



# Quickly backup disk images

## Automotive supplier uses versiondog as a central tool for their maintenance

**The following case study is taken from a production facility of an automotive supplier that recently was recognized for its predictive maintenance by the state of Baden-Württemberg. The company uses the data management system versiondog.**

The benefits of a highly integrated production facility include short distances, concentrated expertise, and integrated structures. It doesn't matter whether we are talking about an automotive supplier, a producer of consumer products, or a broad-based, medium-sized company. All companies are united by the pressure to have a tightly integrated supply and order chain. In order to meet the demands that come with this, companies are restructuring their production facilities, so that maintenance is given top priority. Two important aspects of this include preventative maintenance and reduction of planned and unplanned downtime.

In order to keep interruptions to production at a minimum, the leading automotive suppliers have structured their international supply chain to include maintenance. In addition to numerous organisational benefits, this structure also has an added advantage in that it helps to ensure that urgently needed spare parts are available throughout the entire network, not just at local production sites. The aim here is to achieve a fast response time with regard to troubleshooting. The Industrial Internet of Things and Artificial Intelligence are also

playing increasingly important roles.

Each production facility has its own maintenance team, which is organised into a hierarchical structure within the network. There is a central data system for networked manufacturing and logistics. versiondog, the version control and data management system from AUVESY is a part of this system. It stores software versions, parameters, backups of the controllers, and the change history. In the event of failure, versiondog helps to ensure that the requisite data can be restored and then downloaded back on to the machine.

The system has been in use at the site since 2011. Prior to its introduction, there was already a version control process in place for software versions and parameters. And the task of documenting WHO changed WHAT, WHERE, WHEN, and WHY has long been in practice. The main purpose of bringing in versiondog was to correct errors faster. The focus isn't on the errors per se, but rather problem solving. Because of this no employee feels controlled by the documentation.

**Always know what data is running on a device**

Unplanned downtime was the trigger for integrating versiondog. This occurred when data from the programmers was not properly saved and, in the aftermath of a defect that followed,

only outdated project versions remained available. The downtime lasted for several days. “You couldn’t be sure whether the software version was the same as the one running on the machine,” says the team leader of the electrical and software construction at the production of manufacturing equipment.

This was due to the fact that predominantly real-time systems (or soft PLCs) are used for manufacturing at the company. The team leader explains: “When it comes to hard drive backups only the compilation is backed up. In order to be able to carry out changes at a later date, the source code is required. This is where versiondog comes into play.”

“The easier it is for the maintenance team the easier it is for our colleagues to concentrate on problem solving. With automatic image creation we gain an immense amount of extra time. And thanks to regular comparisons between program data and data on the server the currentness of the data is remarkably good.”

Team leader of the electrical and software construction at the production of manufacturing equipment

Important components and production data are backed up daily using jobs. When it comes to the production of manufacturing equipment there are 1300 jobs, of which 200 are Codesys controller jobs. versiondog checks whether the data on the server is the same as the data running on the machine. Any detected differences that are detected will be reported in an automatic email. According to the group leader, this function is worth its weight in gold and he is very pleased with it: “The Industrial Internet of Things and the increase in networked environments plays well into our hands. We can use it to connect ever more components to versiondog and greatly benefit from the positive effect that automated data comparison brings.”

For several months now, ‘Auto-Imaging’ has been introduced. versiondog functions as a scheduler that triggers Drive Snapshot to create disk images (i.e. an image of an entire hard disk). Every month, an “Auto-Image day” takes place, on which a restorable disk image is created for each of the 450 Windows computers. This is not without its challenges as, for security reasons, each production area has its own isolated network. There is no direct means of accessing a production area via the office network. versiondog’s upload & compare agents



add-on helps to resolve this issue by enabling authorised users to connect to the device or machine and access machine data.

