

One Team - Every Discipline - Zero Outsourcing.

Planning · Engineering · CNC Machining · Assembly · Installation.

Pannon Concept was founded in 2009 as a precision machining workshop. Over fifteen years we have built a full-stack industrial engineering company — one that designs, fabricates, programs, and commissions complex automation in-house, at our own purpose-built facility in Gyöngyös, Hungary.

Our edge is integration depth. Mechanical design, electrical engineering, PLC programming, robotics, CNC machining, and CMM quality control all sit within a single team — no subcontractors, no interface gaps, no dependencies on external build partners. 100% of projects delivered without external subcontracting.



PANNON **CONCEPT**

1,000 m² Workshop + 450 m² Office

Purpose-built greenfield facility, operational since 2019. Designed for complex, high-precision manufacturing.

All Disciplines Under One Roof

Mechanical, electrical, controls, robotics, CNC machining — one team, one building, one point of accountability.

15+ Years, Hundreds of Projects

Delivered to Bosch, Siemens, GE, Grundfos, Michelin, LEGO, and many more. Every project accepted and in production.

Lifecycle Commitment

We remain your partner through installation, commissioning, operator training, and long-term service support — protecting your OEE long after handover.



WHAT WE DO

Four Disciplines. One Integrated Build.

Most automation integrators source their machined parts elsewhere. Most machine shops don't do robotics. Pannon Concept does both — and everything in between.

1

Custom Fixturing & Tooling

Eliminate third-party lead time on work-holding. Precision jigs and fixtures for machining centres, CMMs, and assembly — pneumatic, hydraulic, and mechanical variants, including axis upgrades for existing centres. All built in-house.

2

Custom Machines & Equipment

Get exactly the machine your process needs — not a compromise. Inspection, pressing, assembly, leak detection, marking, and engraving machines, fully designed and built in-house. Every mechanical, electrical, control, and software element produced under one roof.

3

Subcontract Machining & QC

Consistent quality with full traceability and in-house metrology. 7 CNC milling centres (3-axis through 5-axis simultaneous), 3 CNC lathes, surface and cylinder grinding, and Mitutoyo CMM with Renishaw probing and laser scanning. Tolerances to ± 0.005 mm.

4

Automation & Robot Integration

Faster ramp-up, lower integration risk, and no vendor lock-in. Collaborative robots, industrial robots, and mobile intralogistics (AMR/AGV) — full cell design, build, programming, and commissioning with OPC UA data connectivity. Technology-agnostic: FANUC, KUKA, Yaskawa, Doosan, Universal Robots.

THE PANNON DIFFERENCE

More Than a Robot Integrator — A Complete Engineering Partner

Most robot integrators are exactly that — integrators. They programme and install robots, but rely on external partners for mechanical design, fabrication, precision machining, and fixturing. Every interface adds risk, cost, and lead time. Pannon Concept eliminates those interfaces entirely — and delivers OPC UA-ready systems with full data connectivity built in.

Capability	Robot Integrator Only	Pannon Concept
Robot programming & integration	✓	✓
Custom end-of-arm tooling	Sometimes	✓ In-house
Custom machine design & build	×	✓ In-house
Precision CNC machining	×	✓ 7 centres, 5-axis
Custom fixturing & work-holding	×	✓ Pneumatic / hydraulic
CMM quality control	×	✓ Mitutoyo + Renishaw
Lifecycle service & SLA support	Limited	✓ Structured SLA tiers + OEE protection



HOW WE WORK

Six Stages. Fixed Scope. No Surprises.

Every project follows the same structured delivery framework — so timelines are controlled, acceptance criteria are pre-agreed, and you are never chasing status.

Discovery & Fit Assessment

We study your process, ask the right technical questions, and give you an honest assessment of scope and feasibility — before any commitment.

Requirements & Concept

Together we define the technical specification, agree on the solution concept, and establish measurable success criteria and expected ROI.

Fixed-Price Quotation

Detailed scope with itemised deliverables, milestones, and payment structure. What is included is stated clearly — and so is what is not.

