An introduction to LAPS®

WRIGHTFIELD LAPS®
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High welfare. Zero gas.

Low Atmospheric Pressure Stunning

WHAT IS LAPS?

The LAPS chamber creates a calm, dark environment for birds. Atmospheric air pressure is then gradually reduced, which leads to an irreversible stun.

It's a highly controlled process, free from gas, chemicals or electrical intervention. Unlike traditional techniques, LAPS minimises the handling of conscious birds, thereby significantly reducing stress and enhancing welfare and product quality. LAPS is approved by global regulatory bodies and backed by scientific research. It is designed for poultry processors seeking to modernise their operations and enhance welfare standards.

THE BENEFITS

LAPS offers measurable benefits across welfare, efficiency, and hygiene:

- **Humane and low-stress stunning**
- **Improved meat quality and fewer injuries**
- **Reduced water, energy and no gas usage**
- **Fully enclosed system, easy to clean and maintain**

WHY CHOOSE LAPS?

- A scientifically validated, humane method
- Birds remain in modules and drawers throughout
- Fully enclosed, clean and controlled environment
- Integrates seamlessly with Wrightfield's ProLoad system
- Endorsed by EFSA, USDA and major welfare authorities

WHY NOT GAS OR ELECTRICAL STUNNING?

- High concentrations of CO_2 can cause aversive reactions
- CO_2 requires on-site storage and handling of gas supplies
- Electrical stunning requires manual shackling
- The electrical stunning method means shared water baths, which increases cross-contamination and hygiene risks.

Poultry Processing

LAPS offers seamless integration within modern poultry processing plants.

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VEHICLE ARRIVES CONTAINING BIRDS IN TRANSPORT DRAWERS AND MODULES

Birds are not removed from the transport drawers. They remain in the drawers and modules throughout the entire stunning process. There is no stress-induced handling.

