

 **TECNIPLAST**

Release Note 3.4.0



DVC 
SCIENTIFIC PLATFORM



RELEASE NOTE 3.4.0

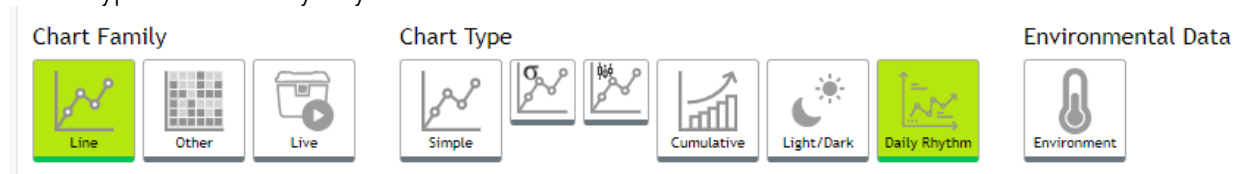
1 RELEASE FEATURES

FEATURES MARKETING

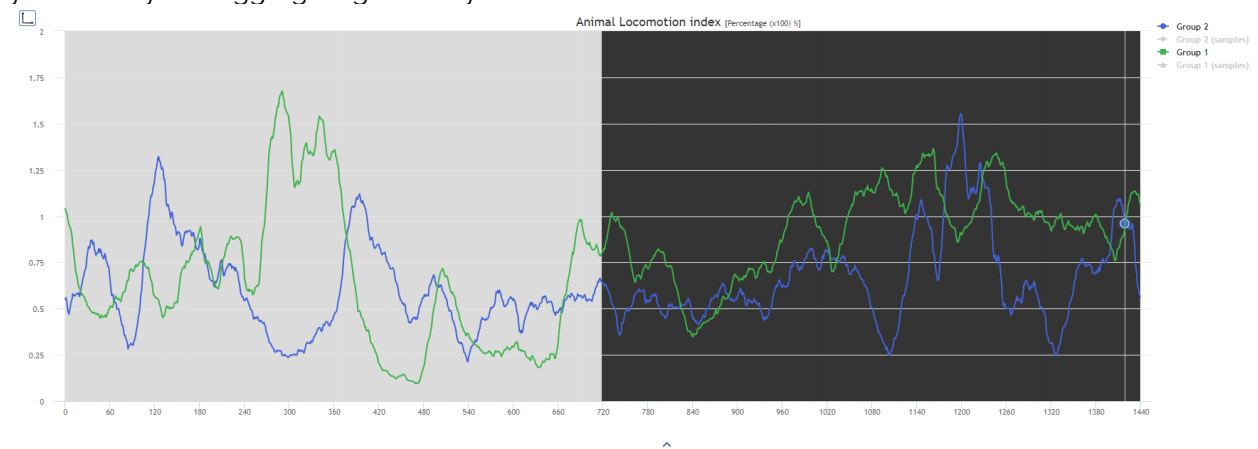
This DVC®Analytics release 3.4.0 implements some few but important new features, several enhancements, and fix existing open bugs. It is considered a major release.

1.1 FEATURE #1 – DAILY RHYTHM CHART

This new feature can be found under the section "Data Analysis", there is a new button in the section "Chart type" called "Daily Rhythm".



This new Chart Type shows the data in a 24h format (1440 minutes), starting from the lights on time of your Facility and aggregating them by the minute.



Data are calculated in the next way:

- Daily data are averaged minute by minute.
- A circular centered rolling average of 31 minutes window (-15min, datapoint, +15 min) is applied to smooth data.

This last step is needed to propose a much more interpolate visualization to appreciate activity patterns qualitatively.

1.2 FEATURE #2 – STARTING POINT TO CALCULATE "OTHERS"

In this release, an important feature has been implemented. When the chart family "Other" has been selected, it is now possible to choose the starting point of the analysis between midnight and the light on time already set in the Facility.

