

# **A**ngelantoni

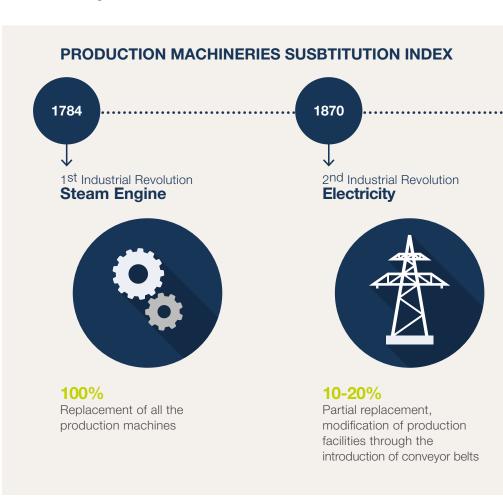
MyKratos
The hyperconnecting
Software



acstestchambers.com

# Interconnected Systems: the key trend in the 4th Industrial revolution

The hyper-connectivity is not only applied to the objects used every day such as the smartphone, but it marks the advent of a new industrial trend, which is offering companies new development prospects on markets that are increasingly demanding and innovative.



Smart machines are able to **prevent problems** and **downtimes**, dealing efficiently and rapidly with problems, and **optimizing maintenance costs** by collecting and processing data that can be used to monitor performance.

**ACS** is focused on innovation and is the first manufacturer to equip test chambers with **hyper-connectivity technology**, providing technological solutions and services that meet current and future needs.

It will be possible to intervene with the utmost efficiency, planning the necessary actions in time, minimizing downtimes, lowering maintenance costs by efficiently planning the activities.



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3<sup>rd</sup> Industrial Revolution **Automation** 



80-90%
High replacement rate, machines introduction in manufacturing

FROM NOWDAYS TO THE FUTURE...

4<sup>th</sup> Industrial Revolution Interconnected systems



60%
All the machines will need to be interconnected



**MyKratos™** is the management software embedded on the machine in a dedicated, totally integrated hardware module that permits the control and management of the chamber's functions.

**MyKratos™** requires no installation and is accessible from a PC via web browser (Google Chrome, Firefox) or through the **free app** developed for mobile devices (tablets and smartphones).

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MyKratos™ App free download





It is possible to have **multi-users** and **multi-level connections**, even coming from different devices. Once the chamber goes into execution mode, the user that started the test becomes its sole manager, allowing others to consult it in read-only mode and to set the subsequent cycles. All data are saved inside the chamber built-in datalogging, so they are always available to the users regardless of the device used.



Chamber management is always possible through few, simple steps, whether inside the test lab or anywhere else.



App Store Google play



**MyAngel24™** is an online diagnostic and remote assistance system included in the chamber basic configuration.

Through the chamber's local panel or by remote, **Customer** can activate or deactivate at any time MyAngel24<sup>TM</sup> connection with Angelantoni server (activation on demand).

Once activated, Angelantoni Server acquires data coming from the chamber for diagnostic analysis and allowing ACS to grant a 24h remote assistance.

ACS service staff can identify the problem and if possible, solve it remotely, or at least identify parts that may need to be replaced and check their stock availability in order to schedule an utmost efficient on-site intervention.



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# Maintenance Cost Reduction

MyAngel24™ activation means:



# Less on-site intervention

- MyAngel24<sup>™</sup> permits the identification of problems with a remote test and an examination of the recorded data
- Depending on the problem at hand, ACS can solve the problem directly from remote, avoiding on-site intervention just for troubleshooting

# Reducing chamber downtime

 ACS is able to schedule the maintenance, according to the chamber testing plan, thanks to the main components life-cycle monitoring

# Utmost efficient on-site intervention

 Service staff knows which part is causing the problem and is ready for its replacement before on-site intervention

# Remote support

- ACS can adjust PID parameters remotely
- ACS can make changes to PLC programs remotely for chamber optimization



The **MyAngel24™** service provides innovative features through algorithms for supporting and facilitating the work of customers using an ACS climatic chamber.

MyAngel24™ will periodically and automatically send to the customer the report of chamber activities. The file in PDF format will contain the graphs of the tests carried out in the preceding period. Along with this report, the customer will receive the list of meters that indicate the use status of the main chamber components. This will allow the customer to schedule in advance any maintenance activities regarding the component in question.







