

SOLUTIONS FOR SMART CAGES







TECNIPLAST IS THE IDEAL PARTNER FOR THE CARE OF YOUR FACILITY AND FOR THE OPTIMIZATION OF YOUR DAILY ACTIVITIES.

NOWADAYS, WHEN EVERYTHING IS LITERALLY AT FINGERTIPS, OUR DIGILAB PORTFOLIO BRINGS THE MOST INNOVATIVE SOLUTIONS FOR YOUR VIVARIUM IN TERMS OF DATA MANAGEMENT AND OPERATOR INTERACTION SYSTEMS, MAKING YOUR IVC CAGES SMART LIKE NEVER BEFORE. DIGILAB PORTFOLIO IS NOT MERELY A SET OF PRODUCTS, BUT A PROPER INFRASTUCTURE ABLE TO COLLECT AND ANALYZE THE DIGITAL INFORMATION OF ALL YOUR TECNIPLAST/IWT EQUIPMENT.

DVC™ AND GATEWAY HAVE BEEN DEVELOPED BY OUR IN-HOUSE TEAM OF DESIGNERS AND ENGINEERS TO IMPROVE THE QUALITY AND THE MANAGEMENT OF YOUR DAILY WORKFLOW, REDUCING THE POSSIBILITY OF ERRORS, OPTIMIZING EFFICIENCY AND MAXIMIZING SAFETY.

WWW.TECNIPLAST.IT • TECNICOM@TECNIPLAST.IT



DATA COLLECTION AND EQUIPMENT CONNECTION: DIGILAB SET OF SOLUTIONS **OFFERS A FUTURISTIC** DIGITAL INFRASTRUCTURE BASED ON AN INNOVATIVE "DATA FUSION" PERSPECTIVE





# DIGITAL VENTILATED CAGES



DVC<sup>™</sup> has SEVEN MODULES which continuously capture and record data about conditions, events, and activity inside the cage without disturbing or affecting the animals.





- Avoid unnecessary washing and autoclaving
- Reduce bedding and labor costs

The Bedding Condition module detects changes in moisture within the bedding.

This is a fully customized module; therefore, a "learning phase" is required after the system installation to define the parameters for what is considered a 'dirty' by the facility's standards.

- Save time Reduce the cost of supplies
- Minimize the risk of human errors.

An infra-red system is embedded in the runners to detect food and water levels. The sensors will also detect when a bottle is missing or misplaced. In either case, an alarm will go off to alert the staff and a LED light in the cage's runner will turn-on and identify the cage position.

 Automatically monitor animal activity without

Animal

Activity

disturbing the animals The DVC<sup>™</sup> monitors the animal activity inside the cage. By means of a sensor plate the system's software captures data and compares it to different days and similar cages.

The Animal Activity module doesn't replace the Guide's recommendations for daily checks but greatly assist in doing so between daily observations, which could contribute to the enhancement of animal welfare.

· Avoid losing animals due

Leak

Detection

- to AWS leakage or flood Reduce the risk of
- hypothermia

DVC<sup>™</sup> detects water leakage inside the cage as little as 100 to 150 ml.

When a leakage/flood occurs, DVC<sup>™</sup> will send an alarm to the operators for immediate action to save the animals.

This module is also available as a stand-alone for the standard IVC racks: DGM and 2GM.

An external capacitive sensor plate detects activity, captures the data and sends it to a central server where the DVC™ application is running.



 Improve your facility's daily workflow, task assignment, and utilization of resources

Planner

The DVC<sup>™</sup> Facility Planner module can assign the cage changing task to staff members based on their schedule and skill level

DVC<sup>™</sup> can also identify priorities due to an emergency or breakdown and allocate workload based on health and barrier restrictions.



The system's interface allows facility managers to monitor the status of a cage or the cage system in the animal room at any given time.



Example of the operator interface during bedding changing



## BY USING DIGITAL TECHNOLOGY, DVC™ BRINGS STANDARDIZATION FOR THE IMPROVEMENT OF ANIMAL WELFARE, FACILITY OPERATIONS, AND RESEARCH.

## Identification

#### Easily identify cages that need especial attention or follow-up

Sensors located on the DVC™ runners activate a LED light to identify the cage or cages in need of care or further observation.

This feature helps researchers and personnel find a specific cage easily.

# 

 Detect cage occupancy and locate cages rapidly and in real-time

Inventory

DVC<sup>™</sup> can perform cage census in real-time and locate every cage in the facility.

This module can be integrated with the facility's management software for cage management, billing and invoicing.

Cage Census is also available as a stand-alone module for the standard IVC racks: DGM and 2GM.

When the DVC<sup>™</sup> detects a cage that needs attention, a LED light located in the runner turns-on to identify the cage.

# GATEWAY



...

