



**DVC**  
DIGITAL VENTILATED CAGE

Release Note  
6.1.0



# RELEASE NOTE 6.1.0

## 1 RELEASE FEATURES

### FEATURES MARKETING

This DVC® release 6.1.0 represents a milestone in the DVC® system platform because it completely replaces the previously called PLANNER with the new SCHEDULER. Due to its importance, this release is fully dedicated to this new feature.

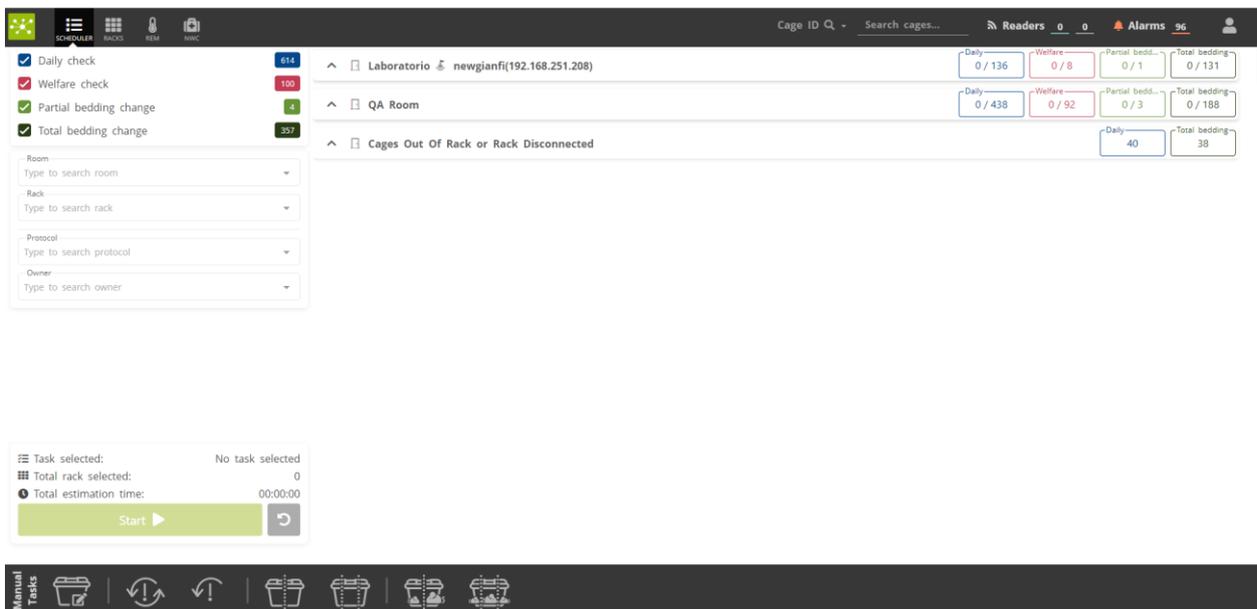
#### 1.1 FEATURE #1 – SCHEDULER

In the past, DVC® generated tasks (daily check, bedding change and anomaly welfare checks) were managed by the PLANNER. The manager was forced to input the Operator's daily time availabilities, set the skills, provide animal room access information and manage unexpected issues by manually reassigning tasks to available Operators.

Moreover, each Operator had only his/her personal list of DVC® Tasks but cannot access (nor know) other Operators' assigned tasks.

Now, thanks to the new DVC® SCHEDULER, anyone in the facility, accessing the DVC® Operator interface, can see all the DVC® daily generated tasks and decide where and when performing these.

The new DVC® Operator interface starts with the list of the today generated tasks



The central part of the web page is designed to show where the tasks are assigned, by starting from the first facility tree element not in common within the tasks (in this example, showing tasks by room level).

Each element (building, floor, room, master) has a recap of the tasks divided by each type.



