TECNIPLAST

DVC®
DIGITAL VENTILATED CAGE

DVC® RELEASE NOTE 7.0

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1 RELEASED FEATURES DVC® SOFTWARE

This DVC® release 7.0.0 includes several features, enhancements and bug fixes for the DVC® software, the DVC® Master touch-screen / Zephyr interface, and the Electronic Top Holder.

FEATURE #1 – DVC® VOICE: PUPS VOCALISATION DETECTION

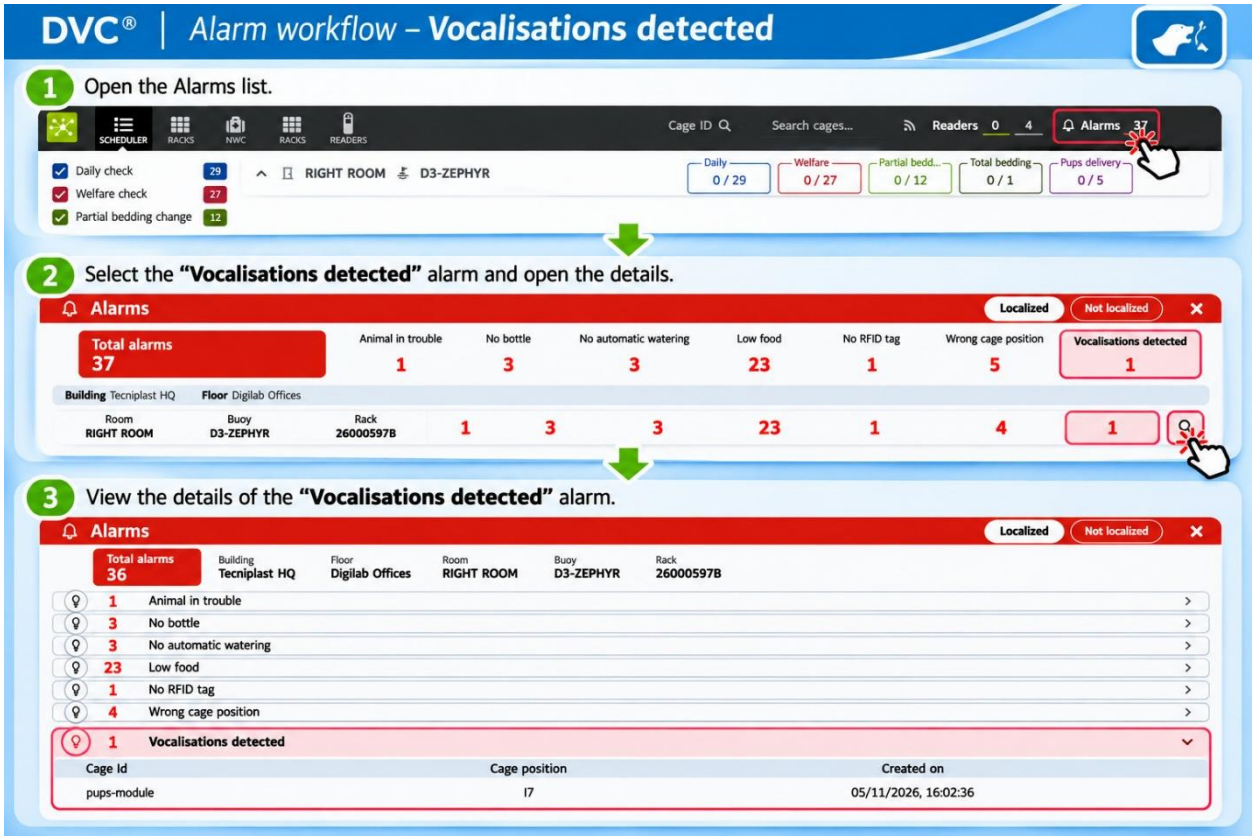
Version 7.0 introduces support for the new **DVC® Voice** module, a microphone-based system designed to automatically detect newborn pup vocalisations within the cage.

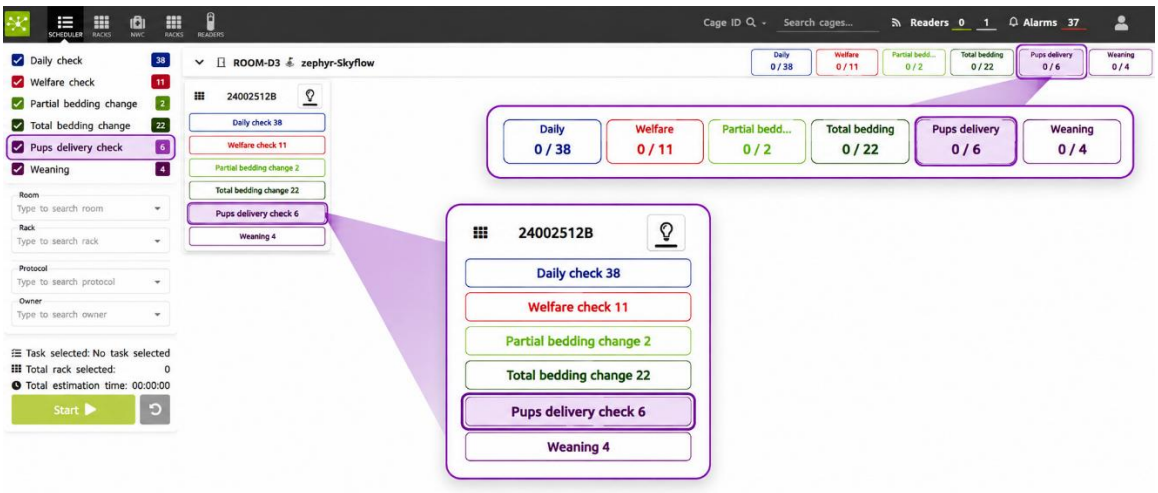
- The microphone module can be retrofitted on any DVC® rack type, except DVC® rack type A.
- When pup vocalisations are detected, the DVC® system triggers a **dedicated alarm** ("**vocalisations detected**"), allowing the operator to provide feedback on the detected event.
- If the alarm is not cleared, the next day the DVC® generates a **Delivery check task**, so that eventually the operator can register the delivery directly from the task.
- **Delivery check tasks** are distinguished by subtype, each with a dedicated LED position colour:
    - **Pups due (Yellow):** task generated based on the expected delivery date.
    - **Vocalisations (Blue):** tasks automatically scheduled for the following day when a Vocalisations detected alarm remains unresolved on a breeding cage containing at least one female with a mating duration of 14 days or more (configurable)
- **Vocalisation data** are also sent as a metric to DVC® Analytics for further analysis.

Vocalisations are now reported with a single alarm on the cage, for both breeding and non-breeding cages, and the alarm can be resolved directly from the rack or from the DVC® Master touch-screen / Zephyr. A guided configuration page on the DVC® Master helps the installer set up the pups modules.

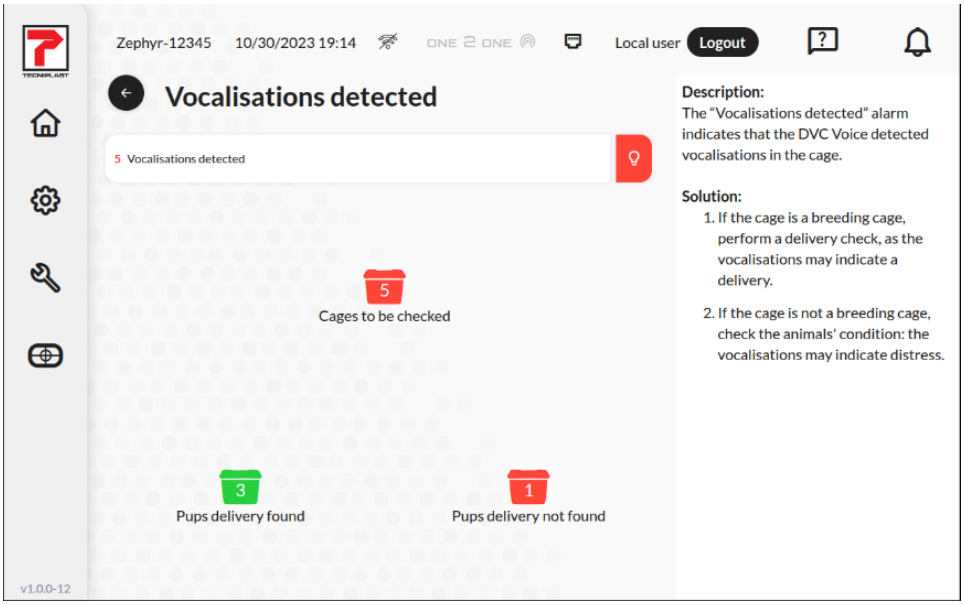
Note: The DVC® Voice software features and related alarms are already supported in this release. The required hardware components are expected to become available between Q1 and Q2 2027.

