

Modular Robotics Procurement Matrix v2

Merged + Gap Analysis (April 2026)

This document merges:

- 1) Previous matrix: **Modular_Robotics_Vendor_Procurement_Matrix_v1**
- 2) New upload: **Robotic Construction Equipment Guide 2026**

Goal: identify procurement-ready options, emerging options, and the key holes/gaps to close before purchase decisions.

1) Consolidated Vendor Map by Workstream

A. Modular House Production (Indoor)

Commercial / Procurement-Ready (Project Sales):

- Randek — ZeroLabor systems
- WEINMANN (HOMAG) — WALLTEQ/production lines
- House of Design Robotics — automated panel framing
- KUKA / ABB / Kawasaki / FANUC — custom robotic cells via integrators
- Reko International — automated assembly systems

Emerging / Specialized / Model-dependent:

- AUAR — micro-factory (HaaS style)
- Promise Robotics — AI/offsite platform partnerships
- Reframe Systems — design-build operator model (not generic equipment vendor)
- COBOD / Apis Cor — 3D printing systems (strong use-case dependent)

B. Plumbing Robotics / Prefab Pipe Work

Commercial / Procurement-Ready:

- Hilti Jaibot (MEP drilling)
- HP SitePrint (layout automation)
- RIDGID automated pipe processing tools
- ABB robotic welding cells
- Lincoln Electric automated welding systems
- Kranendonk robotic pipe processing (industrial scale)

C. Electrical Robotics

Commercial / Procurement-Ready:

- Hilti Jaibot (anchor points / supports)
- HP SitePrint (electrical layout)
- ABB robotic electrical sub-assembly cells

Emerging / Not yet broad off-the-shelf deployment:

- WIREBOT (panel wiring robotics)
- Hardhat Robotics (project-led deployment model)

2) Holes Identified in Previous Matrix (v1)

1. Missing newer entrants from uploaded guide:

- AUAR, Promise, Reframe, COBOD, Apis Cor, Reko, WIREBOT, Hardhat, Kranendonk.

2. Limited distinction between:

- “buyable now” vs “pilot/partnership-only”.

3. Missing explicit mention of:

- pipe-threading/pipe-welding specialists (RIDGID/Lincoln/Kranendonk).

4. Missing 3D-printing branch for structural deployment strategy.

5. Missing note that some “vendors” are actually service/design-build operators, not pure equipment suppliers.

3) Holes Identified in New Uploaded Guide

1. Most entries lack transparent pricing bands (capex and recurring support).

2. No standardized procurement criteria (FAT/SAT, KPI acceptance gates, SLA terms).

3. Limited clarity on North America support footprint and service response times.

4. Some technologies are listed as available but are still partnership or commercialization phase.

5. No unified integration requirements (PLC/MES/SCADA, BIM interoperability, data export).

6. No TCO model (spares, maintenance, uptime support, operator training, integration labor).

4) Procurement Readiness Grading Framework

Use this grading before commitment:

• Grade A (Ready Now):

Proven deployments + direct sales + support network + clear integration path.

• Grade B (Pilot First):

Functional technology with limited commercial footprint or region-specific support.

• Grade C (Watchlist):

Early commercialization or unclear procurement/support model.

5) Preliminary Grade Assignment (for planning)

Grade A (Procure now with integrator)

- Randek
- WEINMANN/HOMAG
- Hilti Jaibot
- HP SitePrint
- ABB Robotics
- Lincoln Electric
- RIDGID
- KUKA (integrator-led)

Grade B (Pilot-gated)

- House of Design Robotics
- Reko International
- AUAR
- COBOD
- Apis Cor
- Kranendonk

Grade C (Watchlist / targeted pilot only)

- Promise Robotics
- WIREBOT
- Hardhat Robotics
- Reframe Systems (operator model; strategic partner vs equipment procurement)

6) Final Buy Path for Your Modular Plant (Recommended)

Phase 1 (0–6 months) — Fast ROI foundation

1. Panel/framing line (Randek or WEINMANN path)
2. Layout automation (HP SitePrint)
3. MEP drilling (Hilti Jaibot)

Phase 2 (6–12 months) — Quality + throughput gains

4. Pipe welding/threading automation (ABB/Lincoln/RIDGID/Kranendonk based on scope)
5. Interior finishing robotics (Canvas or equivalent service model)

Phase 3 (12+ months) — Strategic expansion

6. Evaluate micro-factory/3D-print systems where they fit local product strategy
7. Evaluate humanoid pilots only in constrained repetitive zones

7) Missing Documents Needed Before Purchase (Critical)

1. Vendor RFP template (standardized requirements)
2. Integration specification (PLC/MES/SCADA/BIM)
3. FAT/SAT acceptance protocol by workstream
4. Site readiness checklist (power/network/floor/clearances/safety)
5. Training + certification plan
6. Uptime SLA and spare parts agreement template
7. KPI payback model template (capex vs labor savings vs throughput gain)

8) Executive Decision Summary

- Your new uploaded guide significantly expands vendor coverage.
- The merged matrix now separates **buy-now** options from **pilot/emerging** options.
- Biggest decision risk remains lack of standardized commercial and technical gating.
- Next best step: run a structured RFP on Grade A + selected Grade B vendors with KPI-gated pilot terms.

9) Quick Reference: What to Buy First

If immediate deployment is the priority:

1. Randek/WEINMANN (core panel line)
2. HP SitePrint (layout accuracy)
3. Hilti Jaibot (MEP drilling productivity)
4. ABB/Lincoln where pipe/electrical prefab volume justifies it

This sequence minimizes risk and builds a measurable automation baseline quickly.