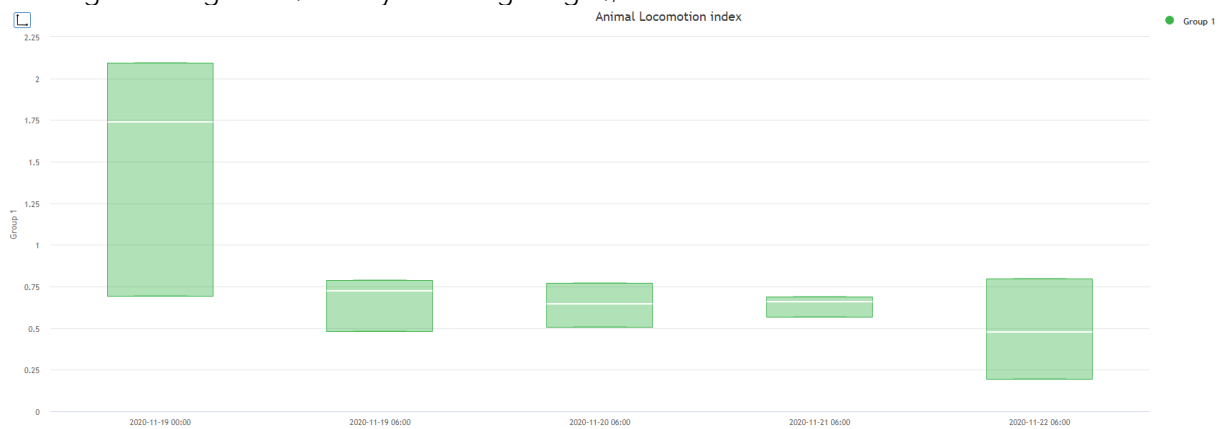


Chart Family **Starting Point** **Chart Type**

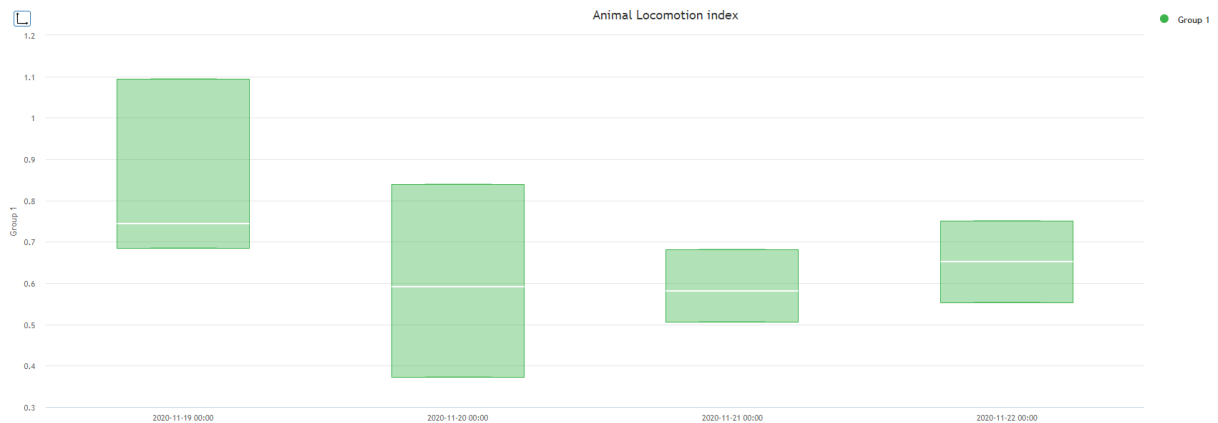
Line Other Live Day Start Lights On Heatmap Actigram Box Plot

This new functionality affects all the "other" Chart Types (Heatmap, Actigram, and BoxPlot), not only in the visualization (the Heatmap is a pure time shift, for instance), but also in the calculation. For example, if you now select as Starting Point the "Lights On", the BoxPlot is calculated considering the entire day from light-on to next light-on (therefore including the entire night).

Starting Point: Light On (entirely including a night);



Starting Point: midnight (entirely including daylight);



1.3 FEATURE #3 – REM ACCELERATION METRIC

The REM device has been modified to include a new sensor able to calculate better the acceleration detected at Rack level.