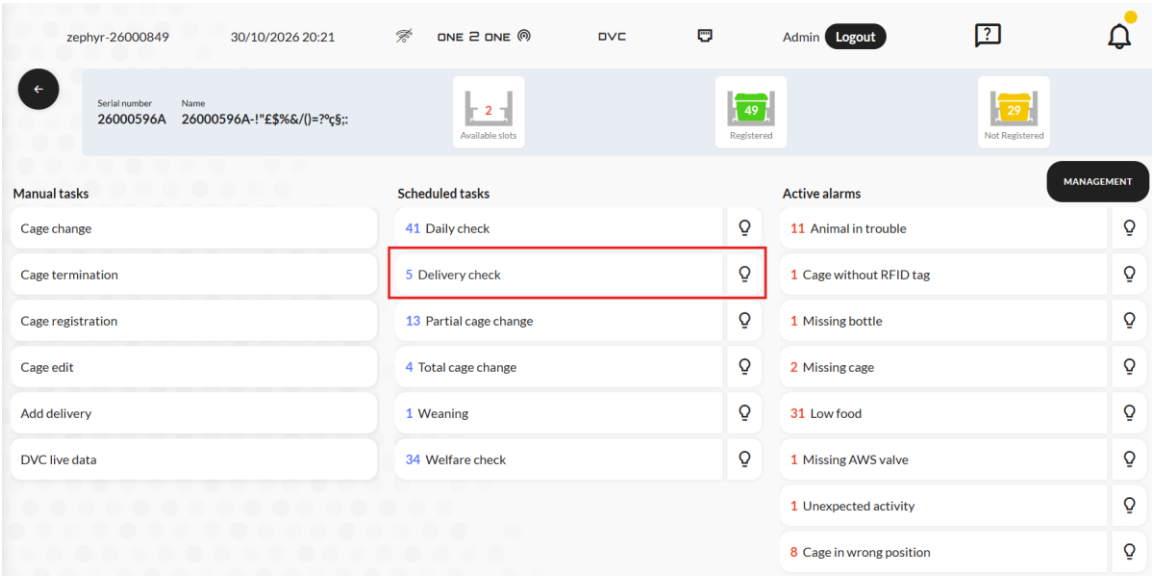
DVC® Operator alarm/tasks view





DVC® Master / Zephyr alarm / task view



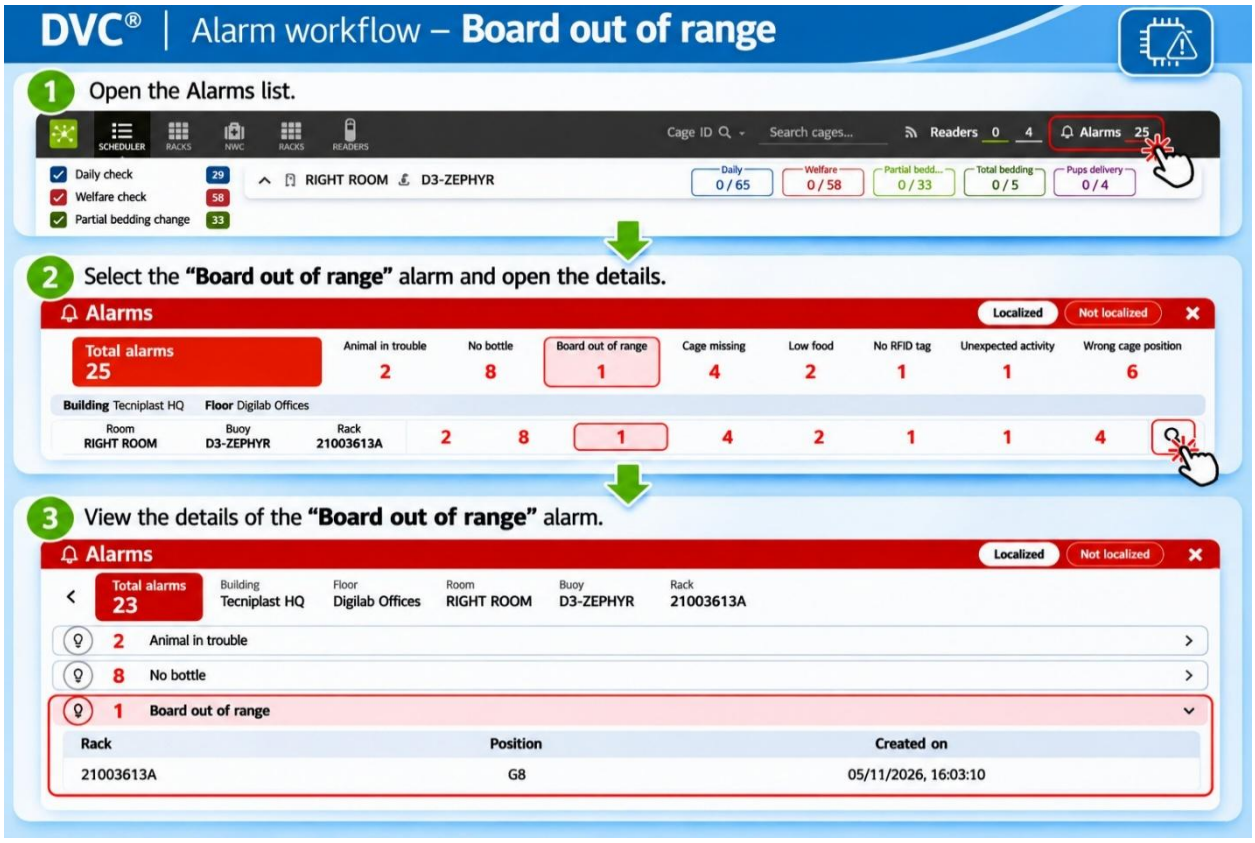


FEATURE #2 – NEW "BOARD OUT OF RANGE" ALARM

In this version, a new position-specific alarm, "**Board out of range**", has been introduced.

The DVC® system detects when the board of a rack position returns values outside its valid range and raises an alarm on that specific position, whether a cage is present or not. This alarm may be triggered when the board is wet, or covered with bedding material, and is correctly available for both sides of double-sided racks.

Currently available only in Operator interface.



FEATURE #3 – NEW "MISSING AWS VALVE" ALARM

For racks with automatic watering (AWS), DVC® now detects when the AWS valve - retrofitted with a magnet - is missing on a cage position and raises a dedicated "**Missing AWS valve" / "No Automatic watering"** alarm.

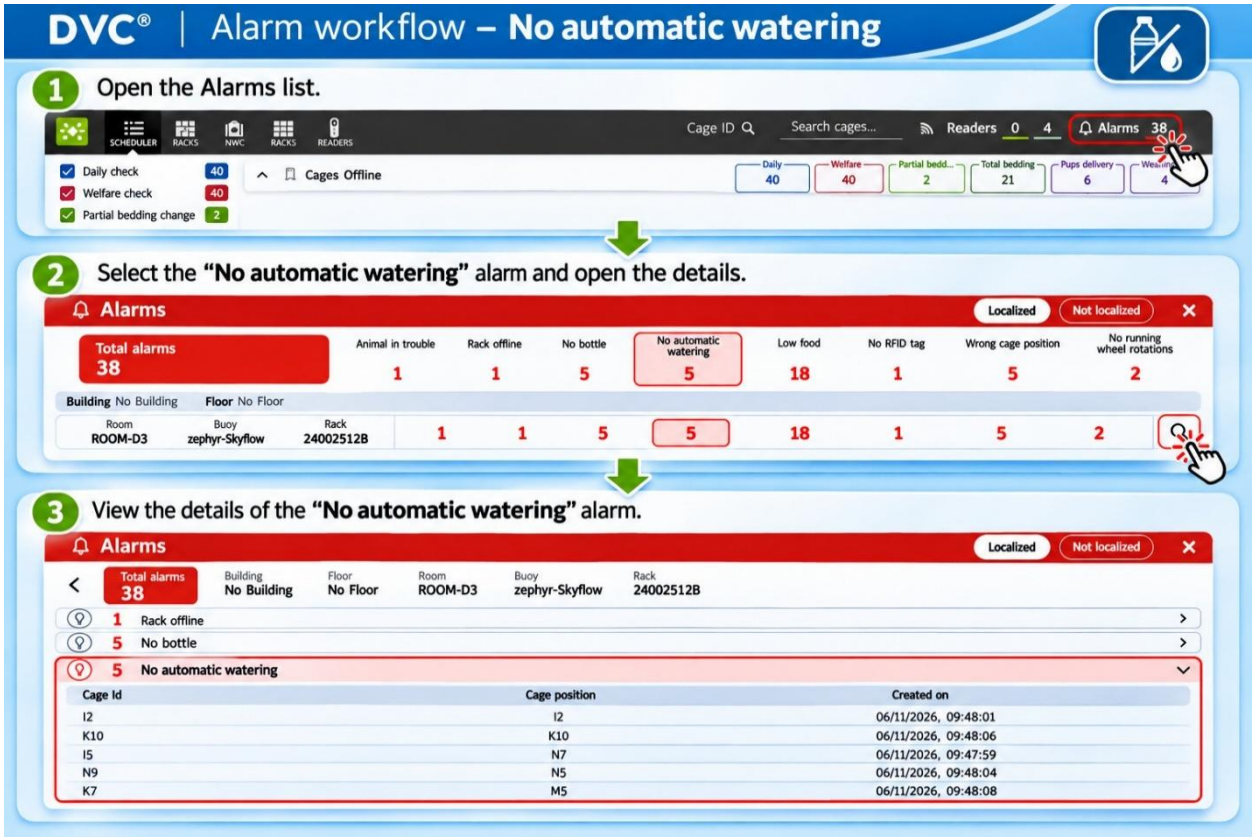
Bottle-related alarms are managed based on AWS valve presence:

- **Both bottle and AWS valve missing**: Both "No bottle" and "Missing AWS valve" alarms are triggered (if enabled).
- **Either bottle or AWS valve present**: Both alarms are automatically cleared.

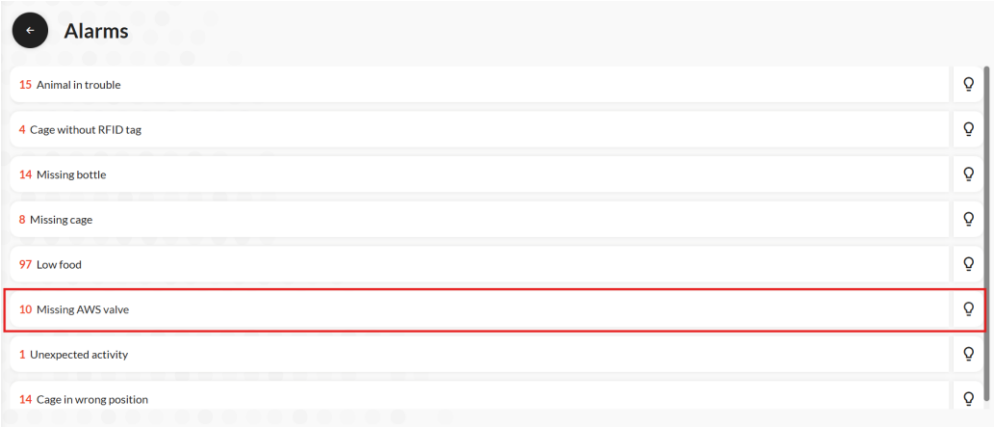
*Currently, the "Missing AWS valve" alarm is displayed as "**No automatic watering**" in DVC® Operator.*

Note: The AWS valve detection software features and related alarms are already supported in this release. The magnet components are expected to become available between Q1 and Q2 2027.

