Agriculture

Software-reconfigurable workcells that grade, handle, and pack variable natural produce without the bruising or the seasonal headcount.

No two pieces of produce are the same. Size, shape, ripeness, and defect vary item to item, lot to lot, and crop to crop across a short season. The work is delicate and fast: fruit bruises under a clumsy grip, and product spoils when a line stalls. Grading, gentle pick-and-place, and packing have stayed manual because fixed automation can't read natural variation or handle it without damage.

A Relling cell sees each item before it touches it. Vision senses size, color, ripeness, and defects; a force-modulated grasp lifts soft fruit without marking it. The same cell reconfigures in software from cherries to clamshells to crates, so one platform covers many crops and pack formats. Every cell is qualified against your produce and pack specs at Relling HQ before it 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

Natural variation

Every item differs in size, shape, weight, and ripeness, so grasps and placements must adapt per piece rather than repeat a fixed motion.

B

Bruise-sensitive

Soft fruit and vegetables mark under excess force; handling has to modulate grip and approach to lift without damaging the product.

C

Seasonal swings

Volume spikes hard during a short harvest window, then drops, making fixed staffing and dedicated automation difficult to justify.

D

Perishable, fast

Product degrades by the hour, so lines run at speed and any stall translates directly into shrink and missed shipments.

E

Mixed formats

Crops, grades, and pack styles change frequently, demanding a line that switches between trays, clamshells, bags, and crates on short notice.

02 Why now

THE CASE FOR MOVING NOW

Labor is short and seasonal

Packhouses compete for a shrinking, seasonal workforce, and H-2A wages and housing keep climbing. A cell that runs through peak without recruiting, training, or housing a temporary crew turns an annual scramble into reliable, repeatable capacity.

Perishability rewards speed

Produce loses value by the hour, so throughput and uptime are margin. Cells run consistently across long shifts and the harvest peak, holding line rate when manual stations tire, so more product moves before quality and price decay.

Food safety needs traceability

Buyers and auditors demand documented grading, inspection, and lot tracking. A cell records what it inspected, graded, and packed by lot, turning food-safety and recall readiness into a logged byproduct of normal operation rather than a manual paperwork burden.

OEMS WE WORK WITH

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

03 What we automate in agriculture

TASKS ON THE LINE

A — Grading and sorting
Classify produce by size, color, ripeness, and defect, then route each item to its grade lane.

B — Gentle pick-and-place
Lift bruisable fruit from belt to tray with force-modulated grip and damage-free placement.

C — Tray and clamshell packing
Arrange graded produce into trays or clamshells to count, weight, and presentation spec.

D — Bunching and banding
Gather stems or greens into uniform bunches and apply bands or ties at line speed.

E — Box and crate filling
Fill cartons and crates to target weight and pattern without crushing lower layers.

F — Lidding and labeling
Seat lids on clamshells and apply date, lot, and grade labels for traceability.

G — Foreign-object inspection
Flag debris, stems, and out-of-spec items, removing quality and food-safety risks before pack.

H — Palletizing and depalletizing
Build mixed pallets and break down incoming bins of field-run product for processing.

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