For instance, in this example, there are 124 daily checks to be performed divided by 2 side racks (62 tasks on Rack S/N 17000393A and other 62 tasks for the Rack S/N 17000395A)

The SCHEDULER web page is dynamic, and the tasks can be filtered in real-time by:

- **Type** (Daily check, Welfare check, Partial Bedding change, Total bedding change)
- **Room** (all the ones where tasks are assigned)
- **Rack** (all the ones where tasks are assigned)
- (Study) **Protocol** (all the cages with a specific study protocol)
- (Cage) **Owner** (all the cages with a specific owner)

By applying any filter, the corresponding web page is updated accordingly:

The Operator can then select tasks directly by clicking the corresponding button at any Facility tree-level displayed:



▼ Laboratorio newgianfi(192.168.251.208) Daily 67 / 136 Welfare 0 / 8 Partial bedd... 0 / 1 Total bedding 0 / 131

16000002A Daily check 18 Welfare check 2 Partial bedding change 1 Total bedding change 17	16000666A Daily check 2	16002000A Daily check 47 Welfare check 6 Total bedding change 45	17009100A DVC-LITE Daily check 69 Total bedding change 69
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Or, by opening the facility-tree level, the individual selection can be also made:

▼ Laboratorio newgianfi(192.168.251.208) Daily 18 / 136 Welfare 0 / 8 Partial bedd... 0 / 1 Total bedding 0 / 131

16000002A Daily check 18 Welfare check 2 Partial bedding change 1 Total bedding change 17	16000666A Daily check 2	16002000A Daily check 47 Welfare check 6 Total bedding change 45	17009100A DVC-LITE Daily check 69 Total bedding change 69
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The Operator cannot run different task types at the same time (buttons are disabled):

16000002A

Daily check 18	🗑️
Welfare check 2	🗑️
Partial bedding change 1	🗑️
Total bedding change 17	🗑️

Please note that DVC-LITE Racks and DVC-ISO Racks have to be handled individually because they don't have LEDs to be turned on and the only way to display the assigned tasks is to show the individual DVC (Lite or ISO) rack.

▼ Laboratorio newgianfi(192.168.251.208) Daily 69 / 136 Welfare 0 / 8 Partial bedd... 0 / 1 Total bedding 0 / 131

16000002A Daily check 18 Welfare check 2 Partial bedding change 1 Total bedding change 17	16000666A Daily check 2	16002000A Daily check 47 Welfare check 6 Total bedding change 45	17009100A DVC-LITE Daily check 69 Total bedding change 69
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Finally, by the START button area recap how many tasks have been selected (67), the number of DVC Racks involved (3) and the expected workload in terms of time (2min 14 sec):

Task selected: 67 (Daily check)

Total rack selected: 3

Total estimation time: 00:02:14

Start

By clicking START, the selected task(s) start(s) and the corresponding LEDs are turned on (if not DVC-LITE and not DVC-ISO):



## 1.2 FEATURE #2 – NEW DAILY CHECK TASK

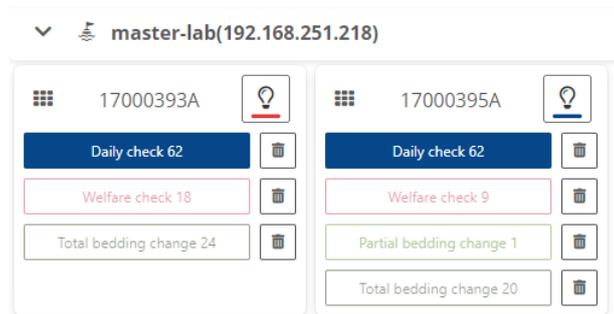
By redesigning the SCHEDULER, we also took the opportunity to improve the DVC® tasks management.

The significant improvement is the possibility of selecting multiple DVC® Racks and immediately illuminating all the cages involved in the task.