DVC® Operator alarm view



DVC® Master / Zephyr alarm view



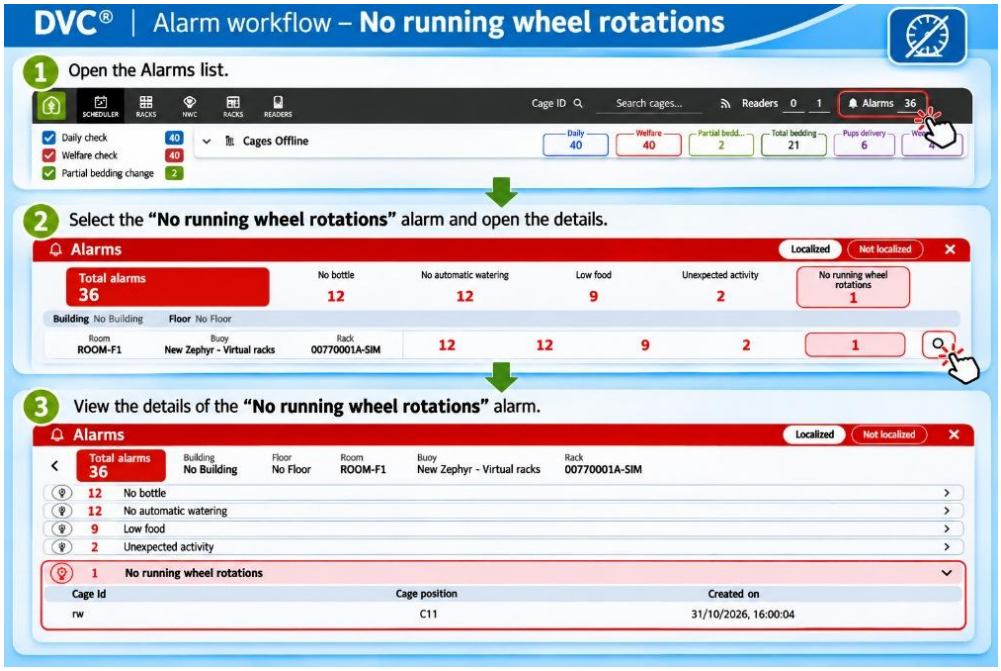
FEATURE #4 – RUNNING WHEEL "NO ROTATIONS" ALARM

For cages equipped with a running wheel, a new **No running wheel rotations** alarm informs the user when no wheel rotations are detected over the monitored period.

This alarm is configurable and, by default, is triggered at 6:00 AM, monitoring wheel activity over the previous 24 hours.

An alarm is raised if **no wheel rotations have been detected in the last 24 hours**, provided that the cage has been in place for **at least 6 hours**.

DVC® Operator alarm view



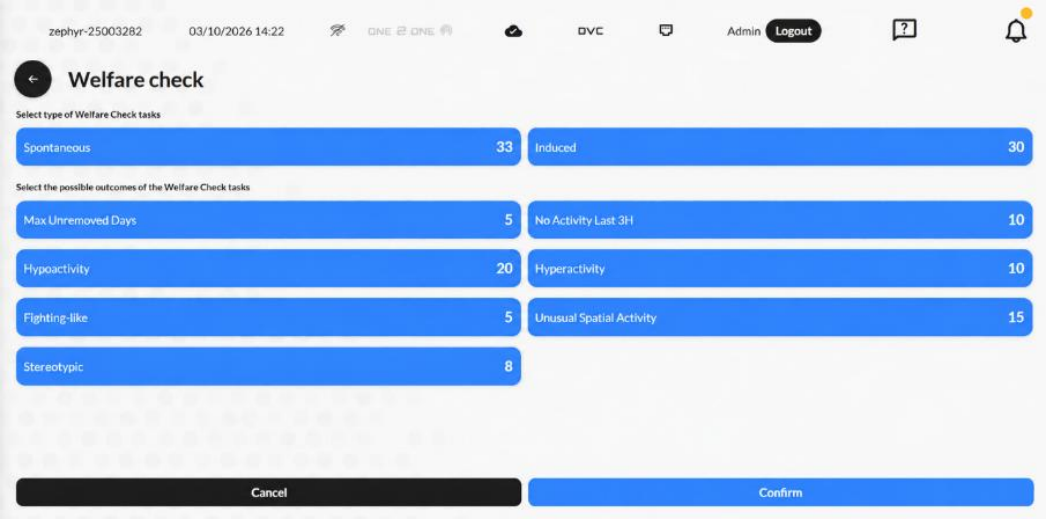
FEATURE #5 – NWC TASK FILTERS BEFORE ACTIVATION

A new option in the Configuration Table allows the facility to enable or disable task filtering before starting NWC tasks.

Enabled by default, operators can customize the tasks to be performed by selecting or deselecting:

- **Task types:** Spontaneous and/or Induced.
- **Task outcomes:** Specific welfare check outcomes (e.g., Hypoactivity, Hyperactivity, Fighting-like, Stereotypic).

Only cages with NWC tasks matching the selected types and outcomes will be included in the task execution.



FEATURE #6 – CAGE REALIGNMENT FROM DVC® OPERATOR, DVC® MASTER AND TOP HOLDER

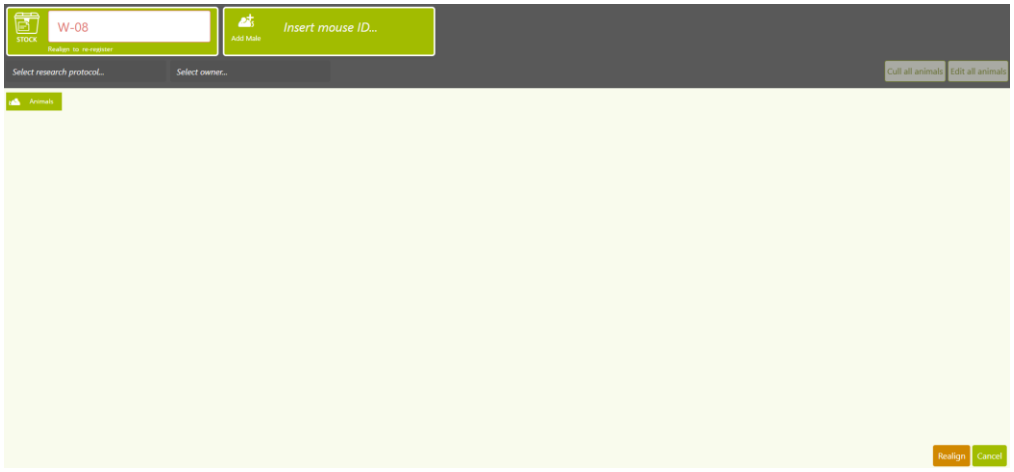
In this version, cage realignment can be performed directly from the **DVC® Operator** interface, from the **DVC® Master touch-screen / Zephyr** and from the **Electronic Top Holder**, without going to DVC® Workplace.

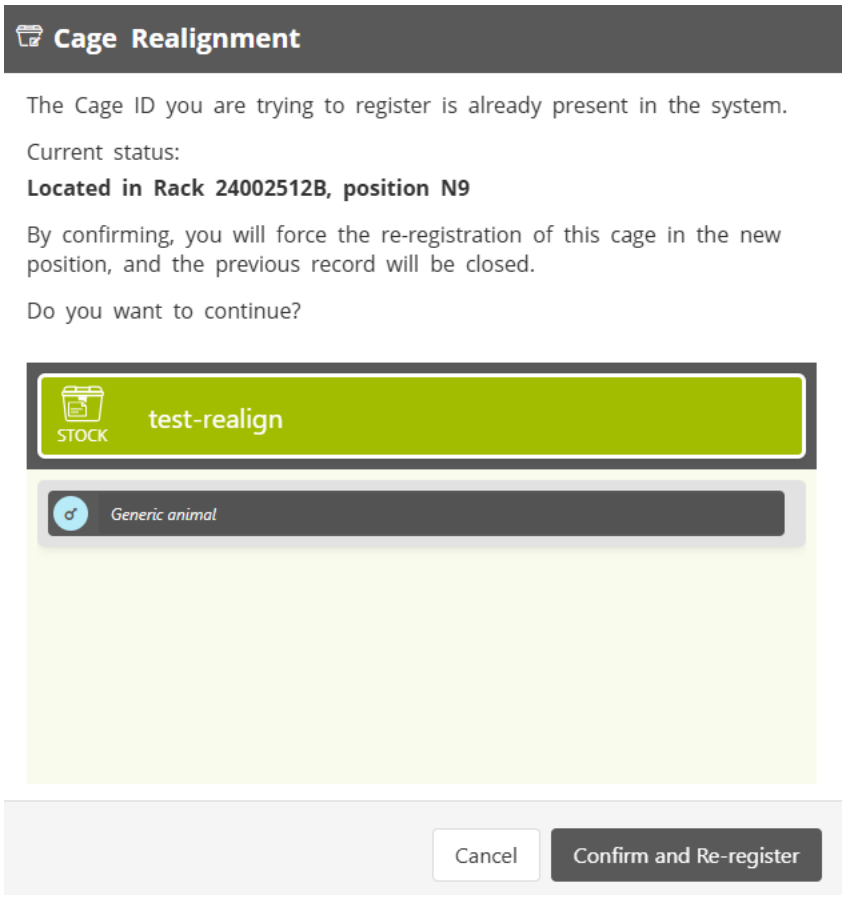
Realign = transfer all existing cage data and contents to the new cage, preserving the current information.

Re-register = terminates the previous cage registration and registers the new cage using the same cage ID, initially with no animals. If the AMS connection is active, all cage and animal information is automatically retrieved from the AMS.

