

Effective data management for the future-focused hatchery

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Advanced software that gathers real-time data from every key operational, management and analysis function in the modern hatchery is having a powerful impact on efficiency, productivity and uniformity. This article explores a new technology – and looks at what happens when you add ground-breaking new data analysis techniques.

Informed decision making

Food safety, sustainability and animal welfare have become strategic, business critical factors in the poultry value chain.

Increasing consumer awareness of the origin and safety of food means that today's retailers and fast food chains demand complete traceability from their suppliers, especially when choosing fresh produce, meat and poultry products. Meeting this demand is shaping the future for modern hatcheries.

SmartCenterPro is a hatchery information system created to deliver precise, consistent process control through every level of hatchery operations.

Incubation, climate control and hatchery automation systems can be fully optimised, seamlessly connected and data enabled: an 'internet of things' approach that harnesses the most advanced web-based technologies to deliver detailed hatchery monitoring, management, analysis and reporting.

Accessible from any SmartTouch interface anywhere in the hatchery for data entry and overview, SmartCenterPro unlocks the power of greater connectivity and the most comprehensive data capture capability in the industry. All functions are available in three main programme tiers:

● Hatchery overview

- Continuously monitor incubators, hatchery automation and climate control systems.
- Fine-tune settings for optimum incubation conditions at all times.

● Hatchery management

- Manage key functions from track and



trace, alarm management and maintenance to breed specific incubation programming.

● Hatchery analysis

- Chart every process and event in day to day operations.
- Produce real time management reports for batch-specific analysis and decision making.

Hatchery overview

At the heart of SmartCenterPro a fully interactive floor plan, uniquely customised to each individual hatchery, shows the current status in every area of operations, including alarms and maintenance, in a single screen view.

Essential functions and parameters for each incubator, climate control and hatchery automation system connected to the system can be accessed and managed from this main overview screen, which switches easily to list view for sorting data.

Scroll over any connected device in the hatchery and a tooltip reveals current operating parameters, while a progress bar for each incubator gives an immediate indication of time to egg transfer or chick take-off.

'Zoom the room' for detailed information from connected devices in each area of the hatchery. One click accesses a full status

screen for that area, with the ability to monitor and control corresponding systems, from incubator set points and the origin of the eggs, to a chick counter in operation or the pressure in a fluff tunnel.

Hatchery management

● Incubation programming

A detailed database supplied by Pas Reform Academy is included with SmartCenterPro, ready-populated with default incubation profiles for layer, broiler, duck or turkey eggs.

From this base data, unlimited numbers of breed-, age- and storage specific incubation profiles can be added, tailored to specific local circumstances and experience.

Practical and simple-to-use, it enables the hatchery manager to optimise chick quality and uniformity by fine-tuning temperature, humidity, carbon dioxide, vortex speed and turning conditions for each specific incubation programme.

Any number of individual programmes, including specific pre-heating, Circadian incubation or SPIDES profile settings, can be used simultaneously in separate incubators to create the ideal environment for each specific batch of eggs.

The full list of incubation programmes can be viewed, maintained, sent, modified,

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imported, exported and edited in a single programme, for total flexibility and user friendliness.

● Alarms

A fully integrated, advanced redundant alarm module means that with SmartCenterPro in operation, there is no need for additional alarm systems. A modem, UPS package with back-up battery and a Mod-Alarm for additional redundancy are also included.

Alarms automatically detect unscheduled changes to temperature, humidity, valve position, carbon dioxide levels, vortex speed, turning or power loss in setters and hatchers.

The system also monitors air handling units, chillers and fluff tunnels during incubation. SmartCenterPro is supplied with additional digital inputs that can be configured to other devices.

Once an alarm is triggered, automated voice dialling contacts a designated staff group with a pre-recorded, alarm-specific, own-language voice message until the call is answered. Entering a pin code to acknowledge receipt of the call stops the automated dialler.

The responding staff member need only access the SmartCenterPro overview screen to identify the alarm source and take the necessary action. Any equipment failure or programme deviation can be rapidly identified and resolved from any interface, either in the hatchery or remotely.

● Maintenance

The maintenance module actively contributes to operational reliability and greater productivity, providing all the tools to implement a preventive hatchery maintenance programme.

From incubators and auxiliary systems, to climate control and hatchery automation, unlimited hatchery maintenance or service orientated tasks can be scheduled into the system. Each task becomes clearly visible in the hatchery overview screen when it is due. When a task is logged as completed, SmartCenterPro calculates the interval to

the next due date automatically, to provide a fully updated weekly task list, with reminders for action by the hatchery's maintenance team. Links to technical support manuals are provided for every predefined task, with easy connection to Pas Reform's spare parts and ordering system for parts supply.

Egg-to-chick traceability

The system delivers detailed reports from every connected hatchery process, with minimal data input.

For every breeder flock taken into production, details of flock name, age and breed are quickly added to the system using easily navigable drop-down menus.

Once added, SmartCenterPro remembers every piece of information attached to that flock, calculating maternal age with each batch of eggs received, to provide accurate programming information for every hatch cycle.

Using an incubator's individual Smart-Touch interface, the origin of the eggs is selected from a predefined list when loading the setter. When the eggs are transferred to the hatcher, their origin and originating setter number are selected using the hatcher's interface.

The hatcher knows which flock and setter the eggs originated from with a seamless transition that ensures full egg to chick traceability. SmartCenterPro also tracks all the farms that chicks are sent to, in a list that contains all hatchery client names, farms and respective farm houses. Chicks from a specific hatcher are allocated to their respective farms.

Hatchery analysis

Powerful, simple-to-use data analysis tools are incorporated into SmartCenterPro, to make light work of optimising performance while building a detailed historical database that charts every process and event in day to day operations – and can easily be exported to Excel format.



Integrated data from incubation, climate control and hatchery automation systems produces a unique 'cycle report' for every batch of eggs, including full traceability information with details of chick uniformity, setter and hatcher climate, hatchery climate and alarms.

The Analysis module also provides access to troubleshooting diagnostics, while building a knowledge base. This enables the hatchery manager to make well informed decisions for the future refinement and development of incubation programming, hatchery management and maintenance schedules. This unparalleled visibility, from egg receipt to the on-farm delivery of the day old chicks, through track and trace, alarm and climate, to incubation programming, maintenance and user history, supports the hatchery to meet the traceability demands of its customers.

Track and trace

SmartCenterPro delivers the most comprehensive and detailed track and trace capability available. From the origin of the hatching eggs at the breeder farm, to the receipt of the day old chicks by the customer's farm, the system makes short work of charting, refining and reporting on every event in the hatchery journey.

Every egg-to-chick journey and hatchery process, from the receipt of hatching eggs to sending the day old chicks to the farm, culminates in a unique cycle report, containing batch specific information on traceability, chick uniformity, setter and hatcher climate, hatchery climate and alarms. ■