

# Digital tools, standardization and remote access in food & beverage

## Q&A with Endress+Hauser and Aneko

*"The accuracy and precision of Aneko's system has improved the performance of our production line, increased runtime and reduced the number of unplanned shutdowns. Gaining operational efficiency, we have the confidence that Brix, color and acidity will comply with specifications and extend recipe cycles without interruption or intervention."*

Daniel Sarmiento, Engineering & Project Director – Coca Cola Femsa



Ricardo Prevoo, Automation Engineer, Aneko



Ola Wesstrom, Senior Industry Manager, Food & Beverage, Endress+Hauser USA

Aneko is a leading engineering company focused on innovation, process lines, and equipment design. The company has been delivering high technology machinery to the dairy products and beverage industries for more than 30 years and designs every piece of equipment to the highest quality standards in the industry. Ricardo Prevoo, automation engineer at Aneko, and Ola Wesstrom, senior industry manager for food and beverage at Endress+Hauser USA, share their thoughts on the benefits of digital tools, standardization and remote access in this Q&A.

### Q: What kind of systems does Aneko design and build?

**Ricardo Prevoo:** Aneko designs food and beverage processing equipment that start at raw material reception to the final product. We have more than 30 years of experience and a team with more than 100 years of combined experience in different areas of expertise. We specialize in processes under strict sanitary design for products like white or flavored milk, UHT or PMO, ice creams, yogurts, milk-based beverages, juices, carbonated beverages, teas and similar products.



**Q: When creating your system designs, what digital tools do you utilize to help your team increase process and project efficiency?**

**Ricardo Prevoo:** We use Autodesk software for the mechanical, electrical and pneumatic design of our equipment and for greenfield and brownfield turnkey projects. For instrumentation selection, we utilize the configuration tools provided by Endress+Hauser, which gives us instant access to instrument specifications and pricing.

Having Endress+Hauser's 3D library for the design process of our parts has lowered design times by up to 25% thanks to the high degree of detail present in the library models and has allowed us to reduce errors in the installation since the models have already been validated by Endress+Hauser. We also use the Endress+Hauser mobile



operations app to access instrument information, either installed by us or already present in the plant, by just scanning its serial number.

**Ola Wesstrom:** Endress.com includes a function to save baskets that contain all standardized or preferred instrument configurations, this greatly reduces time needed when providing estimates as this process eliminates waiting for quotes or technical data.

**Q: What benefits do end users experience when using your systems?**

**Ricardo Prevoo:** For example, our 6-line Contiblend (in-line blender) for the final syrup of carbonated drinks must work in accordance with the highest precision standards to be able to keep the product in the range stipulated by the specification, which is the reason we use Endress+Hauser flowmeters. The precision and repeatability are key to achieving the performance of the equipment which result in savings on raw materials. Contiblend has a process capability index (Cpk) > 5 even though the minimum required is Cpk > 1.33, and, depending on working conditions and time, it can even achieve Cpk > 10.

Beverages normally have production variation ranges of 5% for acidity and color, or 0.15 degrees Brix (sugar content), in the final product and with our equipment the end user can obtain up to 80% improvement over those numbers, allowing the parameters to be as close as possible to the set point configured in the equipment, working with a much lower tolerance.

As an example, in one case of study in a client plant, running in continuous operation without manual intervention, it's been proved to be able to save 20% over the acceptable variation range of the elaboration of final syrup representing savings of \$346,000 in one year working with a flowrate of 60,000 LPH (liters per hour).

This type of system works with zero losses given that the start and end of production can be compensated with the use of a buffer tank as small as 600 gal for a line of 72,000 BPH (bottles per hour).

**Q: You mentioned Endress+Hauser Promass Coriolis flowmeters, can you elaborate on the importance of quality, accurate and repeatable measurements from an end user's perspective?**

**Ricardo Prevoo:** The importance of the Cpk value is vital for the end user, and the correct measurement of flowrate and density of each of the lines is key for the optimal operation of the Contiblend.

Because of the correct and dependable measurement of these variables, assuring the optimal operation of the



equipment, manual input and supervision is greatly reduced. In a matter of minutes, an operator can select the recipe and start production vs. traditional systems where operators formulating one batch of final syrup can take up to two hours per batch depending on the volume to produce. This frees up a lot of time and operators can be managing other tasks driving productivity. The reduction of time needed by the operator to run the equipment is significant because it doesn't depend on the production volume. The equipment can be working for 24hrs without user interaction, whereas before, one operator was needed per batch every three shifts.

