

Data management for automated production

Documentation ■ Version control ■ Automated backup



Change Management for
PLCs, CNCs, SCADA systems,
HMIs, robots, drives and
field devices

Key building block for
Industry 4.0

Documentation compliant
with ISO 900x, FDA 21 CFR
11, GAMP, VDA 6.x, and
much more

The challenges in automated production

- A large number of networked and non-networked devices and controllers need to be regularly backed up.
- Multiple shifts result in lack of personnel continuity.
- Internal and external staff frequently make changes to device programs while commissioning, maintaining and optimising production lines.
- Changes to a wide range of different programmable devices need to be properly documented (a process that is prone to error and omission if done manually).
- Quality-relevant setpoints and parameters need to be both monitored for changes and easily restorable.
- Company-wide technical standards need to be introduced and maintained and ways need to be found to check – preferably online – that these are being adhered to by all internal and external personnel.

Lack of complete clarity about which programs are running on which devices at any given point can lead to real problems in automated production facilities. Finding the right version can be very time consuming and any confusion can have an adverse effect on quality and production volumes, or even cause a stoppage.

The answer: a smart data management system!

Is the software now running in production the latest approved version?

Are my device programs (on PLC, robots, CNCs etc.) still being backed up and managed manually?

What will happen if data is lost or corrupted?

Where can I find the current version?

WHO changed WHAT, WHERE, WHEN and WHY?

Do we make backups often enough?



Essential prerequisites for a smart data management system

- The released version of all device program projects must at all times be centrally available, and it must be easily accessible for fast disaster recovery.
- The system must be able to verify that the version of a program running on a device is the same as the released version on the server, and send an alarm if it is not.
- Comparisons must be possible between all versions, right back to the base version (Life-Cycle Management) so that the right version can always be located or setpoints and parameters recovered.
- WHO changed WHAT, WHERE, WHEN and WHY must be clear at all times (change history).
- Automated backups must be possible via the network, but there also has to be a solution for non-networked devices.
- A mechanism must exist to distribute and monitor company standards, including across multiple sites.
- The system must be able to ensure that staff adhere to quality management standards, such as ISO 900x, FDA 21 CFR 11, GxP, VDA 6.x.

Your data management solution: versiondog!

Documentation

- Integrated support for documentation
- Data organised with 100% clarity and traceability
- Change history saved automatically
- Audit trail reports at the click of a button
- No need for manual change notes

Version control

- Consistent management of all software changes
- Difference analysis via SmartCompare and free compare
- Simplified troubleshooting
- Changes displayed clearly and comprehensibly
- Fast disaster recovery