Engineering, Build & FAT

Mechanical design, fabrication, electrical wiring, PLC programming, and robot integration — all in-house. Robot paths and cycle times simulated before build. Concluded with a Factory Acceptance Test at our facility.

Installation, SAT & Handover

On-site installation and commissioning. Site Acceptance Test against pre-agreed criteria. Full documentation package and operator training included.

Ongoing Support & SLA

12-month warranty standard, extendable to 36 months with a Pannon service agreement. Tiered support with ticketing, defined response times, preventive maintenance, remote diagnostics via Pannon ServiceLink, PLC backup management, and spare-parts planning — designed to protect your OEE.

Turnkey Robot Systems — Built, Not Just Programmed

We are a brand-independent system integrator with our own machining, fabrication, and electrical capability. That means we can design and build the robot cell, the end-of-arm tooling, the safety guarding, the control panel, and the custom fixtures — all without leaving our facility.

Collaborative Robots (Cobots)

Quick to deploy, no safety fence required. Ideal for small and medium batch production. Flexible reconfiguration as products change.

Industrial Robots

High-speed, high-payload applications. Full cell design with guarding, vision, and PLC integration. FANUC, KUKA, Yaskawa, Doosan.

Intralogistics (AMR / AGV)

Autonomous mobile robots for in-plant material transport, line feeding, and warehouse handling. Reduces manual handling risk and increases predictability.

What We Build In-House for Every Cell

Robot cell design & layout

Mechanical concept, reach analysis, cycle time simulation, and virtual commissioning

End-of-arm tooling (EOAT)

Custom grippers, vacuum cups, combined tools — machined in-house

Control panels & electrical

Panel design, wiring, sensor integration, safety circuits

PLC & robot programming

Application-specific logic, vision integration, HMI development via Pannon ControlHub, OPC UA data con

Precision fixturing & jigs

Pneumatic or hydraulic work-holding — no external supplier needed

CE marking & documentation

Risk assessment, wiring diagrams, operator manuals, FAT/SAT reports — full EU regulatory compliance

PARTNER TECHNOLOGY

AUCTECH

Cobots, industrial robots & ready-built palletising cells.

Up to 1500 kg

Palletising payload range



- Diversified Products
- Leading Technology
- Customized Solutions
- Technical Support
- Global after-sales Service

Integrated & distributed by Pannon Concept

AUTOMATION HARDWARE

Cost-Optimised Robots & Palletising Cells

A complete robot hardware line — collaborative and industrial robots plus ready-built palletising and machine-tending workstations — that Pannon designs, integrates, and commissions into turnkey cells.

1

Full robot range

Cobots and industrial robots, AHP palletising arm 50–800 kg (1,500 kg coming), and ready AWP palletising / welding / CNC-tending workstations. M6 controller, EtherCAT.

2

Cost-performance

Performance close to premium Western, Japanese, and Korean robots at **~30–40% of their price (≈60–70% lower)** — making far more applications economical to automate.

3

Built into Pannon cells

Pannon adds the guarding, end-of-arm tooling, control panel, fixtures, and PLC/robot programming — delivered as a complete, CE-marked cell, not just a robot.

4

Where it fits

High-volume palletising, machine tending, and line automation for automotive Tier 1/2, EV / battery suppliers, and SME manufacturers.

PARTNER TECHNOLOGY

Wheel.me

Autonomous wheels — turn any cart into an AMR.



Days

Typical deployment time

Integrated & supported by Pannon Concept

INTRALOGISTICS / AMR

Autonomous Mobility, Zero Infrastructure

A click-in autonomous wheel system that turns existing carts, pallets, and racks into AMRs — no floor magnets, no wiring, no infrastructure rebuild. Pannon integrates it into your material-flow and robot cells.

1

What it is

Norwegian-built Genius platform: one control wheel plus three driven wheels, LiDAR and camera navigation, cloud backend and app control. IEC 61508 functional safety.

2

Fast & flexible

Deploys in days, not months. Uses your existing carts; reconfigure routes by drag-and-drop. Opportunity charging keeps the fleet running through the shift.

3

Cobot + AMR combined

A strong differentiator: the cobot loads the machine while the AMR brings the next batch. Dramatic cost advantage over fixed AGV systems with floor infrastructure.

