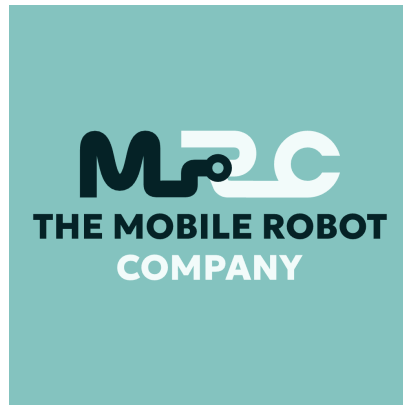




The Mobile Robot Company

Knowledge Center — VDA 5050 Explained · 2026-08-04

<https://info.mobilerobot.com/documentation/concepts/vda-5050-explained>

VDA 5050 Explained

VDA 5050 is the interoperability interface that lets mobile robots from different vendors work together in the same space under one compatible fleet-management layer. This page explains the concept for readers planning or evaluating fleet automation.

The problem it solves

Without a shared interface, every robot vendor speaks its own protocol, and a site running robots from two vendors ends up with two control systems that cannot coordinate — or with a lock-in decision to buy everything from one vendor. VDA 5050 standardizes the communication between vehicles and the fleet layer, so a compatible fleet manager can coordinate mixed-vendor traffic in the same aisles.

What this means in practice

- A site can add J1600 robots to an existing VDA 5050 fleet without replacing its fleet layer.
- Robots from different vendors can share zones and routes under one coordinating system.
- Fleet decisions and robot purchases decouple: the fleet layer is chosen for the site, the vehicles for the task.

VDA 5050 and the J1600

The J1600 has full VDA 5050 support as part of its [Advanced software](https://info.mobilerobot.com/products/software/advanced-software/) (<https://info.mobilerobot.com/products/software/advanced-software/>), and The Mobile Robot Company works with established VDA 5050 fleet-management providers. A J1600 deployment can therefore start as a single standalone [teach-and-repeat](https://info.mobilerobot.com/documentation/concepts/teach-and-repeat/) (<https://info.mobilerobot.com/documentation/concepts/teach-and-repeat/>) unit and later join a coordinated fleet — the same hardware, upgraded software.

VDA 5050 sits on the advanced rung of the capability ladder, alongside [come-to-me](https://info.mobilerobot.com/applications/scenarios/come-to-me/) (<https://info.mobilerobot.com/applications/scenarios/come-to-me/>), automatic charging, and API

integrations. Basic use of the robot requires none of them.

When you need it — and when you do not

Situation	VDA 5050 needed?
One robot, one or a few flows, touchscreen tasks	No
Several J1600s coordinated as one fleet	Fleet software needed; VDA 5050 or Fleet Manager (https://info.mobilerobot.com/documentation/technical-integration/fleet-manager-guide/)
Mixed-vendor robot fleet under one fleet layer	Yes
Direct integration with site software or equipment	No — use the REST API (https://info.mobilerobot.com/documentation/technical-integration/rest-api-documentation/).

Deployment details

For requirements, planning steps, and commissioning of a VDA 5050 setup on the J1600, see the [VDA 5050 documentation](https://info.mobilerobot.com/documentation/technical-integration/vda-5050-documentation/) (https://info.mobilerobot.com/documentation/technical-integration/vda-5050-documentation/) in Technical Integration.