

# Sustainability that pays off.

## Safety at work 4.0: A sensor monitors and regulates air in Caritas workshop



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For companies, Industry 4.0 is still a dream of the future. The use of the room monitoring system Airtracker Basic by TEKA in a Caritas workshop shows how digitised solutions put prevention at industrial workplaces of metalworking on a new basis. The digital monitoring system measures and regulates parameters such as dust concentration in the air, helps to save energy and increases efficiency in production.

The Caritas workshops produce numerous shipbuilding articles in their metal workshop in Papenburg. Around 75 people with and without disabilities stand at the workbenches. Especially in a workshop for people with disabilities, a special duty of care applies to the employees with regard to occupational safety which includes in particular the air quality and noise level at the workplace.

Since 2017 the air monitoring system Airtracker Basic by TEKA has been monitoring the particulate matter and noise pollution in the area of the manual welding stations and welding robots equipped with TEKA FILTERCUBE type extraction units. The multi-sensor system in Industry 4.0 standard serves digital prevention at the workplace by identifying health risks.

The module with traffic light display hangs visible for all from the ceiling of the hall. It measures the individually adjustable threshold value as well as the preset general dust limit value for the alveolar fraction of  $1.25 \text{ mg/m}^3$ . If these are exceeded, the signal lamp switches to yellow or red. The device which has been tested and certified by the Institute of Air Handling and Refrigeration not only triggers the alarm, but can also intervene automatically in conjunction with actuators such as extraction units. If the limit values are exceeded, the filter units can be controlled fully automatically and when using a frequency inverter

their performance can be raised and lowered as required. Thus the device assumes an important control function in the manufacturing process and helps to reduce energy consumption. In addition, the measured values can be used as evidence for certifications or for professional associations.

The multi-sensor system is also equipped with additional sensors for measuring room temperature, humidity, process control and fire detection which are necessary for safe and efficient working and for optimum machine and energy use.

### Facts:

- More climate protection through reduced energy consumption
- Interacting machines improve resource management
- Interacting units relieve employees



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