

CUSTOMER SUCCESS STORY

Mackle upgrades pet-food formats with Cleverttech and OMRON: pouch packaging achieves an estimated 50% productivity increase



Mackle Petfoods

Northern Ireland

Productivity

Increased output by 50%,
at 135 pouches per minute



Precision

± 1 mm accuracy in
pouch placement



Sustainability

Supports mono-material
packaging and reduces
waste



[Click here for more information on Mackle Petfoods](#)

Key Benefits

1

50% increase in productivity compared to manual operations

2

Elimination of placement errors through high-precision vision and robotics

3

No dedicated operators required for pick-and-place tasks

4

30% reduction in footprint, freeing up valuable factory space

5

Future-ready line designed for scalable output and sustainable materials

At a glance

To meet the growing demand for single-serve, recyclable pet-food packaging, Mackle Petfoods worked with Cleverttech and OMRON to automate a previously manual pouch-handling process.

The new line integrates Delta robots, vision systems and PLC control to manage flexible pouches with ± 1 mm accuracy. This turnkey solution improved efficiency, reduced errors and increased output to 135 pouches per minute, whilst reducing labour needs and line footprint. The system is designed to double capacity in future and aligns with EU sustainability goals by supporting mono-material packaging.

Mackle now benefits from faster production, improved quality and a future-proof packaging process.



In recent years, the pet-food sector has grown by up to 6.4% annually.

Mackle upgrades pet-food formats with Clevertch and OMRON: pouch packaging achieves an estimated 50% productivity increase

Mackle Petfoods, in collaboration with Clevertch, is launching its new production line dedicated to the manufacturing of single-serve flexible pouches for dog and cat food, designed to double production with minimal investment. The automation of some of the critical processes has been entrusted to OMRON, which also supplied the Delta robot and vision systems. Clevertch was responsible for the engineering and implementation of the system, which includes handling for depalletizing empty crates, palletizing full crates for quarantine product management, drying of the pouches and transport of both pouches and crates along the line.

In recent years, the **pet-food sector** has grown by up to 6.4% annually, far outstripping traditional food and beverage, driven by rising pet ownership and strong demand for convenient, multi-flavour single-serve packs.

To meet this trend, **Mackle Petfoods**, a Northern Irish family company with over 50 years' experience, decided to invest in a new automated line for pouches: lightweight, practical, recyclable packs that protect the product through sterilization and storage, yet present serious handling challenges in production due to their multilayer, highly flexible structure.



The challenge of flexible-pouch packaging

For Mackle, managing pouches was both a **technological and production challenge**: the pouch handling and placement process was entirely manual, labour-intensive and prone to positioning errors, misalignment and contamination risk.

Each pouch, made from multilayer BOPP with an internal foil barrier, requires insertion with ± 1 mm tolerances into 400 × 600 mm “smart” crates to optimize storage and subsequent multi-flavour carton packing.

“Pouches are a completely new and really exciting format for the market,” explains **Gareth Rogers**, Head of Engineering at Mackle Petfoods. “They demand the utmost care in handling. Producing high-quality pet food means running the line at top speed and being as efficient as possible.”

Given this need—and the mounting EU pressure for mono-material packaging, waste reduction and stringent hygiene standards—Mackle sought technology partners capable of automating the process, boosting productivity and eliminating packaging defects. That led to the collaboration with **Clevertouch** and **OMRON**.



Delta robots, vision and integrated control

Cleverttech — an FMCG automation specialist—and OMRON teamed up to deliver a turnkey system combining vision, Delta robotics and advanced PLC control.

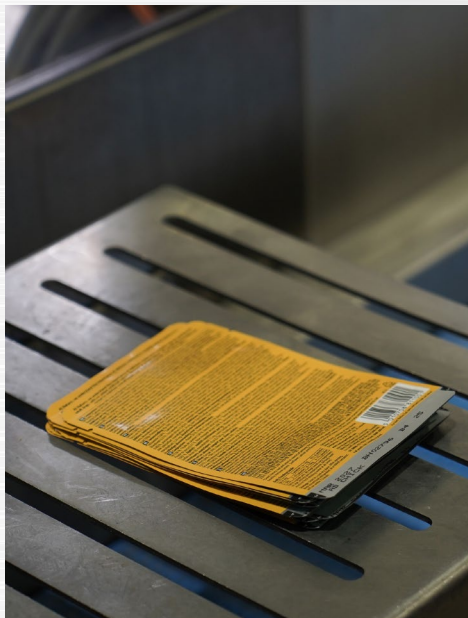
The new line's architecture includes:

- Intelligent vision system: OMRON FH colour cameras (3.2 MP) with dedicated LED lighting identify pouch orientation, position and printed graphics—even in the presence of moisture or reflections.
- Delta Robot RX4-2166024: Two high-speed articulated robots pick up two pouches per cycle and place them into individual crate cells with ± 1 mm accuracy, using Kevlar-reinforced, 3D-printed grippers designed for variable shapes and thicknesses.
- Integrated Sysmac control: An NJ5 controller handling 16 coordinated axes, EtherCAT servo drives, M1 inverters for motion control, T20 HMI panels and an Intel® Atom™ E3940 operator PC ensure perfect synchronization between the pouch conveyor, crate feeder and robotic modules.

Through co-engineering and collaborative development, Cleverttech and OMRON overcame challenges such as synchronizing twin conveyors at different speeds, reliably recognising folded or reflective pouches, and minimising the machine's footprint to fit a confined production area.

"Pouch is one of the most common, yet most challenging, pet-food formats," says Paolo Soliani, Regional Manager at Cleverttech. "Its flexibility means it can fold, shift and offer endless graphic variations. Our vision system had to handle those reflections and shape changes every step of the way."

Ettore Gastaldi, Key Account Manager F&C at OMRON, adds: *"Our Delta robot ensures precise pick-and-place, while our vision technology handles each pouch with care. Orientation and grip position are critical, and our solution delivers exceptional reliability. We also provided the hardware to drive conveyors, along with a software platform to control and program the entire system."*



Pouch is one of the most common, yet most challenging, pet-food formats

Results: efficiency, quality and sustainability

Since going live between July 2024 and January 2025, Mackle's new line has transformed pouch handling:

- Zero dedicated pick-and-place operators, now managed by a single technician
- Throughput of 135 pouches per minute, with future capacity scalable to double
- 30% reduction in footprint, freeing space for expansion
- Elimination of placement and orientation errors, delivering a 50% productivity increase over manual methods
- 40% higher crate fill rate compared to traditional trays, thanks to an optimized 6 × 4 cell layout and vertical stacking

Additionally, the adoption of mono-material BOPP pouches with optical lamination and use of fully recyclable components anticipates upcoming EU sustainability regulations, reaffirming Mackle's commitment to a circular-economy production model.



A future of flexible automation

The partnership between Mackle Petfoods, Clevertech and OMRON demonstrates how packaging innovation using Delta robots, vision systems and Sysmac control can turn a tough product challenge into a competitive advantage in efficiency and quality.

"In a pet-food market that demands single-serve, multi-flavour agility, Mackle's robotic cell is a shining example of tailored automation," says Gareth Rogers. "We wanted to automate a completely manual process to boost efficiency, productivity, and to future-proof our operations. We're already running 135 pouches per minute, and the system is designed to double that capacity."

With accelerating market growth and tightening regulations, innovations like this pave the way for an industry where production flexibility and environmental stewardship are key to success.



About Mackle Petfoods

Mackle Pet Foods is a family-owned leader in premium wet dog and cat nutrition based in Northern Ireland. Since 1961, we've served the UK, Ireland and European markets with innovative single-serve formats—including cans, trays and flexible pouches—crafted from carefully sourced ingredients and manufactured under the highest quality and sustainability standards. Committed to continuous improvement and environmental responsibility, our mission is to deliver safe, delicious, and eco-friendly pet foods that pet owners and their companions love. For more information, please visit

<https://macklepetfoods.com/>



About Clevertech

Clevertech is a global leader in automation and digitalization solutions for the FMCG and manufacturing industries. With over 15 years of expertise, we design, engineer, and integrate turnkey production lines that combine advanced robotics, machine vision, and control systems. Our tailor-made solutions empower clients to enhance throughput, quality, and sustainability while future-proofing their operations. For more information, please visit

<https://clevertech-group.com/>



About OMRON Corporation

OMRON Corporation is a leading automation company with its core competencies in Sensing & Control + Think technology. OMRON is engaged in a wide range of businesses including industrial automation, healthcare, social systems, device & module solutions.

Established in 1933, OMRON has about 28,000 employees worldwide, working to provide products and services in more than 130 countries, contributing to the creation of a better society. For more information, please visit <http://industrial.omron.eu>