E histophistories					inter 📰 🕈	1 2 + - 2	Alarms
Entering .	344	corty.	9 Million	Sec.edanty	Core.	All and a second	O 11 542,160
* 🔳 🙆 Het Later bed							
+ C Share			a,	0			O 10,0400,140
* E 🙆 Laterstaties filer		12	a.	0			U TRANSLAND
* 🔳 🙆 (16348		(A)	9	POSITIA			A
* 🖂 🖾 **** #1			Q. 141			trace Section	C Tugana
MARIEROOA.			a un			Reck Base Volce	
13900088+	•		Q. 144			Fach Batte Silocal	U160003
THE PASSAGE			Q IM			Reci Base 1/doe	
C 2 0 Tu SAL HOLDT		14	A M P	POXPUE		StatFm	TU100002
	0		0, 100 A	POINE		Witer	Contraction of the second second
🔂 🖾 Turtistines		100	A 14 A	ecuitive		Graties	
S Trittian date was	0	14	A M P	PORTA		Stylian	
* El Laurina RosqUAL			a.	NEGATIVE.			Deshboerd
El 🖸 Trigonil 2	•		a 14 A	HEGATINE		Seaster	
* 📕 Inc Building integration		(e	a.	0			
C. C. T. (Seal			A M A	POEDIA.		Stat Fox	
💷 🛄 Tul-estill			A 14 A	NEGATOR		nifer.	
-réveric Jawi			a				
E Paraculand			9				
* Cigle: During		14	a.	POSTNE			

#### ONE 2 ONE SETTINGS PAGE

Today portable devices and remote control are widely used in several applications, everyone likes to deal with these devices and the advantages coming from their use are countless. Gateway is designed to be installed on Air Handling Units, compatible with-Smart Flow, Easy Flow, Sky Flow, Touch Slim Plus, ISOcage N and ISO cage P, and enables two functions:

## ONE 2 ONE

control the Air Handling Unit via any portable device

- Only one portable device can be used to control each and every Air Handling Unit in the facility
- Full compatibility: the system works with any operative system or device

# GUARDIAN

complete remote control of • all blowers in the facility

- timing: maximum safety
- Exports daily data
- Creates data report for each or several machines, choosing the parameters to export: enhanced data monitoring

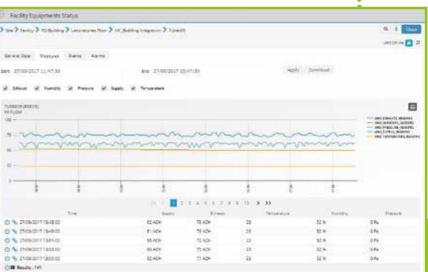
# Facility Equipments Status A Sheet TURBORN WERLOW 0 % 2109/2017 19/80 0 \$ (Head)/7 (Seld) 0 \$ (Head)/7 (Seld) 0 \$ (Head)/7 (Seld) 0 % andvarrradou OIII fenduarri



rt exhaust hours	0 27/08/2017 14:35 33
r exhaust rours	
rt exhaust hours	O 27/08/2017 16/22/02
rt exhaust hours	0 27/05/2017 15:40:00
Setpoint not reached	© 27/08/2017 18/02/04
Min	G 27/09/2017 14:52:03
) Lest Updete : 27/09/2017 18:07:26 @ Eur	ropeiRome
Racks Units	c
bled	Online
	$\bigcirc$
4	34

### GUARDIAN HOME PAGE: SET UP CONFIGURATIONS TO BE APPLIED IN ALL THE UNITS IN A ROOM/FLOOR

- Monitors, checks and controls all machines from the office Forwards alarm notifications, according to the preferences and
- Tracks and locates any Air Handling Unit preventing any possible mistaken set configuration: improved control and safety





#### HEADQUARTERS

ITALY | Tel. +39 0332 809711 · www.tecniplast.it · E-mail: tecnicom@tecniplast.it; venditeitalia@tecniplast.it

#### SISTER COMPANIES

AUSTRALIA/NEW ZEALAND | Tel. + 61 2 8845 6500 · www.tecniplast.it · E-mail: info@tecniplast.com.au CHINA | Tel. + 86 (0)21 50810920 · www.tecniplast.cn · E-mail: tecniplastchina@tecniplast.it FRANCE | Tél. +33 (0)4 72 52 94 41 · www.tecniplast.fr · E-mail: info@tecniplast.fr GERMANY | Tel. +49 (0)8805 921320 · www.tecniplast.de · E-mail: info@tecniplast.de UNITED KINGDOM | Tel. + 44 (0)845 0504556 · www.tecniplast.it · E-mail: info@tecniplastuk.com JAPAN | Tel. +81 (0)3 5770 5375 · www.tecniplast.it · E-mail: info@tecniplastjapan.co.jp USA | Toll Free: +1 877.669.2243 · www.tecniplastusa.com · E-mail: info@tecniplastusa.com CANADA | Toll Free: +1 855.347.8718 · www.tecniplastcanada.com · E-mail: info@tecniplastcanada.com

TO FIND YOUR LOCAL DISTRIBUTOR, PLEASE VISIT WWW.TECNIPLAST.IT