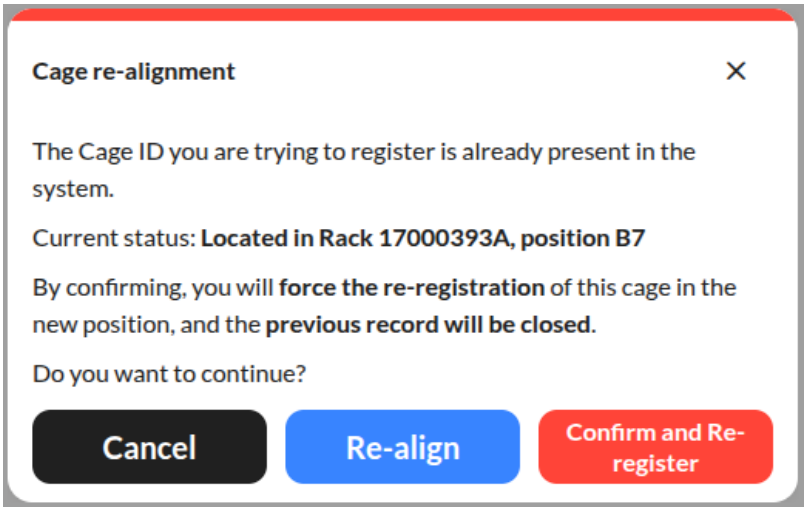
On the Electronic Top Holder and DVC® Master touch-screen / Zephyr , realignment is proposed automatically when a cage ID already registered in another position is read, and it supports both AMS-integrated and non-AMS cages.

DVC® Operator view





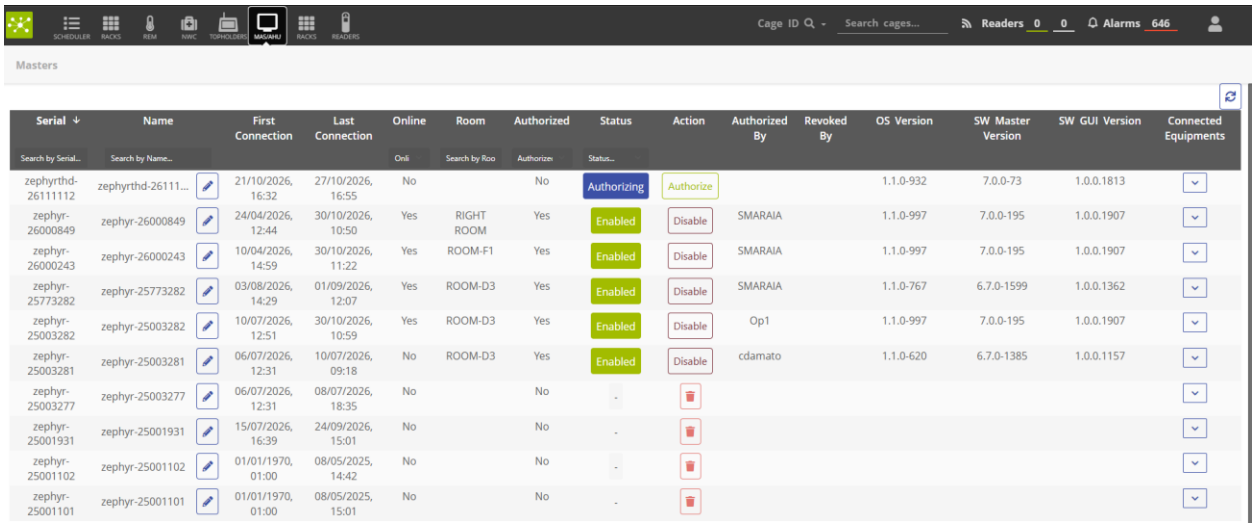
DVC® Master / Zephyr view

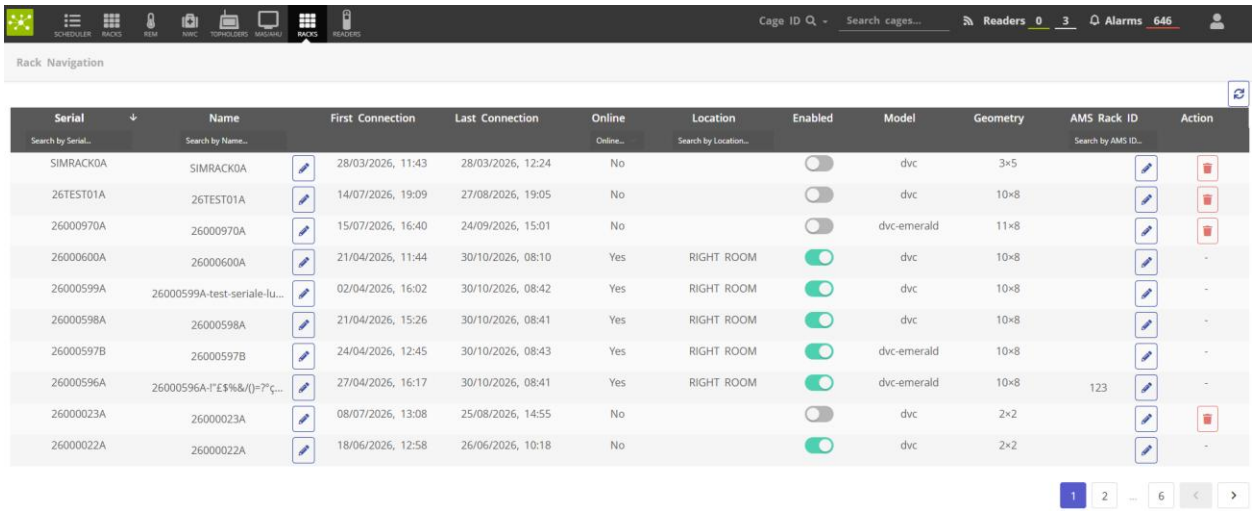


FEATURE #7 – AUTOMATIC RACK CREATION AND ENABLING

When a new rack is connected to a DVC® Master for the first time, the rack is now **created and enabled automatically**, making installation and commissioning faster.

New administrative tables for racks and masters are available in the DVC® Operator interface. They replace the previous Racks, Rack Elements, and DVC® Master views of the DVC® admin workplace. These views provide detailed information about each device, including its current status, associated location, and other relevant details. Additionally, users can customize device names according to their preferences.





FEATURE #8 – RACK IN USE MANAGEMENT

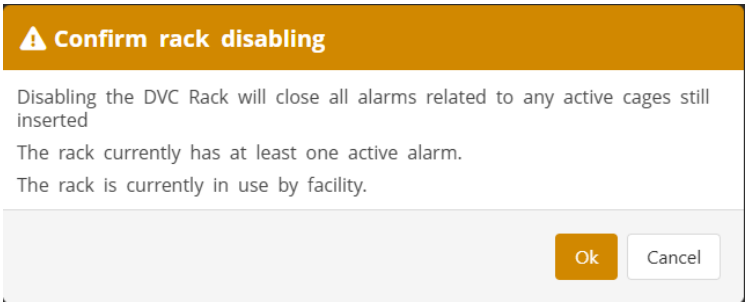
When an operator is working on a rack from the DVC® Operator Alarms view, the rack is now **locked** so that other users cannot perform conflicting actions on it.

DVC® Operator view

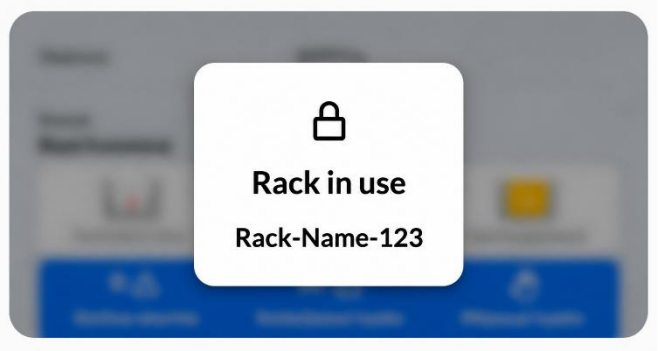


If a user tries to disable a rack that is currently in use by another operator, a confirmation window warns them before proceeding; the operator working on that rack is informed with a message and the running task is closed. A confirmation window with the alarm information of the rack is also shown before any rack is disabled.

DVC® Operator view



DVC® Master / Zephyr view



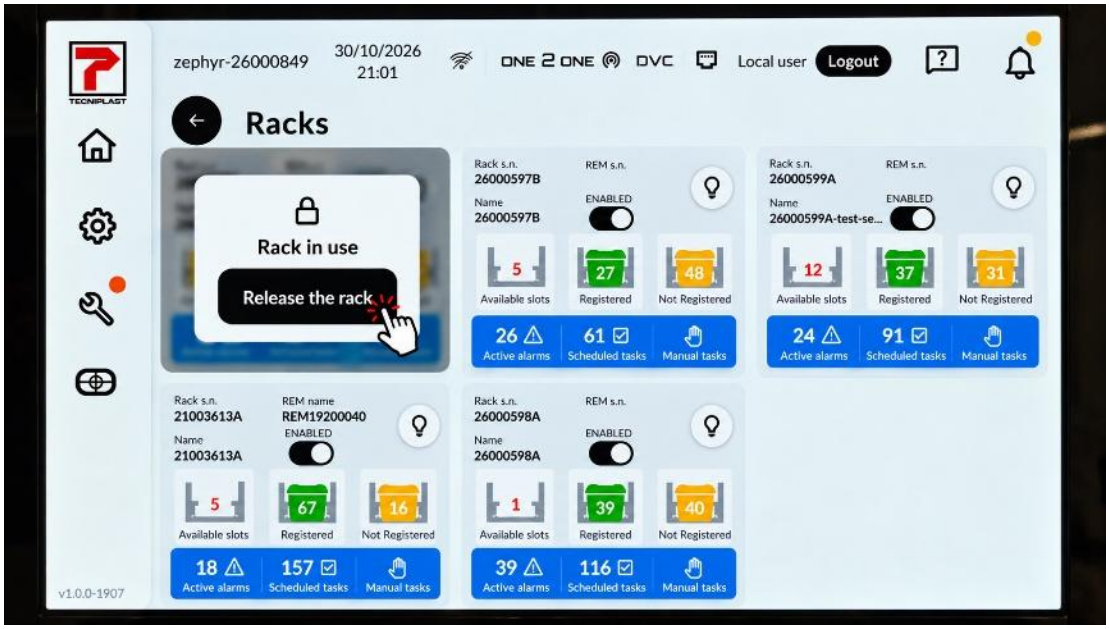
FEATURE #9 – FREE A RACK IN USE ("KICK EVERYONE FROM RACK")

When a rack remains occupied by other operators, an authorised user can now **free the rack** with a single action, and from the DVC® Master touch-screen / Zephyr.

