Conviron Acquires Argus Controls

At the beginning of April, Conviron announced the acquisition of Argus Control Systems. This brings together Conviron, the world leader in controlled environments for agricultural research with Argus, the North American leader in advanced automated control systems for greenhouses, and bioclimates. With the integration of Argus and Conviron technologies our aim is to provide the most powerful and flexible range of engineered climate solutions to support your research and commercial production applications.

Argus and Conviron share many of the same customers and since the news release we've heard from a number of you how this development seems like such a natural fit. We think so too! For those of you who may be new to Conviron, we thought we'd tell you a bit about the company and what this change means to you.

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About Conviron

Conviron is based in Winnipeg, Canada. It is the world's largest supplier of plant growth chambers, growth rooms and high performance research greenhouses. Conviron's products are used by leading universities, government agencies and agricultural biotech companies around the globe to solve many of today's challenges in food production and safety. Primary markets include agriculture, biotechnology, horticulture, and other life-science research disciplines.

Conviron manufactures a wide variety of special purpose environments and enclosures used for:

- Seed storage
- Seed germination
- Tissue culture
- Plant growth
- Greenhouse research
- Insectaries
- Human physiology testing
- Product and materials testing
- Biosafety level containment

Similar to Argus, most Conviron projects involve a level of customization. The Conviron team includes some 35 engineers, technologists and controls experts to help customers achieve the best solutions for their specialized needs.

Conviron also shares the same core values as Argus: It sees its role as far more than a supplier of products. The goal is to help you achieve your research and production objectives and to support you throughout the life of your equipment.

What does this mean for Argus?

Argus continues to operate as a separate business unit, with the same friendly staff and support personnel you are familiar with.

What does this mean for you?

For Argus customers, it is business as usual. We are continuing to support you as always and our active research and development program is building on the great success of the Titan platform and the Argus brand.

We are also exploring exciting opportunities for developing synergies between Conviron and Argus technologies. To Conviron's leading engineered climate solutions Argus adds its highly regarded technologies for production horticulture, climate control, facilities integration, custom equipment automation, advanced irrigation, water management, and nutrient control capabilities.

For Argus, Conviron brings its depth of experience in the provision of custom environments, deep engineering and manufacturing expertise, greater access to world markets, and the ability to offer a wider array of products and services to our combined customer base.

We're already hard at work developing new options to help you better manage your facilities and achieve your research and production objectives. More to come in future newsletters!

For more information about Conviron please visit: www.conviron.com
New Wireless Control Options

We have offered wireless sensing options for a few years now, particularly for outdoor irrigation and soil moisture measurement applications. Since the introduction of Titan 2 controllers, entire segments of the control system can now be operated on a wireless network link. This option makes it possible to use Argus monitoring and control applications at locations where it was previously difficult to accomplish.

There are some good and bad reasons for using wireless control communications. Simply substituting wireless to save on wiring costs is generally a bad idea, since wired communications are still the time-tested standard for ‘mission critical’ control applications. That said, there are some very useful applications for wireless such as monitoring and control of distant wells and pumping stations, structures located on the other sides of highways and other areas that are generally impractical for wired network cabling.

Some Advantages:
- **No wires to break!** – in situations where a wired solution is highly vulnerable to physical damage, wireless may be the only option.
- **Electrical isolation** – wireless communications can be used for segments of the control system wiring path that are particularly vulnerable to lightning strikes, such as long overhead outdoor runs.
- **Obstacle bridging** – wireless communications are useful when a physical impediment such as a body of water or a highway make it difficult or impossible to use standard communications cabling.

Some Disadvantages:
- **Complexity** – wireless communication uses complex equipment with a great number of configuration settings. Troubleshooting problems can be a daunting task (to minimize this, Argus supplies matched pairs of devices that are preconfigured to communicate only with each other).
- **Tall Obstacles** – long distance wireless communication generally requires a clear ‘line-of-site’ between communicating devices. This means that the devices need to be positioned so that they can ‘see’ each other.
- **Interference** – radio communications equipment is subject to localized interference from other radio sources and equipment such as noisy variable frequency drives. This can often be overcome by selecting different frequencies and by applying the proper filtering devices to noisy equipment.

Titan Wireless Network Bridging Kit

The **Titan Wireless Network Bridging Kit** is sold as a ‘plug and run’ solution for adding one or more controllers via a wireless link. The kit includes two fully preconfigured pairs of outdoor Wireless Bridge/Access Point devices along with cables and connectors. Wireless control is only available for systems using Titan 2 controllers since it is the Ethernet ports on these controllers that are used to facilitate wireless communications.

The kit is ready for immediate use ‘out-of-the box’. It is configured for exclusive use on Titan system networks and is not intended for general wireless Ethernet use. The kit includes a complete backup set of WAP (Wireless Access Point) devices that can be used as quick replacements should a problem occur. This is intended to maximize ‘up-time’ and minimize any complex troubleshooting issues in the field. For more information, please contact Argus.
The Challenge of Climate Measurements in Wet Environments

There is a major difference between high humidity air and air that is mixed with water droplets. This can have significant implications for monitoring and control.

Aspirated enclosures are the standard sampling technique for fast responding and accurate measurement of temperature and humidity. So long as the air that is being aspirated is relatively free of contaminants and it contains only water vapor and no liquid water droplets, these units can perform very well and provide a long service life.

However, the presence of liquid water droplets in the aspirated air stream from mists, fog or sprays can result in two problems:

1. Damage to the sensors, internal wiring, or fan components.
2. Inaccurate readings caused by wetting of the sensor component parts and the subsequent evaporation of liquid water into the sample stream.

The first problem can be addressed by hardening of the sensor environment. Argus already uses several strategies in its sensor modules to protect the sensor elements and extend sensor life, and we are continually developing improved designs. Nevertheless, humidity sensors are only designed for measuring water vapor.

The second problem is much more important and it cannot be easily overcome with improved sensor designs. Regardless of a sensors' ability to withstand a soaking, as long as liquid water is evaporating from nearby wet surfaces, the temperature and humidity readings may not be representative of the climate. This is due to the local chilling effect of evaporating water.

Consequently, if the sampling unit becomes intermittently soaked because it is positioned too close to a mist nozzle, even if the unit itself is not damaged, the readings will be highly inaccurate. If the readings are used for control then the wrong control actions may result!

If you need to sample air in a wet environment, try to locate the sensors in the 'driest' spot possible. Alternatively, if there is no location where a humidity sensor will not become soaked, then other sensing options such as wetness sensors may be more appropriate. Please feel free to call us if you are dealing with a difficult sampling application and we can discuss the best alternatives for your situation.

See us on the road this summer!

We'll be attending the Ohio Florist's Association Short Course and trade show: July 14-16. Drop by and see us at Booth 1021. For more information on the short course please visit their web site:

http://www.ofashortcourse.org/

We'll also be attending the AERGC (Association of Education and Research Greenhouse Curators) annual meeting at North Dakota State University, Fargo, North Dakota July 22-25. You can learn more about the AERGC at:

http://www.aergc.org/

Representatives from Conviron and Argus will be on hand at both of these events and it will be a great chance to chat about recent developments.