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In addition, the system will automatically send alerts to the ACS technical support staff and, if requested, also to the email address provided by the customer. Alerts will be generated for the following types of functions:

# ①

# **Regulation monitoring**

When the regulation of the variable controlled is not within the limits

Set Point



# **Achieved setpoint** monitoring

When the variable controlled does not reach the setpoint

Set Point



# **Deviation monitoring**

When the variable controlled deviates from the setpoint

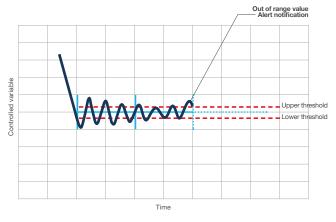
Set Point

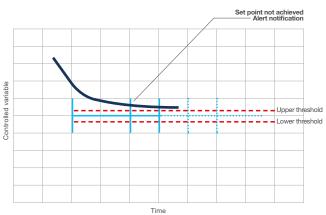


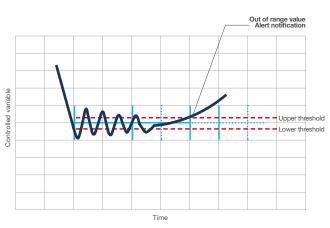
# Low stage pressure discharge monitoring

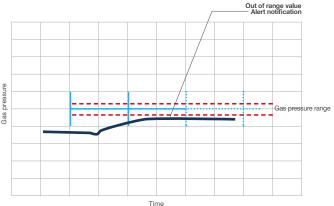
(only for cascade cooling system) In addition, the system monitors the pressure of the refrigeration system in cascade in order to identify any leaks and to inform in real time both the ACS service and the customer about the failure to reach the control threshold

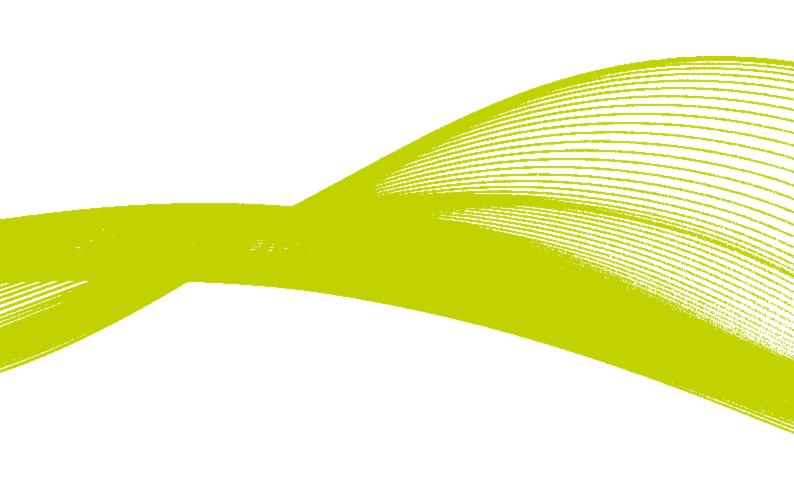
Gas pressure













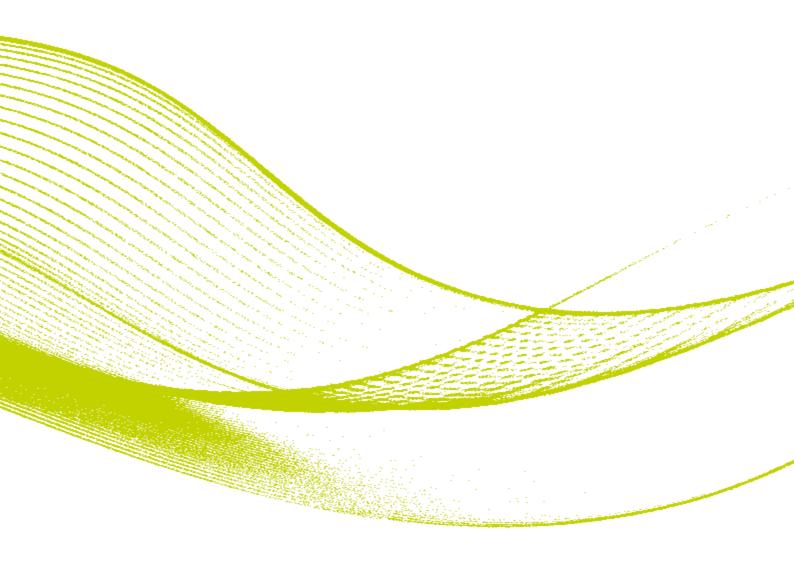


**Angelantoni Test Technologies**, owned by the **Angelantoni Group**, is the only company capable of offering a comprehensive range of environmental test chambers - **ACS** branded - for a great variety of applications, thanks to the expertise and technical know-how of its teams of experts. Innovation, flexibility and organization have always been the keys to success for ACS, world-famous since 1952 also for its high-tech test equipment such as Thermal High Vacuum Chambers for Aerospace applications and Calorimeters.



### Angelantoni Test Technologies Località Cimacolle, 464 06056 Massa Martana (Pg) - Italy Tel. +39 075.89551 (a.r.) Fax +39 075 8955200 info@acstestchambers.it









# Subsidiaries

Ofterdingen, GERMANY info@att-umweltsimulation.de

Canéjan, FRANCE info@angelantoni.fr

Beijing, P.R. CHINA info@attasiapacific.com

Noida, INDIA info@attindia.in



# Angelantoni Test Technologies

Loc. Cimacolle, 464 - 06056 Massa Martana (Pg) - Italy Tel. +39 075.89551 (a.r.) - Fax +39 075 8955200 info@acstestchambers.it