The measuring unit is now called "acceleration" and is found in the REM parameters section. Acceleration data are expressed in g (gravity).



2 ENHANCEMENTS

This section highlighted some current enhancements that affect already existing features that are improved by the present new release proposed.

2.1 ENHANCEMENTS #1 – ANIMAL SELECTION

In this latest release, we fixed misleading information regarding the selection of Animal ID. You can either select a cage ID or an Animal ID (but not both simultaneously) and obtain DVC® board data. In the previous versions, selecting an Animal ID, if this animal was in a cage of 3 other animals as an example, the DVC® data were divided by the total number of animals (4) and showed in the selected charts.

We discovered, thanks to your feedback, that this was misleading information.

From now on, whenever you select an Animal ID, what is considered is the DVC® board data, independently from the number of animals inside the cage itself.

2.2 ENHANCEMENTS #2 – RUNNING WHEEL AGGREGATION SUM

Some DVC® metrics have to be averaged in the selected time interval (Animal locomotion index, for instance), while others have to be summed (Running Wheel data, for instance). There is no “correct” or “wrong” choice, but it is essential to know how it works.

In the previous releases, all the metrics were only averaged between them in the selected time interval.

From this release ahead, this is the recap of how we handle DVC® metrics in the DVC®Analytics:

Metric	Aggregation in the selected time interval
Animal Locomotion Index	Average
Animal Locomotion Index (smoothed)	Average
Animal Tracking Distance	Sum
Animal Tracking Speed	Average
Bedding Status Index	Average
Rest Disturbance Index during Dark	Average
Rest Disturbance Index during Light	Average
Running Wheel Distance	Sum
Running Wheel Rotation	Sum
Running Wheel Speed	Average

2.3 ENHANCEMENTS #4 – NEW AVAILABLE RUNNING WHEEL METRIC FOR THE ALERT MANAGEMENT

Now the DVC® Running Wheel metric can be used in the section “Alert” management to trigger alerts if data are going out of the created thresholds.



Add new Alert Rule

- 1 Enter Alert Name and Owner
- 2 Select Metric
- 3 Animal Locomotion index (Smoothed)
- 4 Add Email Address for Notification
- 5 Done

Animal Tracking Distance
Animal Tracking Speed
Running Wheel Distance
Animal Locomotion index (Smoothed)

Cancel Confirm

2.4 ENHANCEMENTS #4 – NEW AVAILABLE TIME VALIDITY RANGE FOR THE ALERT MANAGEMENT

A significant improvement is now achieved regarding which data (of the day) has to be used to trigger the alert. It is now possible to activate (and monitor) the alert only during the Dark Period, Light Period, or even in a specific Custom time interval.

Add new Alert Rule

- 1 Enter Alert Name and Owner
- 2 Select Metric
- 3 Enter Alert Configuration
- 4 Custom
- 5 Done