#### Carefully implemented: scripting and image creation

AUVESY is excited about this user case study, even if it doesn’t exactly correspond to the tasks that versiondog is usually given. “This is certainly not the usual way that the software is used and could only be realised because the customer made good use of versiondog scripting,” confirms an AUVESY spokesperson. The created images are not stored in versiondog, but rather are stored on a file share, after they have been run through a thorough virus test. Once this has been carried out, a link that connects to the storage location will be created and a version of the same link will be created in versiondog. When a member of the maintenance team checks out this link they will be able to access the image. For those in charge easy maintenance is very important: “The easier it is for the maintenance team the easier it is for our colleagues to concentrate on problem solving.” The search for the location of the image should not be a hindrance. “Each month, a new disk image is checked into the server. In addition, versiondog also provides us with a change history that helps us to confirm that the process of creating an image was successfully carried out.”

It is the aim of electrical and software manufacturing at the production manufacturing department to use all versiondog add-ons and features to their full potential. “We could use the ExportModule to prepare job results for the daily meeting about the production line,” says the team leader. “In this instance, we are talking about key performance indicators that have been visualised in our company’s internal IoT tool. The Export Module allows us to combine data taken from that tool with the results of the versiondog data comparison.



This would help us to ensure that no errors are overlooked in the daily routine and that the right software is used for production.” Together with AUVESY, a new add-on was developed with which the components could be linked and used to define default building blocks for the production lines.

Our team leader is very enthusiastic that our concept for data backup and version control could be used as a blue print for other locations and production facilities.” At present, each production site has its own strategy. But the production facilities continue to be optimised for Industrial Internet of Things. The corresponding connectivity is indispensable in the procurement of new machines and systems.

**Easy maintenance thanks to versiondog**

What are the potential benefits of versiondog? “With automatic image creation we gain an immense amount of extra time.” There is, however, nothing really new when it comes to versions, backups or scripts. “The greatest ad-

vantage lies in the fact that everything is coordinated via one centralized tool. Moreover, the data quality in versiondog, i.e. the currentness of the data, is remarkably good thanks to regular comparisons between program data and data on the server.” This is the only way that maintenance have a chance of quickly restoring the original plant state in the event that an automation component fails. With approx. 14,600 versiondog components at the factory, this saves enormous time and makes work easier. The some 200 users work with different access rights, from “read only” to administrator rights. The majority can only login, in order to view the status and change history of machine or device. Maintenance team members and software developers have far more extensive access rights. This kind of transparency was very important to the team leader. Everyone should have access to versiondog in order to retrieve stored information.

Suppliers with more frequent assignments can be granted access as “domain users”, with whom they can work directly in versiondog. Those involved in contracting machines are also given access to the machine they are working on. Such instances are not a rare occurrence. “It is only possible to continuously improve if we constantly analyse and optimise the settings of the machines and systems as well as software and hardware.”

In conclusion, the group leader explains that “versiondog is not solely a solution for large companies. Thanks to our structure, we certainly are able to use versiondog more extensively and in different ways than others do. Depending on the importance of the machine for production, one defect is enough to result in high costs. In this way, even smaller production facilities can benefit greatly from versiondog.



## About AUVESY

AUVESY (AUtomated VErsioning SYstems) is the world's leading version control & data management system for automation. The company has grown steadily since it was founded in 2007 and it continues to go from strength to strength.

With a team of around 80 employees and 30 international sales partners, AUVESY looks after more than 700 customers from across the industrial spectrum and in more than 40 countries.

Over 900 versiondog software systems are currently in place helping customers to safeguard their data, simplify their data management and optimise their workflows.

### German Office

AUVESY GmbH  
Fichtenstraße 38 B  
76829 Landau in der Pfalz

P +49 6341 6810-300  
F +49 6341 6810-311  
E [info@auvesy.com](mailto:info@auvesy.com)  
Web [www.auvesy.com](http://www.auvesy.com)

### US Office

AUVESY INC  
146 Monroe Center St NW  
Suite 1210

MI 49503 Grand Rapids  
P +1-616.888.3770  
F +1-616.888.3769  
E [info@auvesy.com](mailto:info@auvesy.com)  
Web [www.auvesy.us](http://www.auvesy.us)