



Automotive Manufacturer Case Study

Speeding up S7 Firmware Updates using versiondog Factory Floor Status

In the production facility of one particular German automotive manufacturer, SIMATIC S7 firmware updates previously required a great deal of time and represented a huge organizational challenge.

These updates are rolled out frequently in order to fix device errors. Each time, the same questions were asked: “Which firmware and hardware is installed on which PLCs? Which devices will actually be affected by the update?” Before versiondog Factory Floor Status, this information was recorded manually using Excel. Every time an update was announced, the relevant data had to first be updated by hand. The process can be long and arduous, particularly if there are many PLCs and CPUs in use.

This particular automotive manufacturer uses around 800 PLCs across an area of 7000 square meters. Large sections of the facility were difficult to access and maintenance workers also had to deal with barely visible CPUs. The facility even had to be partially shut down just to read the devices’ MLFB numbers.

versiondog for Automatic Backups and Version Control

versiondog has been used for version control and backups for the facility’s many automated devices for more than four years now. The system has become an indispensable maintenance tool and ensures complete documentation and traceability of all changes made to PLCs, CNCs, HMIs, robots, and SCADA systems as well as the central management of projects or programs. With automated backups, the data from ongoing production processes is backed up on a regular basis. If this data is deleted, overwritten, or a particular device fails, then the most recent version is always available from a central location and can be restored at the push of a button. versiondog has now become the gold standard for quality throughout the entire plant. Around 2,500 components in the press shop, body shop, paint shop and assembly facilities are backed up on a daily or weekly basis and compared with the versions stored on the central server (online-offline comparison).

Introducing versiondog Factory Floor Status

In an effort to reduce the work involved in firmware updates and to increase overall efficiency, this automotive manufacturer decided to look for a software-based solution. They found versiondog Factory Floor Status.

In a networked production facility, Factory Floor Status ensures a reduced workload, more streamlined processes, and an accurate, factory-wide overview with no manual transcription errors. The system lists all PLCs with their associated MLFB numbers and firmware/hardware states in an easy-to-read table. With the search and filter functions, users can search for specific MLFB or assembly numbers, which saves a great deal of time. The system also helps to prevent errors that occur when outdated firmware goes unnoticed. The automated display of this information prevents errors caused by manual transcription and means that Excel-based paper documentation is no longer necessary.

The maintenance manager, who is also the versiondog administrator, said that when it came to using Factory Floor Status, colleagues needed no persuasion. “Everyone said the same thing – ‘this software is great’” he said. “A quick look at Factory Floor Status and a maintenance worker can easily tell whether or not they will be affected by a firmware error.”

The clear, reliable overview and distinct outline of the plant’s structure mean that workers take responsibility for their own part of the plant and can work independently of higher-ranking departments. This has greatly increased employee motivation and dedication.

versiondog isn’t viewed as a monitoring system for individual performance, but rather as a secure foundation for data availability and storage.

Predictive Maintenance with versiondog Factory Floor Status

Factory Floor Status provides even more production-related information which helps to increase efficiency and saves time and money. The ability to check the battery status of devices, for example, helps prevent data loss in the event of a power outage. As the battery life is often somewhat shorter than officially stated, this means that low batteries can be replaced on time to prevent stoppages. This also has a positive effect on storage, as it makes it possible to calculate and plan the required number of replacement devices (PLCs) more precisely and with a greater degree of certainty.

In the paint shop, where forced values are frequently used, the Factory Floor Status Add-On plays a particularly important role. Forced values are temporary settings that are reset at a certain point in time. With a wide variety of devices and settings, however, it can sometimes be difficult to keep track. Factory Floor Status therefore acts as an automatic reminder and notifies the relevant maintenance worker of where and when forced values have been set.

To proactively optimize process and facilitate monitoring in the facility, the system also provides information on RAM usage and cycle times. During plant construction, and later in the life cycle during plant expansion, these values can be used to identify unnoticed errors or exceeded limit values.

As far as cycle times are concerned, this particular automotive manufacturer has a required safety margin of 20%. Due to the information provided by Factory Floor Status, the plant engineer can immediately see where more powerful PLCs/CPUs need to be installed and where adjustments and performance improvements have to be made. In the past, the performance of a production facility would often decrease over time. At some point, this would be an indication that the RAM limit had been reached. With Factory Floor Status, users can now see at an early stage that limit values are about to be reached (or that they have been exceeded) and take proactive measures against this.

Greater Visibility with versiondog Factory Floor Status

The biggest advantage from a global maintenance point of view is that, in addition to this new, device-specific information, the current status of the executed backups can be viewed at a glance. This means that certain data that could previously only be viewed via the versiondog system can now be viewed via the web-based Factory

Floor Status Add-On. In the production facility, maintenance workers will always take a look at Factory Floor Status so they can start work with the most up-to-date information and personally check their own area of the facility.

With the additional display of versiondog system data, it is now possible to immediately see at the start of a shift whether any changes were made in the previous shift, without having to send an additional request via the versiondog client. If there are any errors or uncertainties, the user can immediately track, locate and verify these changes.

Complete clarity and maximum data availability mean that less effort is required and more resources are available for optimization and new maintenance tasks. **Learn more about versiondog Factory Floor Status at www.auvesy.us.**

ABOUT AUVESY

AUVESY (**A**utomated **V**ersioning **S**ystems) is a global market leader in version control and data management for automated production. The company has grown steadily since it was founded in 2007, with its North American headquarters located in Grand Rapids, MI and its global headquarters located in Landau, Germany.



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