Data storage on request

Manage data as needed with Recipegroup Manager

The digitalization and modernization of processes often involves converting information on paper to digital format. With the zenon Software Platform, this data can be securely managed and clearly presented to support equipment operators in their tasks. In this way, the zenon Recipegroup Manager (RGM) saves and manages a variety of information in one place.

The zenon RGM module is deployed successfully in many industries and covers a range of requirements in the food and beverage and pharmaceutical industries. Recipegroup Manager is also being increasingly used to meet specific project requirements in the automotive industry.

RECIPEGROUP MANAGER IN AUTOMOTIVE MANUFACTURING

The use of recipes in the automotive sector often resembles "conventional" recipe management. Recipegroup Manager defines recipes as a collection of variables, the values of which, like data records, are stored centrally in a database. These recipes can be viewed, similarly to data records, in a database. The related values are stored in these data records. The controller affiliation for the variables in a recipe is irrelevant, so recipes can manage values for different controls or systems. The variables are only transferred on request. This means that the values are written to the recipe or read from the recipe based on an operator action or a defined event. The recipes in the RGM are organized using what are known as recipe groups. All recipes in a recipe group contain identical variables and therefore have the same structure. However, individual recipes from a recipe group have recipe-specific values. The functions of the zenon module vary: recipes can be read or written, values saved in the recipe can be compared with online values, and the data can be exported and imported. Recipe version management or user administration can be integrated to meet additional requirements.

DATA MEMORY IMAGE WITH ZENON

Recipe management is often used when storing controller values offline. The zenon module is used, in this case, to provide a snapshot function for selected values from controllers. After specific settings have been configured in the PLC with the associated programming environment during equipment commissioning, it may be desirable for these parameters to later be changed by the user without expert software. RGM comes into play to manage the information in this way without the need to program software. The zenon project for these systems would be expanded to include Recipegroup Manager. The configuration data from the controller is mapped with zenon variables. These variables are organized in a recipe group. With the zenon function "Read recipe values", the variable values are recorded at the push of a button. Now these values can be processed further with zenon. For example, they can be saved in a recipe data record. When storing data, the recipe data record can be provided with a version number, if necessary. The information stored in this way – regardless of the controller – will be available again later. If the settings need to be modified due to changes in the system, this can be done using the zenon user interface. One way to do this is to use a recipe group screen in which the recipe tags can be edited in a list. Alternatively, there is also the option of mirroring the recipe values to "graphical recipe variables". With these variables, the recipe values are displayed in normal operating screens, and the familiar look and feel is retained. Entries in the graphical recipe variables are transferred to the recipe when the zenon RGM function is launched.

## MORE TRANSPARENCY WITH THE COMPARE FUNCTION

By saving the settings with Recipegroup Manager, the stored values can be restored quickly and easily in the event of data loss at the controller (e.g. due to controller replacement). The zenon module even offers a compare option: the saved values from the recipe and the current values from the PLC are compared with each other, and the differences are displayed on the zenon screen. This highlights the differences between online and offline values. The zenon module also increases safety when testing different settings. A "restore" function to quickly revert to the parameters configured originally is possible and the changes made are clearly indicated by this compare function.

CASE STUDY WITH CONVEYOR TECHNOLOGY

The manufacturing information recorded using this method can be passed on with the zenon module, similar to a gateway. The following case involves conveyor technology: at certain points in the route (for example, switches), the vehicle data transported over it must be recorded and saved for long-term tracking. To do this, the reading points' data record is mapped to recipes. The online values are written to the recipe and saved on command. Storage takes place exclusively based on the event. This eliminates the additional, redundant data that would result from cyclical storage. The recipes are then exported as a complete data record for further processing to archival or logistics systems. A recipe is saved as an XML or text file and the file name can be generated automatically. Thanks to the transparent structure of the export files, nothing stands in the way of further processing this information.

INTUITIVE USER INTERFACE TO MANAGE EQUIPMENT INFORMATION

Recipegroup Manager is also suitable for use in machine data management. A large amount of data is required to configure and operate machines and equipment, and this data is often stored at different locations. For example, a copy of the electrical diagram might be found in paper form in a control cabinet. The setting parameters selected
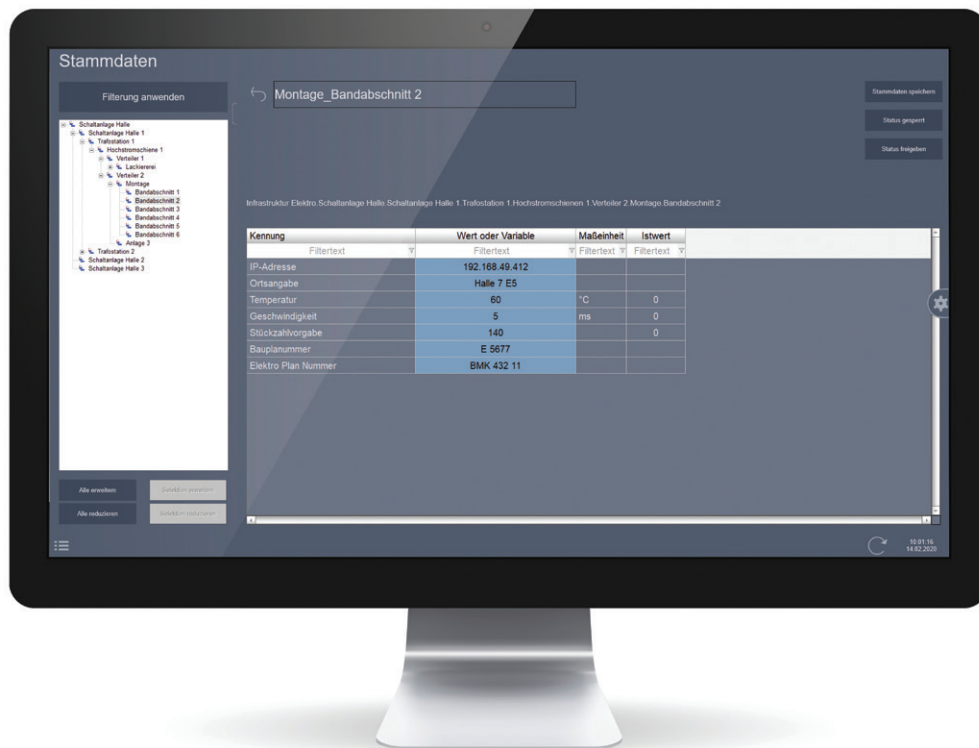
Focus on important equipment parameters.