Condition *
Goes above

Threshold *
100 m

Aggregation window * Unit
10 Minutes

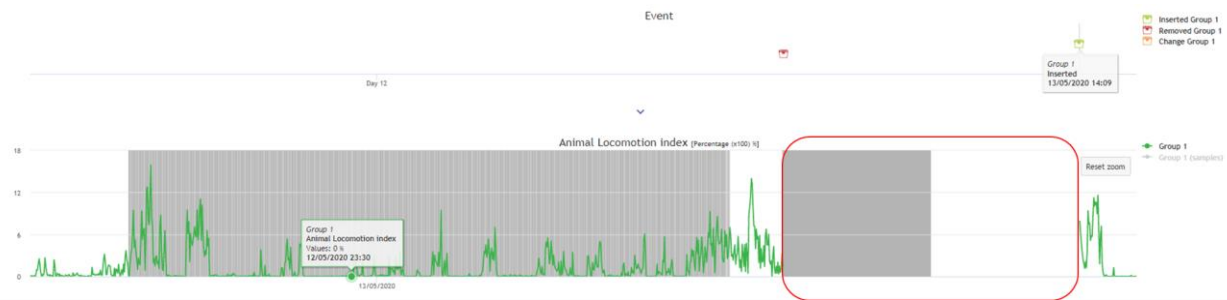
All day
Dark period
Light period
Custom

Cancel Confirm



2.5 ENHANCEMENTS #5 – IMPROVED LIGHT REM MISSING DATA

We improved the graphical aspect of missing data (because the REM is off). In the past, missing REM light data were represented by empty data blocks filled with 2 vertical stripes (grey and white) that were misleading for the User from a REM data visualization perspective (it seemed night data).



The graphical improvement is that now, missing data are entirely white-color while valid data are light grey (and dark period is dark grey). This visualization intuitively improves the discovery of missing data:



3 BUG FIXES

This section refers to bugs that have been fixed by the current release. There are some potential bugs relating to the overall infrastructure that are not reported here because "invisible" to the final User unless they are not critical bugs affecting the overall workflow.

3.1 BUGFIXES #1 –RUNNING WHEEL CAPABILITY

This bug was referring to the fact that not all "RW cages" were immediately recognized as valid. We improved the robustness of the communication between the field and the DVC® Analytics cloud to mitigate this possible issue.

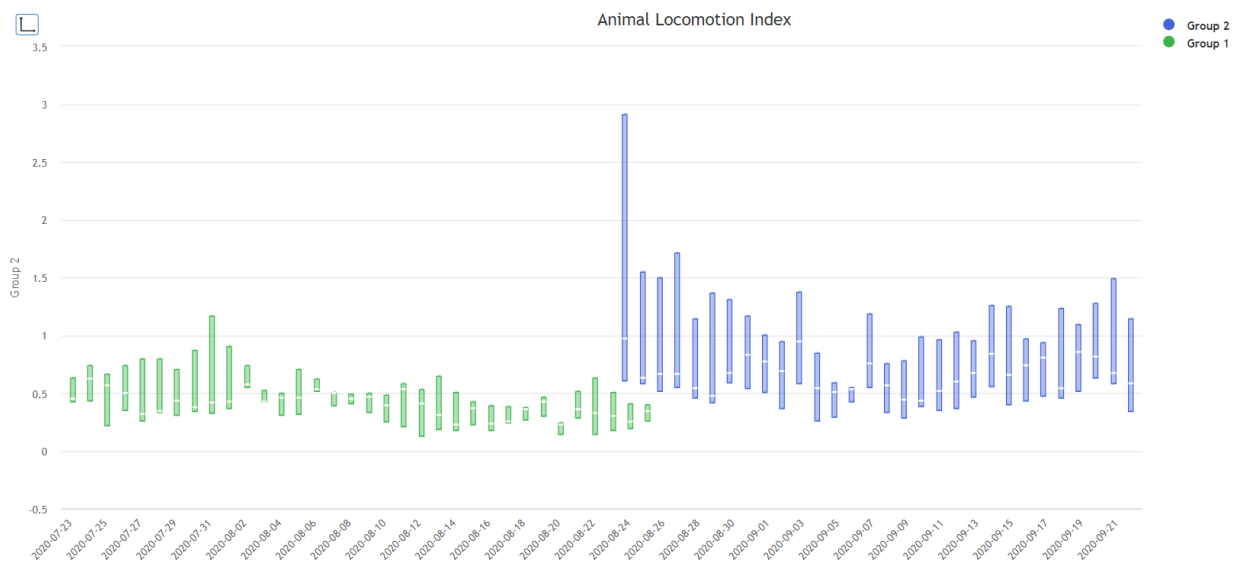


4 KNOWN ISSUES AND PROBLEMS

There are currently some open bugs/known issues we would like to share with you and let you carefully handle:

4.1 OPEN BUG #1 –BOX PLOT NOT ALIGNED ON THE START

In case you are running a box plot comparison between different groups, if the start of the two groups is not the same day, they are shifted in the visual representation:





 **TECNIPLAST**
innovation through passion