they want the way they want it, with the security that's already in place. FloorPulse is built to fit into that, not to replace it.

FloorPulse also doesn't need much specialized hardware. Scanners may be new to your floor, and new is usually a bit intimidating, but it's an extremely mature market, and you'll probably want a relationship with Zebra, Honeywell or one of the others. For example, we found a MUNBYN IPDA082P mobile computer that reads the Intelligent Mail barcode for under \$600, which is a steal next to the others' pricing. I haven't thrown one on the concrete to see how well it survives, but at that price you could put a couple on the shelf.

There's more product out there than we have time to review, and I don't specialize in hardware. What follows are the recommendations and specifications we stand behind.

The server

FloorPulse doesn't need server-class hardware: a Windows workstation does the job. It talks to stations over the network and to printers directly over TCP/IP and IPP, so there are no print drivers to install.

Component	Recommendation	Notes
Operating system	Windows 10 or 11, or Windows Server 2019 or later (64-bit)	Installs as a Windows Service: starts on boot, no logged-in user needed.
Processor	Intel Core i5 for fewer than 10 stations; Core i7 for 10 or more	Count every station, not only the Mailing stations: equipment stations (inkjet, inserter, folder, digital press) and hand scanners or mobile units too.
Memory	16 GB	FloorPulse and its database use a fraction of that, maybe 1–2 GB, but Windows uses more memory the more there is. Every shop loads the system differently; 16 GB has been enough.
OS drive	256 GB SSD minimum	Windows and the FloorPulse program.
Data drive	A second drive: 2 TB minimum, 4 TB preferred	Working data, plus the history your reports draw on. Piece records are the bulk of most mail.dat files; when a job is archived, FloorPulse deletes them, except the ones that were scanned.
Network	Wired Ethernet or Wi-Fi on the production floor LAN	Wired is recommended, and if the server drives automation (Routing, robots, conveyor controls), keep it wired. One network card is enough; FloorPulse doesn't need a dual-homed setup. The database is open to you read-only for your own reporting, so you may want a second card to reach it from another network.

Can I install it on a virtual machine?

There's no reason not to, but there's one thing to consider first. If you're running automation, such as Routing, robots, or controls on a conveyor, you're probably working with a PLC and a controls company. In our experience, a VM hosted behind layers of routers and switches, or on a shared server, can add more communication lag than the automation or FloorPulse was built to recover from.

Give the VM as clean a communication path to the equipment as you can. It's not unusual for a controls system to give up on a socket message that takes longer than 20 ms. Even five retries of that is only a tenth of a second, so the automation can't share a VLAN with your phone system, and that VLAN can't already be overloaded. More detail is on the [IT & security page](#).

Workstations

The workstations are where you'll use the system: printing or tracking each of your trays. We built FloorPulse to run on the cheapest, least powerful, oldest computers you have, as long as they run Windows and the Google Chrome browser. Everything happens in that browser, talking to the FloorPulse server.

The options usually come down to:

- An old PC that's already on the floor. Give it a try.
- A PC being retired from the office, which is likely a good fit.
- Last year's model from Amazon, Dell or HP, which often come at a good price.
- The newest, biggest, baddest gaming box will work too, but it won't gain you much except longevity.

Fully mobile stations

Laser printers, tag printers and mobile computers all come in many models with Wi-Fi. Put a Wi-Fi printer and a mobile computer together and you have a fully mobile station that goes wherever the work is; add a battery and it doesn't need a wall outlet either. A station can also switch printers on the fly, so someone walking the floor can print to whichever printer is nearest.

We've tested a Samsung Galaxy A16 Android phone with a Bluetooth ring scanner as a mobile computer, and an Android tablet as well.

Scanners

The barcodes a scanner must read

- **GS1-128**: the pallet placard barcode.
- **Code 128**: the tray tag barcode.
- **USPS Intelligent Mail barcode** (4-State Customer Barcode, OneCode): the piece barcode. This is the one that narrows the choice from twenty scanners to three, so check for it by name in the specifications.

Shipping and Routing probably don't need to read the piece barcode. But if you run mail.dat jobs, a shipping scanner that does read it lets the FloorPulse QC tool reprint a tray tag or pallet placard from any piece in the tray.

At a workstation

You need a USB keyboard-wedge scanner. Zebra is my go-to, but any keyboard-wedge scanner that plugs into the workstation will work, unless the computer is so old it has no USB or doesn't know what to do with a keyboard wedge.

Mobile computers

Most of FloorPulse is designed to run on wireless mobile computers, which only need a Wi-Fi network that can reach the FloorPulse server. A phone or tablet works too, with a Bluetooth scanner paired to it. Most of these devices need some tweaking before they read correctly into FloorPulse, but once configured they're pretty solid.

Devices I've used:

- Zebra DS55 Series desktop scanner (there's a stand for it)
- Zebra DS4208 USB hand scanner
- Zebra TC73 mobile computer with a pistol grip

- MUNBYN IPDA082P mobile computer

I've also looked at Zebra's wearable computers with a ring scanner. They look like a really good fit for someone who needs to stay mobile, like shipping.

Getting them configured

Mobile computers will probably benefit from coming to us first, unless you have someone who can read the documentation and work it out. That's what we did, and we have notes for the DS55, the DS4208 and the MUNBYN IPDA082P. If you'd like your devices ready for your facility on arrival, tell us what you're looking to buy, have them sent to us, and we'll configure them and send them on. Scanner configuration is \$150 an hour.

Printers

FloorPulse prints straight to the printer over the network, Ethernet or Wi-Fi, with no print drivers. Every printer needs a network connection and an IP address.

- **Tray tags: Microcom Model 438.** An Ethernet thermal printer, and it's a tank. This is the one we recommend.
- **Tray tags: Zebra ZD421** (has a Wi-Fi option). It gets the job done, and we print directly to it. But it's plastic, it isn't built for a dusty, paper-dust environment, and it won't take much abuse, so I can't recommend it for the floor. Still, it's not my facility, and after 30+ years in this industry I know people need to try their own way, and I get things wrong. It's a good printer for what it's made for.
- **Pallet placards: any network laser printer that supports IPP Everywhere.** We've been testing on the absolutely cheapest Brother laser we could find, the HL-L2460DW, to prove cheap would work.

The people it takes

- Someone who can set the IP addresses of your printers, on Ethernet or Wi-Fi.

- If you'll be maintaining a lot of stations, someone on your team who understands their configuration. Otherwise we can do it, but I think we're a bit expensive for that.

Questions about a device you're considering? Email contact@floorpulse.net.