during commissioning are in the acceptance report. Network addresses and position designations can be found in plant plans, while specific tool settings are managed in datasheets. However, with zenon Recipegroup Manager, all this information can be stored centrally and presented in a structured manner. This increases ease of use and makes it simple to find the information you need.

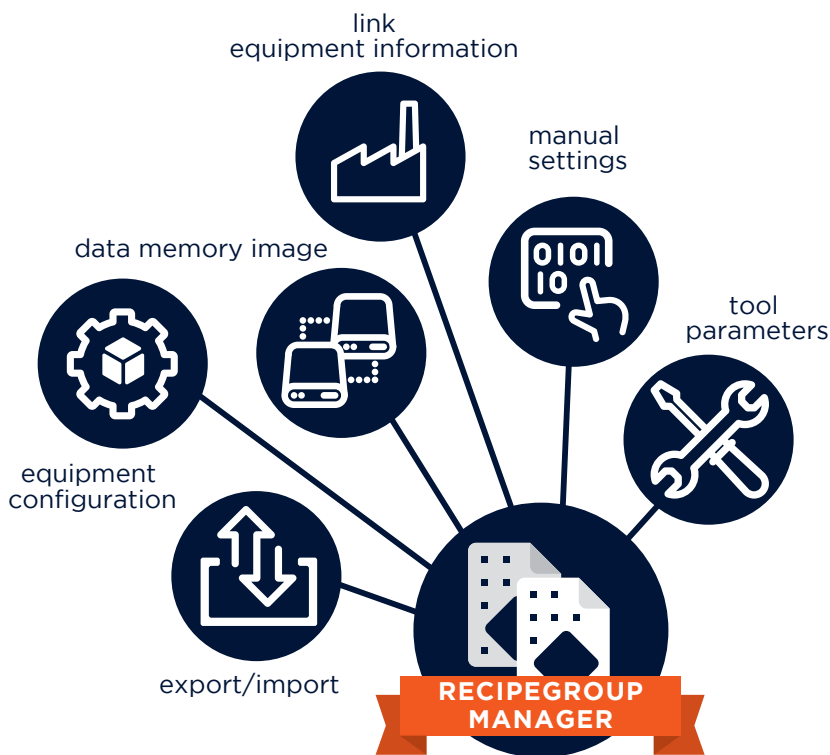## KNOWLEDGE DATABASE WITH REPORTING FUNCTIONS

Machine data management with zenon can be used like a knowledge database. It functions as a kind of online encyclopedia for the maintenance engineer. By using different data types for the recipe variables, all information related to the systems can be saved. For example, the link addresses (path and file name) to the PDF versions of the system documentation or the electrical diagram can be stored in string variables. The zenon HTML screen is used to display these PDF documents. The screen switching function navigates to this screen, where the address/URL from the string variables can now be used. The content of the PDF is now displayed embedded in the zenon project. If necessary, this data record can be exported again. Depending on the application, a transparent XML or text file can be created for this. zenon reporting also enables the graphical preparation of a report that can be saved as a PDF file or sent by email.

When changing tools on a machine, the settings are transferred quickly and reliably via the related recipe. Equipment configurations can be managed and optimized at a central point. Corresponding reports enable the output and, if necessary, the electronic transmission of all parameters as a digital document.

A TRAIL GUIDE FOR YOUR DATA RECORDS

The zenon equipment model can be linked to allow for navigation within data records and recipes. Different production structures can be mapped using the equipment

link
equipment information

manual
settings

data memory image

tool
parameters

equipment
configuration

export/import

**RECIPEGROUP
MANAGER**

Wide range of applications in automotive production.

model. For example, you can store a model according to the location, the cost center or the technology and then link it to the data records. In this way, users can find the way to their data records with the model of the location in the same way a hiker might use a trail map. Users navigate through the structure following the same "route" as if they were going to the equipment. The equipment model records, with cost centers, all the relevant information, pre-filtered for the respective manager.

ZENON: BRINGING PRODUCTION DATA INTO ORDER

Even sophisticated equipment and production processes must be controlled easily and safely. With Recipegroup Manager, parameters for products, tools or control parameters can be managed centrally. Equipment, or even complete lines, can be quickly, easily and safely converted to reflect necessary adjustments. Ease of use and maximum security form the foundation of Recipegroup Manager. All production-relevant default values are clearly arranged in a list and can be transferred to the controller by means of an operator action or automatically. The integrated versioning and status management allows users to make a recipe's entire lifecycle available. As a result, zenon RGM provides efficiency and security for production.

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