4

Where it fits

In-plant material transport, line feeding, and warehouse handling for automotive, EV / battery, logistics, and healthcare.

PARTNER TECHNOLOGY

WattPilote

Machine condition, tool wear & breakage monitoring — no sensor in the cutting zone.



5 ms
Reaction time

Integrated & supported by Pannon Concept

PREDICTIVE MONITORING

Tool Monitoring From the Motor

A monitoring system that reads the motor's electrical power in the cabinet to infer tool condition — no sensor exposed to chips, coolant, or vibration, and retrofittable to existing machines.

- How it works**
Measures motor power draw in the control cabinet to detect wear and breakage. Nothing in the cutting zone; retrofits to existing machines. 5 ms reaction, six models, multilingual software.
- Key use-cases**
Process control, protection, and diagnostics in one: unattended night shifts; missing-tool / missing-part / double-machining detection; tool wear and breakage; bearing-wear and lubrication diagnostics; and tool-geometry comparison by energy use.
- Built into Pannon machining**
Demonstrated on our own CNC fleet (DOOSAN, Quaser); installed, parameterised, and maintained by Pannon's engineering team — no external specialist required.
- Beyond protection**
Bearing-wear and lubrication diagnostics from the spindle signature; in prototyping, compares tool geometries and grinding methods by energy use.



SUBCONTRACT MACHINING

A Machine Shop That Can Also Build Your Automation

Our machining capability is not a side service — it is what makes us a different kind of automation partner. When we build your robot cell, the fixtures, tooling, and mechanical components come from the same facility as the integration.

100K+

Turned parts / year

CNC Milling — 7 Centres

- 5-axis simultaneous: DOOSAN AN VCF 8500 (X: 3,000 mm)
- 4-axis pallet changer: DOOSAN VC510
- 3-axis: DOOSAN DNM 500, 2× DOOSAN MYNX 6500
- Portal milling: TT DNC 5000 (X: 4,000 mm travel)

1K+

Milled parts / year

Precision & Quality Control

- Mitutoyo Crystal-Apex CMM + Renishaw PH10MQ + laser scanning
- Flat grinding ESG-2040TDS + cylinder grinding KP-100-02
- Tool measurement, hard gauges

5-axis

Simultaneous

CNC Turning — 3 Centres

- 2× DOOSAN PUMA GT2100M (OD 220 × 600 mm)
- 1× FANUC Robodrill TI14iFLB

±0.005mm

Achievable tolerance

Supporting Equipment

- Conventional lathes, milling, sawing, column drilling
- Assembly stations — manual and automated builds



WHY PANNON CONCEPT

Six Reasons to Work With Us

No Integration Gaps

Mechanical, electrical, machining, robotics, and fixturing under one roof. 100% of projects delivered without external subcontracting — and no one to blame but us if something is wrong.

Scope You Can Hold Us To

Every project is quoted with a fixed scope, itemised milestones, and pre-agreed FAT/SAT criteria. You know exactly what you are buying before work begins.

Proven at Industrial Scale

Trusted by Bosch, Siemens, GE, Grundfos, Michelin, LEGO, ZF, Alcoa, BorgWarner, and others. Fifteen years, hundreds of accepted projects.

Predictable Uptime & Costs

12-month warranty standard, extendable to 36 months with a Pannon service agreement. Ticketing, defined response times, preventive maintenance, remote diagnostics via Pannon ServiceLink, PLC backup management, and spare-parts planning — predictable costs, protected OEE.

Technology-Agnostic Advisory

We work with six robot OEMs and are commercially independent from all of them. Your application requirements drive the specification — not our distributor margins. No vendor lock-in, no ecosystem bias.

EU-Sovereign & Scalable

Fully EU-based design, fabrication, and integration — no dependency on non-EU subcontractors. All components traceable, CE-marked as standard. Systems designed for energy efficiency; facility powered by renewable energy. Based in Central Hungary, one hour from Budapest.



INDUSTRIES & REFERENCES

Trusted Across Six Industrial Sectors:

- Automotive
- Packaging & FMCG
- Logistics
- Energy
- Food & Beverage
- Defence & Security