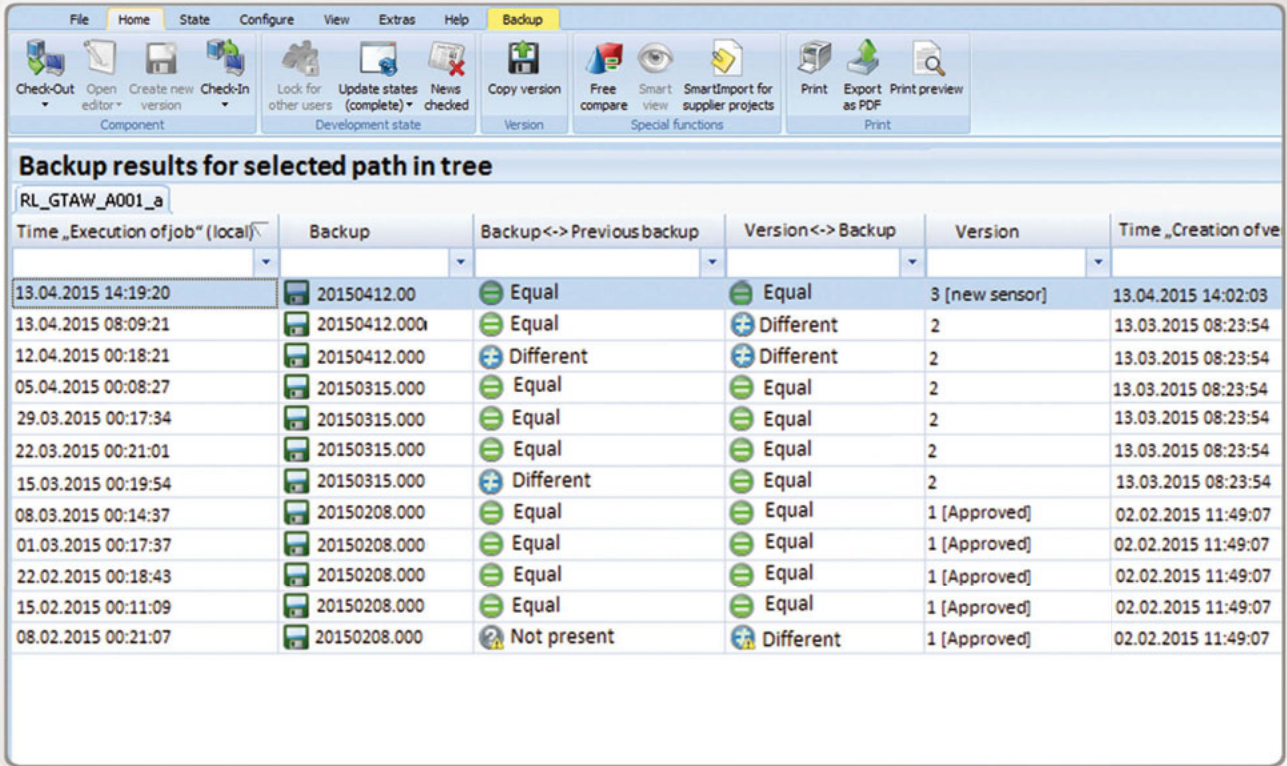
Automated backup

- Data safekeeping and time savings with automated backup
- Automated online - offline comparison
- Alarm where discrepancies found
- Automated backup of non-networked equipment via mobile backup client



Automated backup

versiondog not only runs regular automated backups, it can even make detailed comparisons between the online program and the offline project. That means you can be certain that your automated device programs are current and correct. You always know exactly what version is running in production, and setpoints and parameters can be checked and restored if necessary at any time.