MODULES ENTER THE LAPS CHAMBER

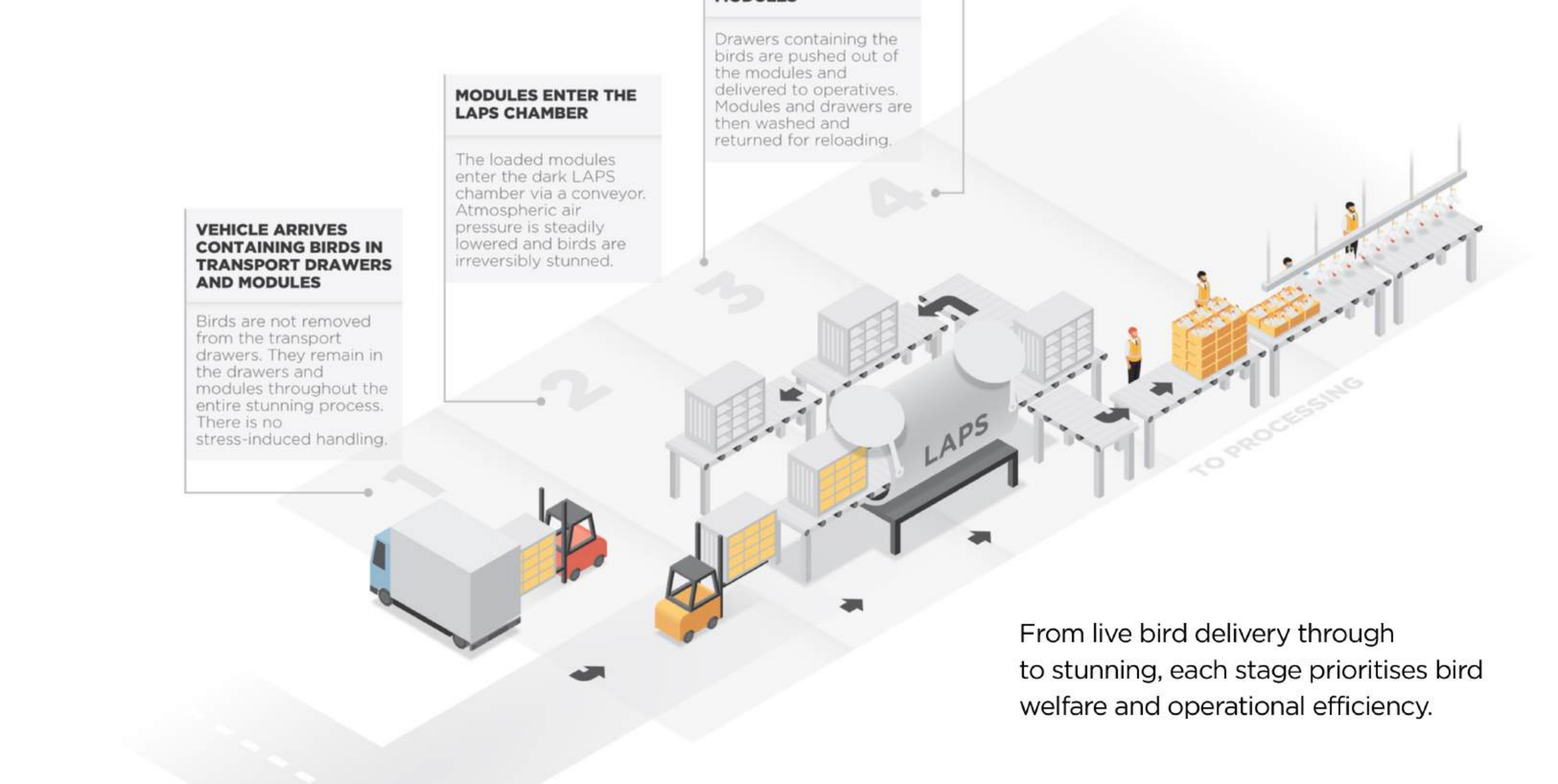
The loaded modules enter the dark LAPS chamber via a conveyor. Atmospheric air pressure is steadily lowered and birds are irreversibly stunned.

DRAWERS ARE REMOVED FROM MODULES

Drawers containing the birds are pushed out of the modules and delivered to operatives. Modules and drawers are then washed and returned for reloading.

BIRDS MOVE ONTO THE NEXT PROCESS

Birds are automatically and safely transferred to the next stage of processing.



From live bird delivery through to stunning, each stage prioritises bird welfare and operational efficiency.

Poultry Depopulation

LAPS can also support emergency depopulation during outbreaks such as Avian Influenza, offering a reliable, welfare-focused solution.

Suitable for farms, veterinary response units, and health organisations managing outbreak control.

A portable LAPS chamber offers significant flexibility during disease emergencies. It can be deployed directly on farms, allowing birds to be humanely depopulated on-site.

This reduces stress, limits disease spread, and improves biosecurity by keeping potentially infected flocks contained.

The mobile unit's self-contained design requires no gas supply, operates through automated cycles, and can be set up quickly by trained veterinary or animal-health teams — making it an efficient, welfare-focused solution for rapid response situations.

For Farms With On-site Processing

A practical alternative to electrical and CO_2 stunning — built for high-welfare on-farm processing.

On-site processing gives you control. LAPS extends that control to stunning.

Unlike electrical systems, LAPS requires no live shackling.

Unlike gas systems, it uses no CO_2 and requires no gas storage.

LAPS reduces and controls atmospheric pressure in the chamber and is powered by electricity. Lower handling. No dependency on gas.

An infrastructure that reflects your standards.

LAPS reduces handling at a critical stage and removes dependency on CO_2 supply — while aligning stunning infrastructure with high-welfare principles. For farms reviewing their processing setup, it's an alternative worth understanding.