On the DVC® Master / Zephyr, a button allows the "Master in use" state to be released, and the inactivity time after which the master is automatically freed during a task can be configured.

Racks and masters in use can now also be freed from the Zephyr app.

DVC® Master / Zephyr view

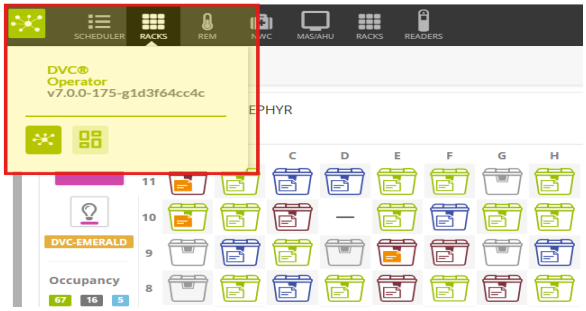


FEATURE #10 – APPLICATION SWITCHER FROM THE DVC® LOGO

In DVC® Operator, clicking the DVC® logo now opens a panel with shortcuts to the other Tecniplast applications available to the user (for example Customer Dashboard, DVC® Analytics, Leddy and Libra), so the user can move from one application to another without logging in again.

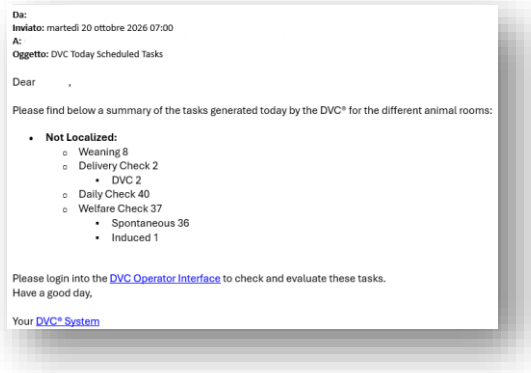
Only the applications enabled for the facility and for the user's profile are shown.

DVC® Operator view



FEATURE #11 – DAILY TASK SUMMARY E-MAIL

Users can now receive a summary e-mail of the tasks at the start and at the end of the day. Welfare Checks are broken down into their subtypes (spontaneous and induced).



Da:
Inviato: martedì 20 ottobre 2026 07:00
A:
Oggetto: DVC Today Scheduled Tasks

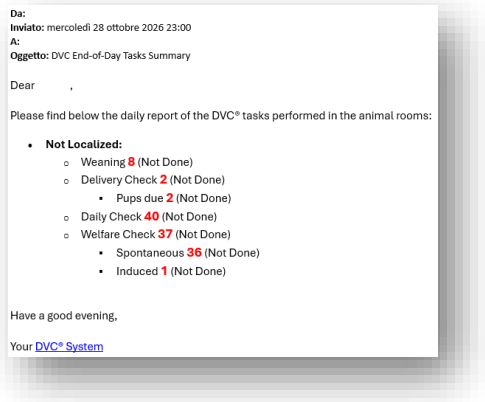
Dear ,

Please find below a summary of the tasks generated today by the DVC® for the different animal rooms:

- **Not Localized:**
  - Weaning 8
  - Delivery Check 2
    - DVC 2
  - Daily Check 40
  - Welfare Check 37
    - Spontaneous 36
    - Induced 1

Please login into the DVC Operator Interface to check and evaluate these tasks.
Have a good day,

Your DVC® System



Da:
Inviato: mercoledì 28 ottobre 2026 23:00
A:
Oggetto: DVC End-of-Day Tasks Summary

Dear ,

Please find below the daily report of the DVC® tasks performed in the animal rooms:

- **Not Localized:**
  - Weaning **8** (Not Done)
  - Delivery Check **2** (Not Done)
    - Pups due **2** (Not Done)
  - Daily Check **40** (Not Done)
  - Welfare Check **37** (Not Done)
    - Spontaneous **36** (Not Done)
    - Induced **1** (Not Done)

Have a good evening,

Your DVC® System

FEATURE #12 – NWC OUTCOMES AND CLINICAL ISSUES ON DVC® ANALYTICS

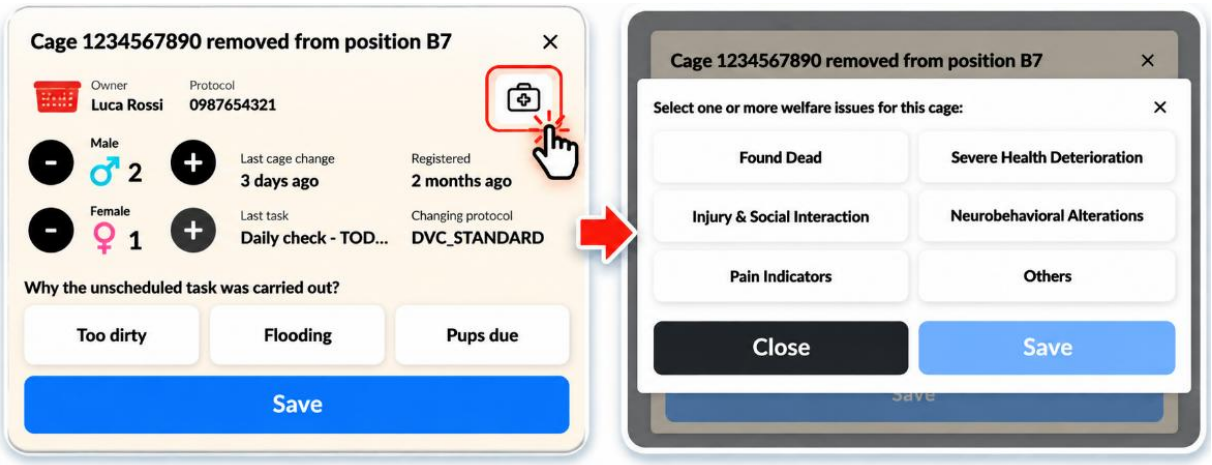
The outcomes of NWC tasks and the clinical issues recorded during Welfare Checks are now available as metadata in DVC® Analytics, where they are shown on the timeline and can be downloaded.



FEATURE #13 – REPORT A WELFARE ISSUE AT ANY TIME

A welfare issue can now be reported on a cage at any time, not only during a Welfare check task.

The Welfare issue button is available from all the cage touch points: on the DVC® Master touch-screen / Zephyr, in Cage Edit, cage change, when animals are removed (with the NWC categories) and on the Electronic Top Holder.



2 ENHANCEMENTS DVC® SOFTWARE

This DVC® release 7.0.0 includes several enhancements to improve or strengthen some of the features already available.

ENHANCEMENT #1 – PERFORMANCE AND STABILITY IMPROVEMENTS
Several improvements have been made to performance and stability:

- The start-up time of a rack has been reduced from more than 2 minutes to about **40 seconds**.
- A single Zephyr DVC® can now manage **6 fully loaded racks** without slowdowns.
- Position events are now processed in parallel, and the message queues of the DVC® Master / Zephyr DVC® have been made more robust.
- Cage registration remains stable in large installations with 30–40 masters.
- The number of simultaneous requests (live updates, login, task loading) is now limited, and the interface automatically retries when the server is busy.
- Periodic slowdowns caused by a large number of notifications have been solved.

ENHANCEMENT #2 – REM IMPROVEMENTS
The association of a REM to a rack is now faster.

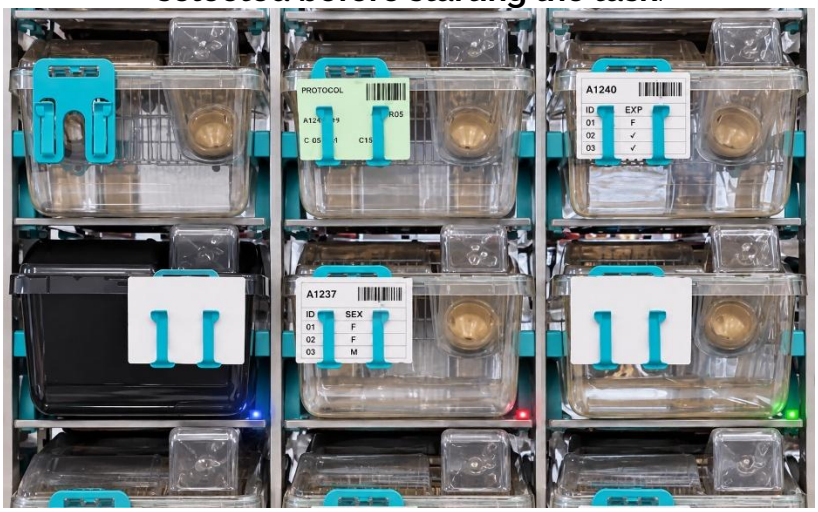
Charts displayed over long periods in DVC® Workplace no longer cause timeouts or logouts, and chart data are now aggregated directly in the database for quicker loading.

ENHANCEMENT #3 – NIGHT WELFARE CHECK TASK LED SIGNALLING

When a Night Welfare Check (NWC) task is started, the LEDs of registered cage positions with scheduled tasks light up according to the task type:

- **Blue LED:** Induced Welfare Check
- **Red LED:** Spontaneous Welfare Check
- **Green LED:** The LED turns green once the task has been completed for the corresponding cage.