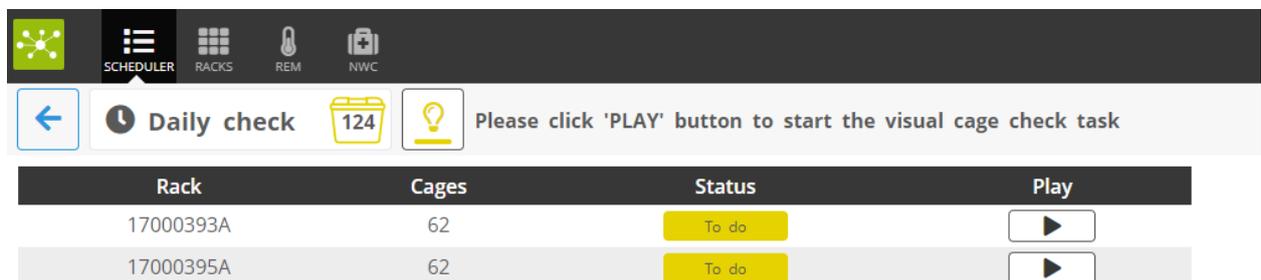
This can be extremely interesting when the operator can/wants to run the tasks for the entire animal room. Now it is possible to switch on all the corresponding LEDs at once.

Because of this, all the previous DVC® tasks have been affected by this improvement.

In the new Daily Check task, if multiple DVC® Racks are selected in the SCHEDULER section:

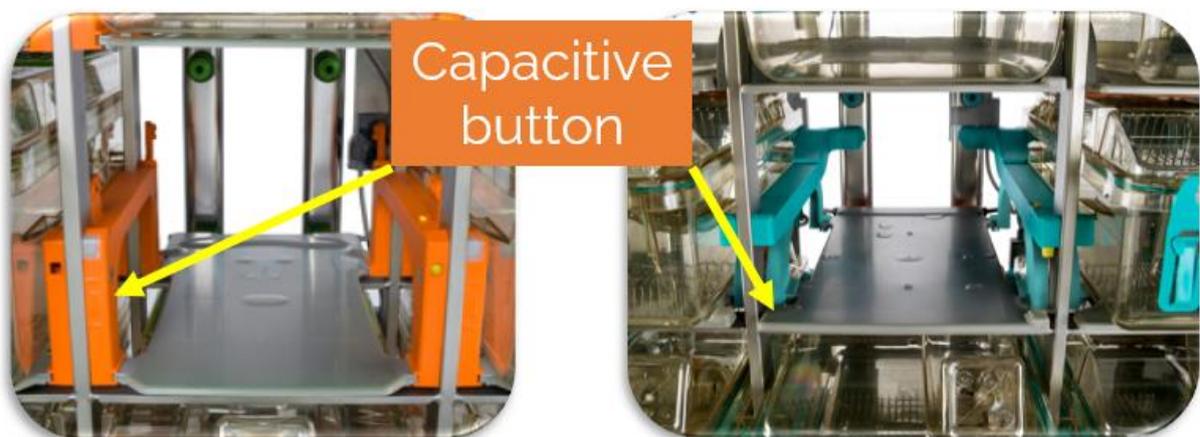


Then, both DVC® racks are immediately illuminated (only the registered cages inserted) in yellow:



The task can start on one DVC® Rack at a time.

The operator can either start the DVC® task by clicking the play button or by physically touching the capacitive button of any DVC® board of the selected initial DVC® Rack.





By starting the task, a time bar reflects the time spent to visually check the cages (by default 5sec for each cage)

Rack	Cages	Status	Play
17000393A	62	Running	
17000395A	62	To do	

The corresponding LEDs are turning from yellow (task to be performed) to green (task accomplished). Registered cage by registered cage. Starting from the top-left side of the DVC® Rack. When the entire task is completed, all the registered cages in the DVC® Rack turned green and the operator can proceed with the next DVC® Rack:

Rack	Cages	Status	Play
17000393A	62	Completed	
17000395A	62	To do	

If only one DVC® Rack is selected on the SCHEDULER page:

- Daily check 62
- Welfare check 9
- Partial bedding change 1
- Total bedding change 20

It is also immediately displayed in the interface and by either pushing the PLAY button or touching the capacitive button:



SCHEDULER RACKS REM NWC

← Daily check 62 Please click 'PLAY' button to start the visual cage check task

0%

	A	B	C	D	E	F	G	H
10								
9								
8								
7								
6								
5								
4								
3								
2								
1								

And again, a time bar reflects the number of cages that have been already checked:

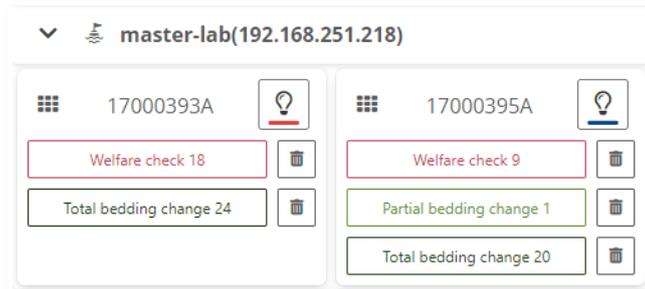
SCHEDULER RACKS REM NWC

← Daily check 54 8 Please visual inspect all the cages highlighted

13%

	A	B	C	D	E	F	G	H
10								
9								
8								
7								
6								
5								
4								
3								
2								
1								

Finally, when each task is accomplished, it disappears from the interface and only the remaining tasks are still visible:



### 1.3 FEATURE #3 – NEW BEDDING CHANGE TASK

The same approach is now possible also for the bedding change task (partial or total).  
By selecting multiple tasks on multiple side DVC® Racks:



The dirty cages are all illuminated and, one by one, can be changed by following the same “old” procedure:



Moreover, by clicking the YELLOW cage icon on the top, the list of the cages where the tasks are assigned is displayed:



**Total bedding change** 44 Please power on 2 RFID readers a

Cage Id	Position	Rack	Feedback	Status
X0877	E10	17000393A		To do
X0876	F10	17000393A		To do
X0882	G10	17000393A		To do
X0897	H10	17000393A		To do
X0892	F9	17000393A		To do
X0889	G9	17000393A		To do
X0874	H9	17000393A		To do
X0902	F8	17000393A		To do
X0863	G8	17000393A		To do
cagetest	H8	17000393A		To do
X0903	F7	17000393A		To do
X0870	G7	17000393A		To do
X0858	H7	17000393A		To do
X0909	F6	17000393A		To do
X0850	G6	17000393A		To do
Xavier	H6	17000393A		To do

#### 1.4 FEATURE #4 – NEW WELFARE CHECK TASK

In this case, by selecting multiple DVC® Racks, immediately the list of cages where the tasks are assigned is displayed (and the corresponding cages are illuminated of yellow) with the corresponding information (Cage ID, position, Rack, Evaluation, feedback and status).

**Welfare check** 27 Please extract cage

Cage Id	Position	Rack	Evaluation	Feedback	Status
X0878	D10	17000393A	No activity		To do
X0876	F10	17000393A	No activity		To do
X0888	D9	17000393A	No activity		To do
X0892	F9	17000393A	No activity		To do
X0889	G9	17000393A	No activity		To do
X0895	C8	17000393A	No activity		To do
BALUBBI	A7	17000393A	No activity		To do
X0848	D7	17000393A	No activity		To do
X0908	E6	17000393A	No activity		To do
Xavier	H6	17000393A	No activity		To do
X0869	C5	17000393A	No activity		To do
X0847	D4	17000393A	No activity		To do
X0857	E4	17000393A	No activity		To do
X0912	G4	17000393A	No activity		To do
X0845	B3	17000393A	No activity		To do
X0856	F3	17000393A	No activity		To do
X0865	C2	17000393A	No activity		To do
X0842	E1	17000393A	No activity		To do

Reader association required

Like in the past, the task is performed by removing the cage from the DVC® Rack for a minimum time (5sec by default) and then inserting back (LED turns green by then).



## 1.5 FEATURE #5 – RECAP EMAILS

In this release, we also modify the sending of the emails about the planned tasks.

It is now possible to set the sending of:

An email early in the morning to recap the entire list of tasks generated for today in the facility:

DVC Today Scheduled Tasks

 QA@dev.dvc.tecniplast.it  
To:  Giorgio Rosati - Tecniplast S.p.A.