Live Bird Stunning Systems Comparison

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Feature / Factor	LAPS (Low Atmospheric Pressure Stunning)	Electrical Stunning	Gas Stunning (CO_2 or Multi-Phase)
Animal Welfare Compliance	✓ High – non-aversive; minimal stress	⚠ Variable – depends on shackle handling	✓ Compliant, but ethical acceptability is often debated
Pre-stun Shackling Required	✗ No	✓ Yes – birds must be shackled live	✗ No
Staff Safety Risk	✓ Low – minimal contact with live birds	⚠ Higher – manual shackling is hazardous	✓ Low – automated drawer handling possible
Consistency of Stunning	✓ Very high – pressure-controlled cycles	⚠ Variable – depends on current, contact etc	✓ Good – but affected by gas quality and time
Throughput Capacity	✓ Scalable – modular chamber options	✓ High – depending on setup	✓ High – with multiple chambers
DOA (Dead on Arrival) Rates	✓ Reduced due to calm handling	⚠ Can be elevated due to pre-stun handling	✓ Low – if transport conditions are stable
Regulatory Acceptance	✓ Approved by EFSA, OIE, USDA, EU	✓ Approved globally	✓ Widely accepted but under scrutiny in EU

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Feature / Factor	LAPS (Low Atmospheric Pressure Stunning)	Electrical Stunning	Gas Stunning (CO_2 or Multi-Phase)
Ease of Cleaning & Hygiene	✓ Designed for washdown & biosecurity	⚠ Shackling area can be messy	⚠ Complex – gas rooms need tight sealing
Maintenance Requirements	✓ Low – minimal contact with live birds	⚠ Medium – electrodes and conveyors wear	⚠ High – gas sensors, seals, safety checks
Running Costs	✓ Low/Medium – vacuum pump energy use	✓ Low – mainly electrical	⚠ High – CO_2 costs + monitoring systems
Automation & Data Logging	✓ Full cycle traceability & fault logging	⚠ Often manual or basic monitoring only	✓ Often includes control systems & reports
Bird Stress During Stunning	✓ Minimal – gradual decompression	⚠ High – stress during shackling	⚠ May be aversive – gas irritation effects

LAPS® appears to offer significant advantages over other commercial methods of slaughter currently in use for broilers, from animal welfare, operational and economical perspectives." — ***Humane Slaughter Association***

LAPS has the potential to significantly improve chicken welfare beyond the typical commercial systems that are used today." — Dr Marc Cooper, Head, Farm Animals, ***RSPCA***

All birds showed no signs of life at the end of LAPS ... responses ... suggest that the process is humane (slaughter without avoidable fear, anxiety, pain, suffering and distress)." — J.E. Martin & D.E.F. McKeegan ***(University of Edinburgh / University of Glasgow)***

We conclude that aversion from CO2 was greater than with other groups and that LAPS and Nitrogen offer a welfare refinement for stunning birds in the abattoir setting. ***PMC (PubMed Central)***

NEED MORE INFORMATION?

If you'd like to learn how the LAPS system can be integrated into your processing facility, we'd be happy to assist you.

From both an ethical and operational perspective, LAPS offers clear advantages and can be tailored to meet the specific needs of your business. To discuss your requirements, please contact us using the details below — a member of our team will be in touch promptly.

IS LAPS APPROVED BY THE CURRENT UK AND EU WELFARE REGULATIONS?
HOW DOES LAPS COMPARE TO GAS OR ELECTRICAL STUNNING?
IS THERE INDEPENDENT SCIENTIFIC RESEARCH ON LAPS?
HOW IS CLEANING AND WASHDOWN MANAGED?
WHAT IS THE CAPACITY IN BIRDS PER HOUR?
HOW DOES IT AFFECT MEAT QUALITY?

These questions and more can be answered by one of our experts. Contact us today for further information.

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Wrightfield LAPS Ltd, Progress Way, Mid Suffolk Business Park, Eye, Suffolk, IP23 7BU

01379 872800 sales@wrightfieldlaps.com www.wrightfieldlaps.com