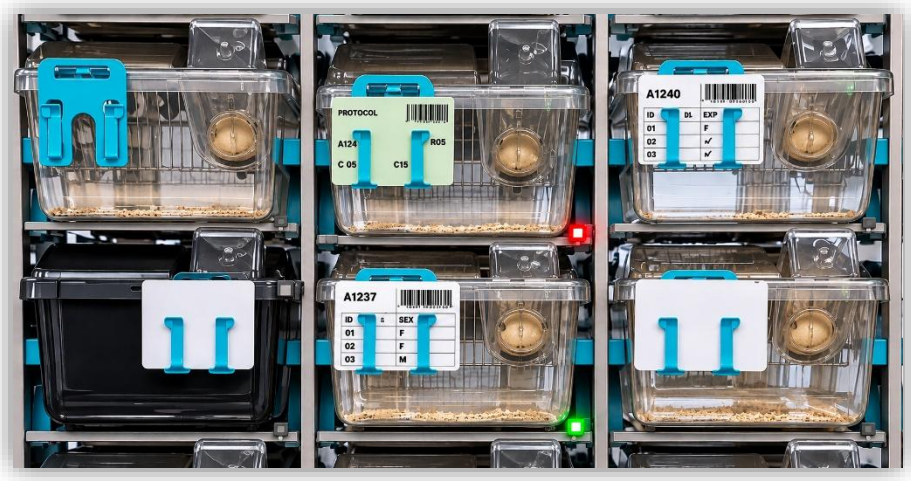
LED signalling follows the **NWC charts colour logic** and respects the **task filters selected before starting the task**.



ENHANCEMENT #4 – WRONG CAGE POSITION ALARM LED SIGNALLING

The LED signalling of cages in a wrong position has been revised: the system LEDs of the rack turn on to show the wrong position and turn off as soon as the cage is placed in the correct one. The feature is **disabled** by default and it

- **Wrong position detected**: When a registered cage is placed in an incorrect slot, the corresponding LED immediately turns RED.
- **Alarm opened**: The operator can activate RED LEDs for incorrectly positioned cages and GREEN LEDs for their correct positions. Both positions are also displayed on screen.
- **If the cage is removed**: The GREEN LED remains ON at the correct position, while the cage's current position is displayed as "**Out**".
- **Cage correctly repositioned**: The alarm is automatically cleared and the LEDs turn OFF.



ENHANCEMENT #5 – DISABLED RACKS

When a device is disabled, it now disappears **in real time** from the rack view in the Operator interface (racks, masters, top holders).

All its LEDs are switched off and LEDs can no longer be turned on for a disabled rack from any interface.

ENHANCEMENT #6 – ALARMS PAGE

In the alarm summary, the table header now remains fixed while scrolling, and the layout of the alarm columns has been revised for better readability.

ENHANCEMENT #7 – FIXED VULNERABILITIES

In this version several software vulnerabilities have been addressed and solved.

ENHANCEMENT #8 – LOCATION-BASED LOGIN EXTENDED
Following the location-based login introduced in version 6.7, the administrative views of racks, masters and top holders are now also filtered according to the selected location.

Racks not yet assigned to a room can now be selected at login as well (unlocalized).

ENHANCEMENT #9 – MULTIPLE CAGE CHANGES PER DAY
More than one cage change can now be performed on the same cage within a single day, removing the previous one-change-per-day restriction.

ENHANCEMENT #10 – "TOO DIRTY" FEEDBACK IN READERLESS BEDDING CHANGE
The "Too dirty" feedback during a scheduled readerless bedding change is now handled more reliably, including the red LED on the cage.

ENHANCEMENT #11 – "NO ACTIVITY" ALARM REMOVED
The "No Activity" alarm is no longer generated.

ENHANCEMENT #12 – NWC FEEDBACK IN THE NWC TABLE
The NWC table in the DVC® Operator now shows the feedback given by the operator for each NWC task, replacing the previous Sickness column.

ENHANCEMENT #13 – BREEDING TRIOS AND AUTOMATIC BREEDING CAGES
Delivery tasks are now managed correctly for breeding trios, that is breeding cages with more than one female.

After a Cage Split or a weaning, a destination cage that receives a breeding group is automatically set as a Breeding cage.

ENHANCEMENT #14 – ANIMALS WITHOUT ASSIGNED SEX
Adult animals can no longer be registered as "generic": they always need to be recorded as male or female. Animals created in previous versions without an assigned sex are still displayed and managed correctly.

ENHANCEMENT #15 – CAGE TERMINATION
Cage termination no longer asks for a reason, making the operation quicker, and the termination label is now shown correctly.

3 BUG FIX DVC® SOFTWARE

This section refers to "user-visible" application bugs that have been fixed by the current release. Potential bugs related to the overall infrastructure are not reported here because they are "invisible" to the final user, unless they are critical bugs affecting the overall workflow.

BUG FIX #1 – TASK EXECUTION

- After pressing Start on a Daily task, no action was performed.
- The Welfare form did not open when the cage was extracted.
- The delivery check performed with a long press of the capacitive button did not complete the task, also on side B racks.
- A scheduled Total bedding change performed as Partial was recorded as a manual Partial task; it is now recorded as a scheduled Partial task and flagged as a policy violation.

All these issues have been fixed.

BUG FIX #2 – LED BEHAVIOUR

- In readerless bedding change, the LED remained yellow if an already changed cage was extracted again.
- A green LED could remain on after a late response from the rack.
- LEDs activated through the AMS inventory API did not change colour.
- The "Too dirty" feedback given from the screen did not turn the cage LED red.
- A LED could remain on after a cage was terminated.

All these issues have been fixed.

BUG FIX #3 – WRONG CAGE POSITION ALARMS

Wrong cage position alarms could report the correct position as wrong, remain open after the cage was removed, or not open if an attention was already present on the position. The alarm list could also be misaligned with the real situation of the rack.

These issues have been fixed.

BUG FIX #4 – DVC® OPERATOR INTERFACE

- The login filters did not work correctly.
- Readers were unexpectedly reordered in the Cage Split and Cage Weaning screens.
- On laptop screens, the menu and the icon bar were not displayed correctly.
- The REM page was not fully visible.

All these issues have been fixed.

BUG FIX #5 – RACK LOCKS
A rack lock could remain active indefinitely after the browser tab was closed, and in some cases the release of rack locks could block.

These issues have been fixed.

BUG FIX #6 – REM
Moving a REM from one master to another was not shown in real time, and the selection of the rack to be associated with the REM did not work correctly. These issues have been fixed.

BUG FIX #7 – OTHER FIXES
- Rooms were not visible at login in some installations.
- Facilities with both AWS and non-AWS racks were not managed correctly.
- Authorized machines could be shown as not authorized.

All these issues have been fixed.

BUG FIX #8 – SPECIAL CHARACTERS
Special characters were not displayed correctly in the NWC page and in operator names (for example "&" shown as "&").

This issue has been fixed.

BUG FIX #9 – MASTER AND TOP HOLDER AUTHORIZATION
After being revoked, a master could not present itself again without a restart, and a Top Holder had to be authorised separately from its readers.

These issues have been fixed.

BUG FIX #10 – UNIT OFFLINE / ONLINE
The UNIT_OFFLINE alarm and the UNIT_ONLINE event were no longer managed. This issue has been fixed.

BUG FIX #11 – LED DURING TASKS AND ON OFFLINE / DISABLED RACKS
- During a task, the LED turned off when the cage was extracted.
- LEDs could not be turned on for a rack that had previously been offline.
- The LED of the missing cage alarm could be turned on for a disabled rack.
- On the Zephyr, LEDs could not be turned on for racks connected to CAN ports 5 and 6.

All these issues have been fixed.

BUG FIX #12 – MISSING CAGE ALARM AFTER RECONCILIATION
A reconciled cage could "inherit" the missing cage alarm of the original position.

This issue has been fixed.

BUG FIX #13 – REM ATTACH / DETACH
Attaching or detaching a REM was not shown to the other operators until the page was reloaded.

This issue has been fixed.

BUG FIX #14 – NEW LOCATIONS
Newly added locations were not shown until the browser cache was cleared.

This issue has been fixed.

BUG FIX #15 – AMS SYNCHRONISATION
Errors could occur when synchronising a large number of cages with AMS, especially when several cages shared the same researcher, protocol or experiment.

These issues have been fixed.

BUG FIX #16 – MANUAL CAGE CHANGE FEEDBACK
Some feedback given during a manual cage change (for example Flooding or Pups coming) was not accepted, and feedback changes during a scheduled cage change were not updated on the Zephyr.

These issues have been fixed.

BUG FIX #17 – RUNNING WHEEL AFTER CAGE CHANGE
After a total cage change, the running wheel was not associated with the new cage.
This issue has been fixed.

BUG FIX #18 – DVC® OPERATOR: MAS/AHU BUTTON AND ACTIVE ALARMS
In DVC® Operator, the MAS/AHU button appeared only after reloading the page, and a newly registered operator could not see the active alarms opened before their registration.

These issues have been fixed.

BUG FIX #19 – RACK DISABLE CONFIRMATION
When a rack whose only open alarm was “rack offline” was disabled, an unnecessary confirmation popup was shown.

This issue has been fixed.

4 KNOWN BUGS

- If a rack is set to the disabled state, any alarms that were already present on that rack remain visible. To close them, re-enable the rack, close the alarms and disable the rack again.
- Daily Check and Welfare Check events not shown in the NWC calendar chart. Available starting from version 7.1.
- The NWC Feedback tab of the cage logbook in the DVC® Operator may show two rows for the same welfare check: one with the feedback entered and one with an empty Feedback column. This happens whenever the NWC feedback is given outside the daily Welfare Check task, for example during a partial or full bedding change or when a cage is removed or extracted, while that day's Welfare Check is still open. When the Welfare Check is later closed, it adds a second row without feedback.
  The row with the feedback is the correct one; the empty row can be ignored. The feedback entered by the operator is saved.
  Solved starting from version 7.1.