Dear Giorgio,

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

- **LEFT ROOM**
  - Partial Bedding Change 37
  - Daily Check 348
  - Welfare Check 55
  - Total Bedding Change 174
- **RIGHT ROOM**
  - Daily Check 264
  - Welfare Check 45
  - Total Bedding Change 141
- **Tecniplast / Tecniplast HQ / Digilab Offices / RIGHT ROOM**
  - Partial Bedding Change 2
- **Not Localized:**
  - Daily Check 5
  - Total Bedding Change 3

Please login into the [DVC Operator Interface](#) to check and evaluate these tasks.  
Have a good day,

Your [DVC® System](#)

An email late in the afternoon to recap what has been done and what has not been done:

DVC End-of-Day Tasks Summary

 QA@dev.dvc.tecniplast.it  
To:  Giorgio Rosati - Tecniplast S.p.A.

Dear Giorgio,

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

- **Tecniplast / Tecniplast HQ / Digilab Offices / LEFT ROOM**
  - Partial Bedding Change **2** (Not Done)
  - Total Bedding Change **174** (Not Done)
  - Daily Check **55** (Done) **292** (Not Done)
  - Welfare Check **55** (Not Done)
- **Tecniplast / Tecniplast HQ / Digilab Offices / RIGHT ROOM**
  - Partial Bedding Change **1** (Not Done)
  - Total Bedding Change **58** (Done) **140** (Not Done)
  - Daily Check **60** (Done) **203** (Not Done)
  - Welfare Check **1** (Done) **44** (Not Done)
- **Not Localized:**
  - Daily Check **5** (Not Done)
  - Total Bedding Change **3** (Not Done)

Have a good evening,

Your [DVC® System](#)

The time for sending these emails can be set accordingly to user's choice/need.

## 2 BUGFIXES

This section refers to “user-visible” application bugs that have been fixed by the current release. Some potential bugs refer to the overall infrastructure that are not here reported because “invisible” to the final user unless these are not critical bugs affecting the overall workflow.



## 2.1 FIX #1 – INVALID DATE LOGBOOK

In some cases, the date in the animal logbook table was "invalid". We fixed this issue.

Date time	Method	Type	User	Feedback
Invalid DateTime	Manual	Total	Op3	-
Invalid DateTime	Planned	Total	Op3	-
Invalid DateTime	Planned	Total	Op4	-
Invalid DateTime	Planned	Total	Op3	-
Invalid DateTime	Planned	Total	Op2	-
Invalid DateTime	Planned	Partial	Op3	-
Invalid DateTime	Planned	Total	Op5	-
Invalid DateTime	Planned	Partial	Op5	-
Invalid DateTime	Planned	Partial	Op6	-
Invalid DateTime	Planned	Total	admin	-
Invalid DateTime	Planned	Partial	Oo1	-

## 2.2 FIX #2 – API IMPROVEMENTS

The DVC® can be integrated/communicate with other Colony Management Systems by specific APIs (Application Programming Interfaces).

In this release, we fixed and improved many specific APIs.

## 3 KNOWN ISSUES AND PROBLEMS

There are currently some open bugs/known issues we would like to share with you and let you know that will be solved in the upcoming releases:

- If you filter the tasks by room and then click on the DVC Racks, all the DVC Racks are listed and not only the ones in the selected room.
- While running a daily check task, it is currently not possible to terminate a cage. This termination has to be performed at the end of the task.
- In case an alarm of unexpected activity is triggered, if you directly register the cage from the DVC Rack view (from the interface without removing the cage), the alarm is only cleared in the DVC Cage Label but it stays in the DVC Alarm list.
- While running a Welfare check task or a bedding change task, if you modify the Cage ID (and save), the new Cage ID is not properly displayed in the task table. (But it is saved, and the cage renamed properly).
- During the REM association, if the name of the room is too long, it might be the risk to do not be able to read the entire string.
- If you open a breeding cage and you modify the female strain AND you also add pup(s) at the same time, this double operation ends up in a saving failure.
- The Death Report table in the DVC workplace has a bug when you try to filter by Animal ID..





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