**Q: What data are end users getting from the flowmeters and how are they using it?**

**Ricardo Prevo:** Contiblend has an independent auto-checking system for each mixing line that recirculates and checks that the density is correct on that product/concentrate. This is because there are many situations that can lead to a mix of product and water (e.g. lines that are pushed using water, final CIP cycles that are not correctly drained, among others) which would lead to quality and safety issues and high losses.

**Ola Wesstrom:** Both the correct measurement of mass flowrate and density are critical for blending applications. In blenders with different concentrates, each line must have an exact density value to be able to start production and maintain quality parameters.

**Q: How important is it to standardize equipment and instrumentation? What are the benefits for end users and for Aneko?**

**Ricardo Prevo:** Standardization is key for us, mainly for the following reasons:

- For Aneko, the work time that we save on engineering by being able to reuse the same components allows us to have shorter delivery times.
- For the end user, they don't have to worry about using new equipment, since the hardware and the engineering involved is well tested and proven to be reliable and that allows our equipment to save product and reduce losses. The result is equipment that has been tested for years and that has produced millions of gallons of product in some of the biggest companies in the world.

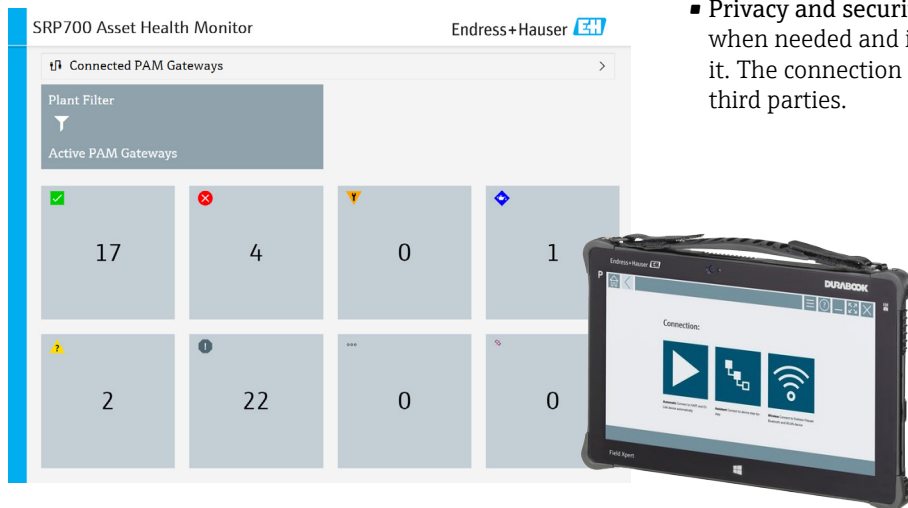
**Ola Wesstrom:** Spare parts are a large expense for processors, by standardizing and streamlining components, inventory can be drastically reduced. The other aspect is training for maintenance, with common configuration methods and tools, the effort and time required for skill building is optimized.

**Q: During challenging times, when on-site visits aren't permitted or as frequent, how does Aneko support end users with maintenance of their systems and instrumentation?**

**Ricardo Prevo:** We offer support through different tools to be able to meet the different needs of our clients. Utilizing a remote connection, we can connect directly to our equipment, check parameters, configurations and modify part of the software if the end user needs it. We can also assist with the operation of the equipment and see what the operator is observing on their screen.

All of this is done using a secure internet connection and is only possible when the client enables it. In the future, we are planning to implement a direct connection to the different components in order to have more information about how each component is working and to be able to further analyze this data for preventive maintenance.

**Ola Wesstrom:** Endress+Hauser's SRP700 asset health monitoring platform provides an easy to use dashboard for operations and maintenance to identify issues early to ensure quality production and schedule preventive maintenance where needed. In addition, Endress+Hauser offers remote capabilities so customers can utilize the phone in their pocket or via the Field Xpert SMT50/SMT70 with camera connectivity apps for fast and cost-effective support.



### Q: What are the benefits for end users to allow remote access to their systems?

**Ricardo Prevoo:** The main benefits are:

- **Reduced service cost.** With remote service, there are no travel expenses, allowing for a lower service cost for the end user.
- **Possibility to have a process specialist at any moment for support.** The end user can request to be assisted at any moment by a processing specialist in the production and answer any questions they may have.
- **Assistance time.** Remote services are faster, allowing the end user to have an engineer working on their solution sooner. With this, the end user can significantly reduce downtimes. Often, the problems are simple, like an operative issue, and they can be resolved much faster through a remote connection.
- **Privacy and security.** The connection is only available when needed and it is up to the end user when to enable it. The connection is encrypted and cannot be accessed by third parties.