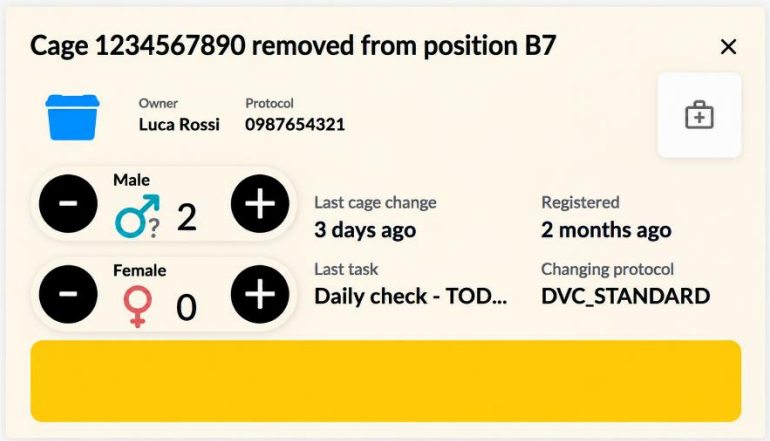
5 DVC® MASTER TOUCH-SCREEN AND ZEPHYR

This section describes the new features, enhancements and bug fixes of the DVC® Master touch-screen and Zephyr interface.

FEATURE #1 – ANIMAL COUNT UPDATE

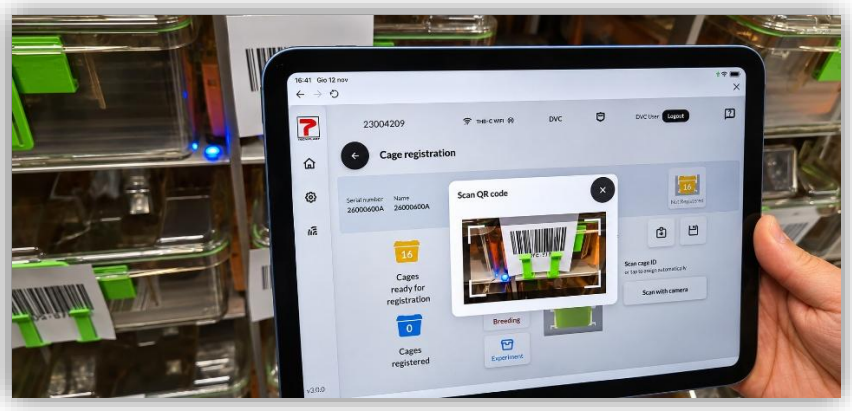
The number of animals in the cage can now be updated directly from the touch-screen when a cage is extracted or inserted, during an NWC Induced task and during a readerless cage change.

If the number of animals is reduced to zero, the system proposes the termination of the cage.



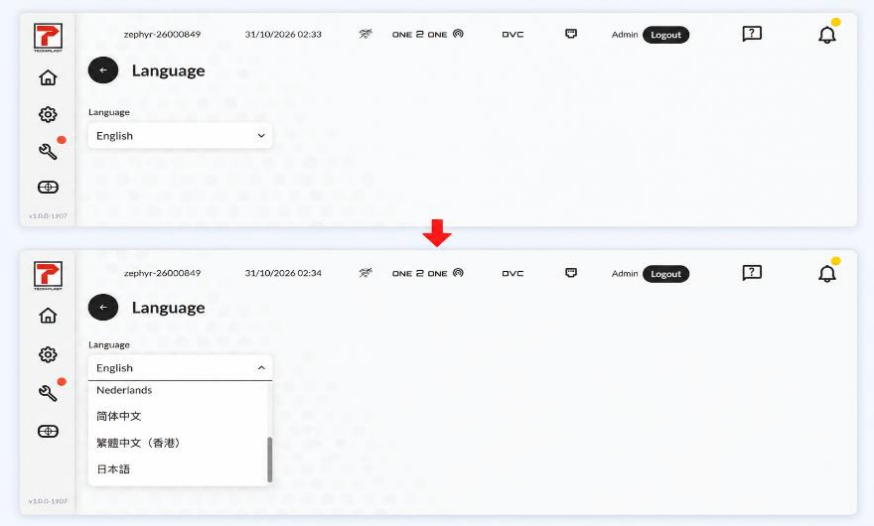
FEATURE #2 – BARCODE SCAN FROM TABLET CAMERA

During cage registration, the cage barcode can now be acquired with the camera of the tablet, without an external barcode reader.



FEATURE #3 – NEW LANGUAGES

The interface is now fully translated in all supported languages, and two new languages are available: **Japanese** and **Traditional Chinese (Hong Kong)**. The user manual is also available in the new languages.



FEATURE #4 – WELFARE CHECK REDESIGN

The Welfare check now shows an intermediate screen with the type of problem and a full-screen graph of the cage.

The to-do counters are split between spontaneous and induced welfare checks, and the welfare graph opens automatically when the cage is extracted.

FEATURE #5 – NEW ZEPHYR DVC® USER INTERFACE IMPROVEMENTS

- The rack widget now has three separate buttons for manual tasks, scheduled tasks and alarms.
- The home page alarm button turns green when there are no active alarms.
- The user manual opens in full screen.
- The RFID cookie / NFC tag writing screen has a new graphic design.
- New rack identification colours are available (magenta and white).
- The “Task completed” message at the end of a scheduled task now closes automatically.

FEATURE #6 – NEW DVC® MASTER INTERFACE

A new DVC® Master interface is available, designed for the 7" (800×480) touch-screen.

The new interface will also be installed at existing customers with a DVC® Master EVO.



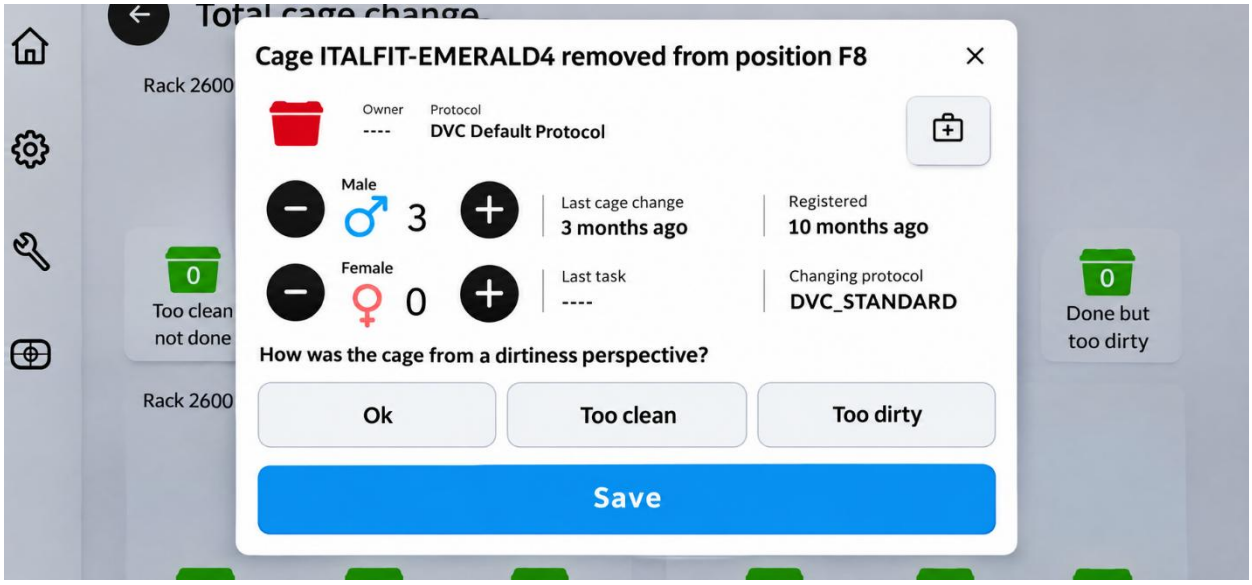
FEATURE #7 – BLUETOOTH ONBOARDING

The DVC® Master can now be set up via Bluetooth and paired with the One2One app by scanning a QR code.



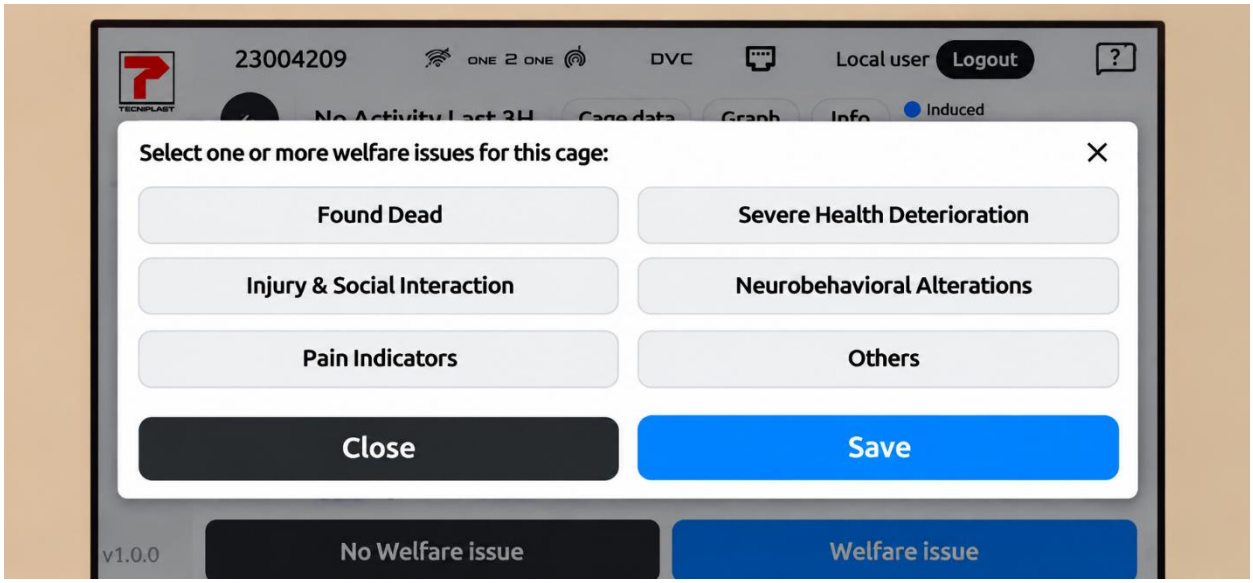
FEATURE #11 – FEEDBACK IN SCHEDULED BEDDING CHANGE

During a scheduled bedding change, a popup now allows the operator to change the feedback given on a cage (for example Too dirty or Flooding) directly from the touch-screen.



