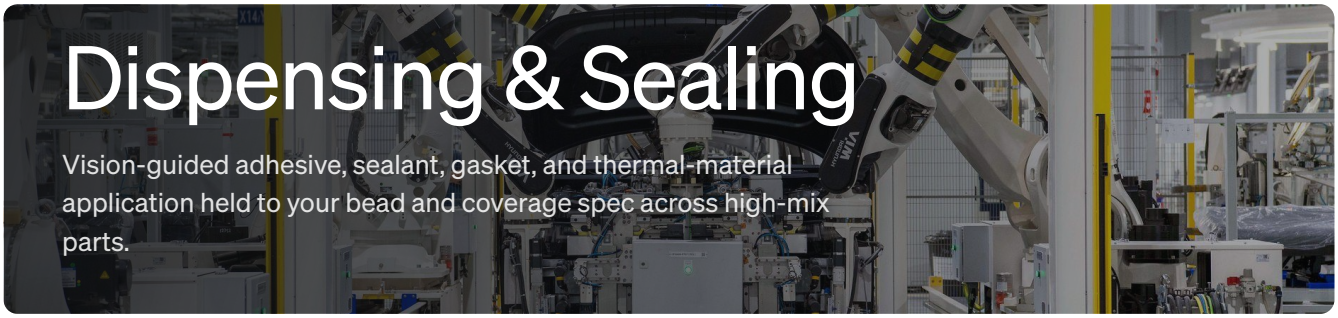

Dispensing & Sealing

Vision-guided adhesive, sealant, gasket, and thermal-material application held to your bead and coverage spec across high-mix parts.

A consistent bead is hard to hold. By hand, width and standoff drift with operator fatigue, and skips and voids slip through. Fixed-path robots assume every part sits exactly where the program expects, but incoming parts vary in position, warp, and tolerance. The result is over-application that wastes costly material, under-application that leaks or fails to bond, and rework that lands downstream after assembly.

Relling follows the actual seam. Vision locates each part and corrects the path in real time, while closed-loop flow and standoff control keep bead width and coverage on spec as geometry varies. The same cell reconfigures in software to switch materials, paths, and parts, then re-learns the new job. Every program is qualified against your bead spec at Relling HQ before the cell ships.

AT A GLANCE

Footprint	~2 × 2 m
Payload	12.5 kg
Reach	1.3 m
Placement	±0.05 mm
Power	Single-phase
Install	≤ 2 weeks

01 The work we take on

THE TASK PROFILE

A

Path following

Vision locates each part and corrects the dispense path in real time, tracking seams and contours so the bead stays on the joint despite part-to-part variation.

B

Flow control

Volumetric metering and pressure regulation hold deposited volume per unit length, keeping bead width within spec as travel speed and corner geometry change.

C

Standoff hold

The tool maintains nozzle height above the surface from sensed geometry, preventing smear, stringing, and gaps on warped or stepped parts.

D

Two-part metering

Ratio and mix control for two-component materials, with pot-life and purge management to prevent off-ratio dispense and cured-material blockage.

E

Bead verification

Inline vision inspects the laid bead for width, continuity, and coverage, flagging skips, voids, and breaks before the part moves to assembly.

02 Why now

THE CASE FOR MOVING NOW

Consistency decides quality

A sealed joint is only as good as its weakest section. Hand-laid beads vary operator to operator and shift to shift; one thin spot or skip becomes a leak or bond failure. Repeatable, verified dispense holds every bead to the same spec.

Material is expensive

Adhesives, thermal compounds, and two-part systems cost real money per gram, and over-application adds up fast across a production run. Metered, path-accurate dispense puts material only where the spec calls for it and cuts waste.

Failures surface late

A leak or weak bond rarely shows at the dispense station; it appears after assembly, in test, or in the field, where rework and warranty cost the most. Inline bead verification catches defects at the source, before value is added.

OEMS WE WORK WITH

BECKHOFF · Rockwell Automation · SIEMENS · FANUC · KUKA · ABB · YASKAWA

03 What the service covers

TASKS ON THE LINE

A — Adhesive beads
Lay structural and assembly adhesive beads along seams, flanges, and panel edges to bond spec.

B — Structural bonding
Apply controlled adhesive patterns for load-bearing joints replacing or supplementing mechanical fasteners.

C — FIP/CIP gaskets
Dispense formed- and cured-in-place gasket beads onto housings, covers, and enclosure grooves.

D — Sealant beads
Run continuous sealant beads for weatherproofing, leak prevention, and environmental sealing.

E — Thermal material
Apply thermal-interface material to pads and heat sinks at controlled coverage and thickness.

F — Potting
Pot and encapsulate electronics and connectors, filling cavities without trapping voids.

G — Underfill
Dispense underfill along component edges, using capillary flow to fill beneath the device.

H — Two-part metering
Meter, mix, and dispense two-component adhesives and potting compounds at controlled ratio.

WHAT A CELL HOLDS

≤ 2 wk	±0.05 mm	100%
Install to running on your floor, not months of integration	In-hand placement for fit- and safety-critical parts	Inspection on every part — checked, not sampled

Representative configuration. Final specs are issued with the proposal.

04 Working with us

FROM YOUR PART TO A QUALIFIED CELL, IN ~TWO WEEKS ON-SITE

A · SCOPE & PO

We start with your part

We work from your part, volumes, takt, and the line you'd deploy on. A short scoping engagement confirms fit, defines acceptance criteria, and puts a fixed scope and price in writing — capital purchase and robotics-as-a-service, side by side.

B · PRE-BUILD AT RELLING HQ

We build & qualify it first

We build the cell on our own production floor and run it against your parts until it meets the acceptance criteria. The trial-and-error happens here, not on your line — so what ships is already proven.

C · ON-SITE CONFIGURATION

It arrives pre-built

The qualified cell shows up ready. On-site work is tuning, not assembly: under two weeks to integrate with your line, MES/ERP, and safety, followed by a supervised run on real product.

D · ACCEPTANCE & FIRST UNIT

Proven, then handed over

We run supervised until your safety engineer signs off and the cell hits its numbers. Your technicians operate it day to day; maintenance and software updates are covered.

05 Let's talk

We started Relling to help this country make more of what it needs. If you have a task that's hard to staff or hard to automate, send it over — we'll tell you straight whether a cell fits, and scope it if it does.

Talk to us: jai.relan@rellingsystems.com · rellingsystems.com

EXCEPTIONAL ENGINEERING, TEAM FROM

SpaceX · NASA · Boeing · Tesla · Rivian · AnySignal · coinbase