

## **AERprogress creates more sustainability**

AERZEN optimises operation, maintenance and energy demand with new IIoT platform

**With AERprogress, AERZEN is bundling its expertise in process air generation as a scaled IIoT solution. Behind this is the sustainability goal of improving energy efficiency based on operating data and also taking a big step towards predictive maintenance.**

Much is already available - especially in terms of operational data. What is missing is intelligent and networked processing. AERprogress, the new IIoT platform from AERZEN, starts precisely there: profitable information for efficient and reliable operation is created from existing machine and sensor data. This statement is reflected in the current trend topics in blower technology: energy efficiency, monitoring and predictive maintenance. Instead of supplementing process air packages with costly sensor technology at this point, AERprogress primarily uses the signals and operating states already available via the control system. Supplemented by a few additional sensors, statements can be made about failure probabilities, operating states, trends and optimisation possibilities.

AERprogress has a modular structure with a view to different application scenarios. The basic module "Machine Park Management" includes, among other things, live monitoring for spatially independent online plant management. With the goal in mind of not leaving ideal lines once they have been found, real-time reports at the push of a button as well as detailed maintenance and servicing protocols are part of the functional scope. All in all, the basic "Machine Park Management" package provides tools with which the availability and utilisation of all connected machines can be analysed and adjusted - all under the premise of the greatest possible transparency. "We are talking about a fundamental optimisation of operations that includes intelligent strategies for efficient maintenance as well as plannable maintenance," explains product manager Jan Maksel.

Building on this, AERprogress includes the platform module "Condition Monitoring". With the permanent recording and evaluation of machine conditions, statements are possible as to when maintenance work should be initiated. The complex consideration of cause-and-effect relationships between the

most diverse components within a process enables the complete condition assessment of all technical systems. Jan Maksel: "The service package is conceptually designed to avoid high prevention costs due to machine downtime, maintenance effort and redundancy." A classic example of condition monitoring in process air is bearing monitoring with the help of temperature and vibration sensors. The frequency curves generated in this process are so precise that they can be used very effectively to assess the condition of ball or roller bearings.

Operational optimisation in the network and condition-based maintenance: energy efficiency is all that is missing to make the IIoT platform from AERZEN complete. The "Energy Management" module includes machine factors that influence consumption. These include intake temperatures, differential and intake pressures as well as the condition of filter cartridges. On this basis, the module shows excess consumption, analyses load profiles, makes suggestions for energy efficiency and compares actual and target situations. Factors influencing the calculations are load curves, load distributions, downtimes and compound efficiencies.

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## **The company**

Industrial plants all over the world are provided with gaseous media using AERZEN blowers and compressors. The innovative AERZEN machine technology represents experience gained over more than 150 years of company history. The range of products includes rotary lobe compressors, positive displacement blowers, turbo blowers and screw compressors. The AERZEN product portfolio is flexible and offers besides standard products customised special solutions. Digital services can be used to increase efficiency, availability and productivity in a sustainable and future-oriented manner. In addition, AERZEN After Sales Service offers the whole range of services - from full maintenance contracts to repairs and modernisations of existing plants.

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