ZENON AS AN EARLY WARNING SYSTEM IN AUTOMOTIVE PRODUCTION

Reduce Production Losses in a Targeted Manner

Today, automotive production is characterized by large, global production and logistics networks. Production downtime comes at a high financial cost. It is therefore all the more important to react quickly to interruptions and deviations from the plan and be able to introduce efficient reaction mechanisms and countermeasures.

A PRODUCTION FACILITY FREE OF PROBLEMS – that's the dream of every automotive manufacturer: no interruptions to production, short and plannable lead times, no waste from defective products. This would guarantee reliability and a stress-free working environment. At the same time, the quantities produced could be planned and controlled with absolute accuracy. This absolute freedom from interruption does not exist of course, but there are means and methods to achieve shorter lead times and to limit downtime to a minimum. With zenon, automotive manufacturers can implement rapid-reaction fault management and implement dashboards that always show all current key performance indicators (KPIs) in a clear overview.

AN EARLY WARNING SYSTEM WITH ZENON

If automotive manufacturers implement their fault management with zenon, they are not only able to detect problems in a production line at an early stage, they can also communicate them to neighboring equipment or equipment areas along the entire production chain. Therefore, all other manufacturing employees can be informed of a possible production standstill and the likely duration of the problem – even before it occurs. An example: in the event of the equipment coming to a standstill, zenon shows a 15-minute stoppage of the equipment in question on the zenon client, on the basis of having determined the average duration of similar stoppages. Depending on how full the buffer is, this problem may affect other equipment, both upstream and downstream. zenon can now calculate the duration of the interruption that may occur on neighboring equipment, based on the information available. The production managers involved can instantly see the mean values of the interruption time displayed on their zenon clients.

The affected decision-maker has, as a result of this information, sufficient time to consider suitable measures in case the interruption occurs. This might be a group meeting, a break, equipment cleaning, TPM, autonomous maintenance, replacement of spare parts, etc. in order to use the expected downtime effectively.

INFORMATION – AT ANY TIME AND EVERYWHERE

In production, and in fault management too, it is important that a consistent flow of information is guaranteed. Regardless of where the people in charge are, they must receive all relevant information in real time. COPA-DATA ensures the necessary platform independence here and thus enables timely reaction: with the Everywhere App by zenon, managers can have all the information that is relevant to them, such as equipment status and production figures,

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displayed on end devices such as smartphones, tablet PCs or smart glasses. Logging in to the zenon Everywhere server with their user name and password is all that's required to access user-specific data. When incorporating this mobile solution into existing infrastructure, all common security functions are supported.

KPI-BASED OPERATION

However, it is not just rapid-reaction fault management that is the basis for short lead times, but also the constant monitoring of decisive KPIs such as the degree of usage, overall equipment effectiveness (OEE), the rate of defective units and employee productivity. These figures provide production managers with information about the efficiency of production at any time. With zenon, automotive manufacturers can prepare these figures and thus form a "single point of information", which contributes significantly to an increase in effectiveness.

INDIVIDUAL FIGURES FOR DIFFERENT TARGET GROUPS

In production, there is a massive amount of data generated, every hour of every day – with a different degree of relevance for the target groups such as production manager, maintenance worker, service technician, etc. For the production manager, the quantities produced or the defective waste goods that were produced are most relevant, because they can and must have a direct influence on these results. In contrast, senior management is interested in plant-wide, key financial figures that reflect both current productivity as well as competitiveness.

However, each key figure considered in isolation does not form a well-founded basis for a decision. These figures must be put in an overall context so that production managers can make the correct deductions and implement the correct measures. The OEE comprises, for example, three key figures: availability, quality and output. This means that there are three things that can be adjusted that can change overall equipment effectiveness significantly. zenon displays complex interrelationships of this kind in a real-time synchronized management cockpit – accessible at any time and in any place by the appropriate target group.

HERMANN OSWALD,
KEY ACCOUNT MANAGER
AUTOMOTIVE

zenon as an early warning system – your added value

EXAMPLE / ASSUMPTION:

Production line in automotive production;
6-3 model (three-shift operation)
Cycle time = 1 min; amount of downtime (≥15 min):
1 period of downtime (≥15 min) in each shift

OPPORTUNITY: ADDED VALUE IN QUANTITIES (UNITS)

1) +15 units with one period of downtime (≥15 min) per shift *
2) +270 units per week with one period of downtime (≥15 min) per shift *
3) +1,080 units per month with one period of downtime (≥15 min) per shift *
4) +14,040 units per year with one period of downtime (≥15 min) per shift *

* as a result of taking action early (e.g. TPM) or effective use of the downtime.