FEATURE #13 – CLINICAL ISSUE CATEGORIES AT THE END OF AN NWC TASK

When an anomaly is confirmed at the end of an NWC task, a popup now asks the operator to select the Clinical issue category.



FEATURE #14 – SHUTDOWN BUTTON

A shutdown button is now available in the menu bar. When the unit is switched off, its status is sent to the DVC® server so that the shutdown is not reported as a fault.

ENHANCEMENT #1 – FASTER DVC® LIVE DATA

DVC® Live Data now reads the selected board position directly from the master, so the view updates in real time instead of with a delay..

ENHANCEMENT #2 – INTERFACE OPTIONS

- Imperial units of measurement are now supported.
- A dark mode is available.
- The Chinese font and the French date page have been improved.
- The main pages remain available while the unit is offline.
- Confirmation popups now show destructive actions in red, and cage types and animal counters are easier to read in dark mode during cage registration.

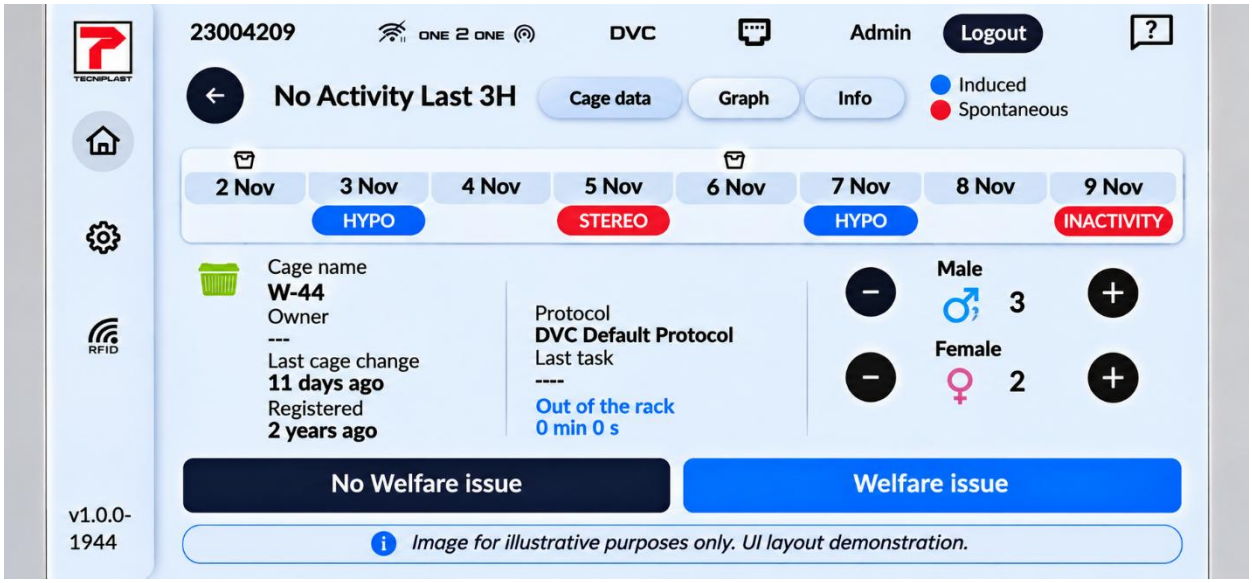
ENHANCEMENT #3 – WI-FI ACCESS POINT AND BLUETOOTH

The Wi-Fi access point of the unit now selects the least congested channel automatically. Bluetooth communication uses a new encryption, and the connection with iOS devices and tethering is more reliable.

ENHANCEMENT #4 – WELFARE CHECK GRAPHS AND TIMERS

In the Welfare check, NWC graphs are now available by outcome in the Cage data, Graph and Info pages.

While a welfare check is in progress, the screen shows for how many seconds the cage has been extracted and for how many days it has not been removed from the rack.



BUG FIX #1 – TASKS
A task which did not exit on timeout, could be taken over by another operator.

These issue has been fixed

In addition, a manual cage change could fail to start without any error message, a scheduled cage change could count more cages than expected, and LEDs and a "Task conflict" message could remain after a login from another network.

These issues have been fixed.

BUG FIX #2 – RACK REMAINING IN USE
If the application was forcibly closed during a task, the rack remained "in use"; the "Rack in use" message could also be missing or overlap other messages.

These issues have been fixed.

The rack disable toggle could be pressed while the "Master in use" overlay was shown, and some racks remained "in use" after using "Free the rack".

These issues have been fixed.

BUG FIX #3 – WRONG CAGE POSITION ALARMS
Wrong cage position alarms could be invisible, duplicated or shown in the wrong position (also on side B).

These issues have been fixed.

BUG FIX #4 – LEDS REMAINING ON
Red, alarm or task LEDs could remain on, also after a rack was disabled or when the user left during the start of a task.

These issues have been fixed.

BUG FIX #5 – FLOODING ALARM COUNTERS
The cage counters of the flooding alarm could be wrong or not reset.

This issue has been fixed.

BUG FIX #6 – CAGE REGISTRATION
An AMS error during cage registration could switch off the whole rack and exit the task; the registration state and counter were not always reset.

These issues have been fixed.

BUG FIX #7 – LAYOUT
Several layout issues have been fixed, including multi-rack pages with 5–6 racks, long rack serial numbers, the cage registration form, night mode, truncated texts, the back arrow, closing the welfare graph, manual tasks and alarms that could not be pressed and the cage label not showing the AMS cage type.

In the Welfare check, the "Out of rack" time always showed 12 minutes and the cage name was missing in the welfare graph; the old cage termination popup has also been replaced.

These issues have been fixed.

BUG FIX #8 – SOFTWARE UPDATE
The software update could fail due to insufficient space, new versions could not be checked after a download, and devices enrolled on the DVC® server could not update. These issues have been fixed.

BUG FIX #9 – OTHER FIXES
Other fixes concern the "Too dirty" feedback from the capacitive button, the authorization popup, the "Server not reachable" notification, the authorization after a revoke, the configuration check banner, the screen shown after shutdown, the message shown after a revoke, the remote service indicator, date and time settings in the DVC® scenario and the filtering of welfare tasks.

BUG FIX #10 – TASK AND ALARM COUNTERS
- Task and alarm counters could show 0 after the night or after a reboot, and the Welfare counter showed 0 in Daily + Welfare tasks.
- Completed tasks could be restored after a cancel.
- A manual task did not release the rack when the operator went back.
- Daily and Welfare tasks of a DVC® Master could be taken over by the Zephyr.
- The Welfare filter was not always shown.

All these issues have been fixed.

BUG FIX #11 – CAGES NOT SHOWN
Some cages of a connected rack were not shown or were missing from the inventory, the cage registration toggle did not work on CAN ports 4 and 5, and lower-case barcodes were not handled correctly.

These issues have been fixed.

BUG FIX #12 – OTHER FIXES

- The “Up to date” message was no longer shown in the software update page.
- After downloading a wrong or corrupted update file, the buttons of the User > Info page entered a loop.
- The LED bar of the Zephyr-eco kept blinking after an update.
- Changing the date format set the time zone to “undefined”.
- The page could ask for access to the webcam when adding a rack.
- The touch-screen did not respond in some AMS-integrated installations.

All these issues have been fixed.

BUG FIX #13 – CAGE REALIGNMENT AND MISSING CAGES PAGE

Realignment did not work for cages registered from an unexpected activity, and in the Missing cage page of the DVC® Master the cage data overlapped and only two cages were shown.

These issues have been fixed.

6 ELECTRONIC TOP HOLDER



The Electronic Top Holder introduces several new features and enhancements, including **Cage Split**, **improved Cage Edit, pup management and weaning**, along with usability and performance improvements.

To explore these new functionalities in detail, **click the link below to access our e-learning platform**, where dedicated training modules and step-by-step tutorials are available.

Click HERE to access the platform public link or paste the link below in your web browser:
https://digilab.talentlms.com/plus/courses/shared/start/LBQIDNHR

ENHANCEMENT #1 – PERFORMANCE AND USABILITY
The Top Holder now makes fewer calls to the DVC® system and keeps reference lists in cache, making operations faster. The graphics have been aligned to the new version and the standby mode is more reliable.

ENHANCEMENT #2 – CLEARER AMS MESSAGES
Error messages coming from AMS (for example a duplicated animal or an invalid response) are now clearer, and the AMS name shown on screen is updated immediately.

ENHANCEMENT #3 – GERMAN LANGUAGE
The Top Holder interface is now available in German. German translations now also cover the add-ons.

ENHANCEMENT #4 – CAGE EDIT AND PUPS
AMS-integrated cages can now also be terminated from Cage Edit. In Add / Edit pups, when the cage has only one mother with a single delivery, the delivery is selected automatically.

BUG FIX #1 – DUPLICATED BEDDING CHANGE
In some cases, a bedding change could be recorded twice or without a real operation. This issue has been fixed.

BUG FIX #2 – ANIMAL COUNTERS
The list of animals was not reset after reading a new cage, and the counter was not updated when returning from Cage Edit. These issues have been fixed.

BUG FIX #3 – AMS AND READER ERRORS
An invalid response from DVC® or AMS could close the application, a barcode could be read twice during realignment, and configurations with two readers were not handled correctly. These issues have been fixed.

BUG FIX #4 – STABILITY
Several stability and reliability issues have been resolved, including **unresponsive screens, blocked cage positions, reader communication errors, software update loops, and delivery management issues**. Improvements have also been made to configuration saving, reader discovery, server reconnection, and shutdown procedures.

BUG FIX #5 – WI-FI
Spurious error popups could appear during Wi-Fi provisioning, DNS errors could occur after a reboot, and networks other than the active one could be shown.

These issues have been fixed.

BUG FIX #6 – LONG CAGE NAMES
A long cage name could push the feedback buttons off the screen.

This issue has been fixed.

BUG FIX #7 – CAGE SPLIT
In Cage Split, the preview of the destination cage was not correct, moving animals could fail in some cases, and the "Cage split" label was wrong. These issues have been fixed.

BUG FIX #8 – INTERFACE
The AMS screen could be misaligned, and the cage ID was not easy to read; it is now shown in bold. These issues have been fixed.



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