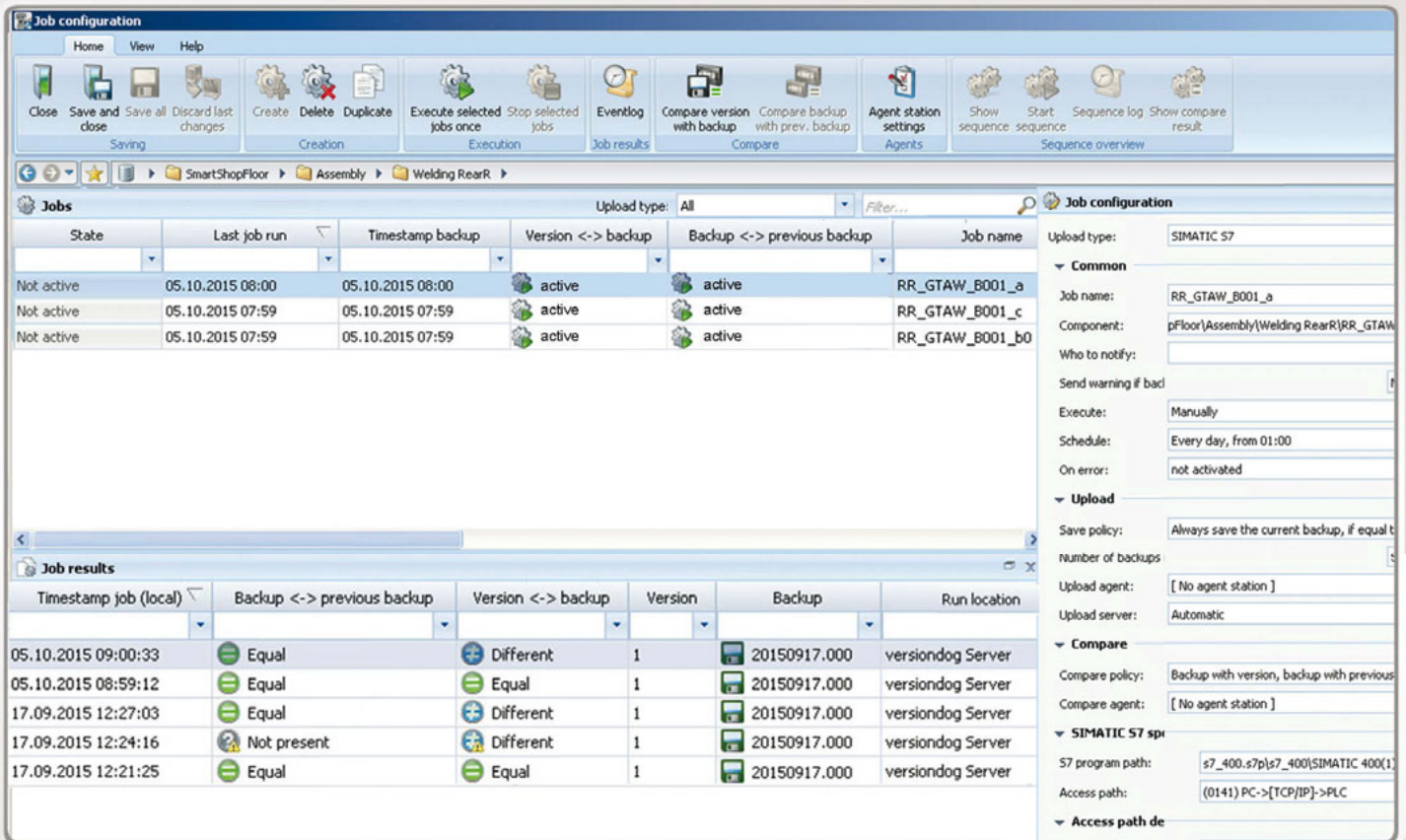


Backup results for selected path in tree
RL_GTAW_A001_a

Time „Execution of job“ (local)	Backup	Backup<-> Previous backup	Version<-> Backup	Version	Time „Creation ofve
13.04.2015 14:19:20	20150412.00	Equal	Equal	3 [new sensor]	13.04.2015 14:02:03
13.04.2015 08:09:21	20150412.000	Equal	Different	2	13.03.2015 08:23:54
12.04.2015 00:18:21	20150412.000	Different	Different	2	13.03.2015 08:23:54
05.04.2015 00:08:27	20150315.000	Equal	Equal	2	13.03.2015 08:23:54
29.03.2015 00:17:34	20150315.000	Equal	Equal	2	13.03.2015 08:23:54
22.03.2015 00:21:01	20150315.000	Equal	Equal	2	13.03.2015 08:23:54
15.03.2015 00:19:54	20150315.000	Different	Equal	2	13.03.2015 08:23:54
08.03.2015 00:14:37	20150208.000	Equal	Equal	1 [Approved]	02.02.2015 11:49:07
01.03.2015 00:17:37	20150208.000	Equal	Equal	1 [Approved]	02.02.2015 11:49:07
22.02.2015 00:18:43	20150208.000	Equal	Equal	1 [Approved]	02.02.2015 11:49:07
15.02.2015 00:11:09	20150208.000	Equal	Equal	1 [Approved]	02.02.2015 11:49:07
08.02.2015 00:21:07	20150208.000	Not present	Different	1 [Approved]	02.02.2015 11:49:07

Automated change management: versiondog

versiondog analyses the data and programs of many different automation equipment manufacturers. Its automated functions help deal with the flood of data and versions in any production environment. versiondog not only manages data centrally, it also monitors and analyses changes in device software. And that includes changes made by external contractors. And synchronisation between versiondog servers enables the distribution and monitoring of company-wide technical standards, including across different sites.



The screenshot shows the versiondog software interface. The top menu bar includes Home, View, and Help. Below it are various icons for file operations (Close, Save and close, Save all, Discard last changes), creation (Create, Delete, Duplicate), execution (Execute selected jobs once, Stop selected jobs), job results (Eventlog, Compare version with backup, Compare backup with prev. backup), agent station settings (Agent station settings), and sequence overview (Show sequence, Start sequence, Sequence log, Show compare result).

The main window is divided into two panes. The left pane, titled 'Jobs', shows a table of job configurations. The right pane, titled 'Job configuration', shows the details for a selected job.

Jobs Table:

State	Last job run	Timestamp backup	Version <-> backup	Backup <-> previous backup	Job name
Not active	05.10.2015 08:00	05.10.2015 08:00	active	active	RR_GTAW_B001_a
Not active	05.10.2015 07:59	05.10.2015 07:59	active	active	RR_GTAW_B001_c
Not active	05.10.2015 07:59	05.10.2015 07:59	active	active	RR_GTAW_B001_b0

Job configuration details (RR_GTAW_B001_a):

- Upload type: SIMATIC S7
- Common:
 - Job name: RR_GTAW_B001_a
 - Component: pFloor\Assembly\Welding RearR\RR_GTAW
 - Who to notify:
 - Send warning if bad:
 - Execute: Manually
 - Schedule: Every day, from 01:00
 - On error: not activated
- Upload:
 - Save policy: Always save the current backup, if equal to
 - Number of backups:
 - Upload agent: [No agent station]
 - Upload server: Automatic
- Compare:
 - Compare policy: Backup with version, backup with previous
 - Compare agent: [No agent station]
- SIMATIC S7 specific:
 - S7 program path: s7_400.s7p\p\400\SIMATIC 400(1)
 - Access path: (0141) PC->[TCP/IP]->PLC

Job results Table:

Timestamp job (local)	Backup <-> previous backup	Version <-> backup	Version	Backup	Run location
05.10.2015 09:00:33	Equal	Different	1	20150917.000	versiondog Server
05.10.2015 08:59:12	Equal	Equal	1	20150917.000	versiondog Server
17.09.2015 12:27:03	Equal	Different	1	20150917.000	versiondog Server
17.09.2015 12:24:16	Not present	Different	1	20150917.000	versiondog Server
17.09.2015 12:21:25	Equal	Equal	1	20150917.000	versiondog Server

Your versiondog advantage - more clarity and certainty

- Identify unauthorised program changes immediately
- Generate change records quickly and easily (for audits, etc.)
- Quickly find the right data needed for disaster recovery
- Simplify coordination and management of external contractors
- Coordinate personnel through user and access management

SmartCompare

With versiondog SmartCompare it only takes a few clicks to get a detailed comparison of any two versions, and an easy-to-understand analysis of differences. It can even display the results of a comparison graphically and in the same familiar way as the editor.

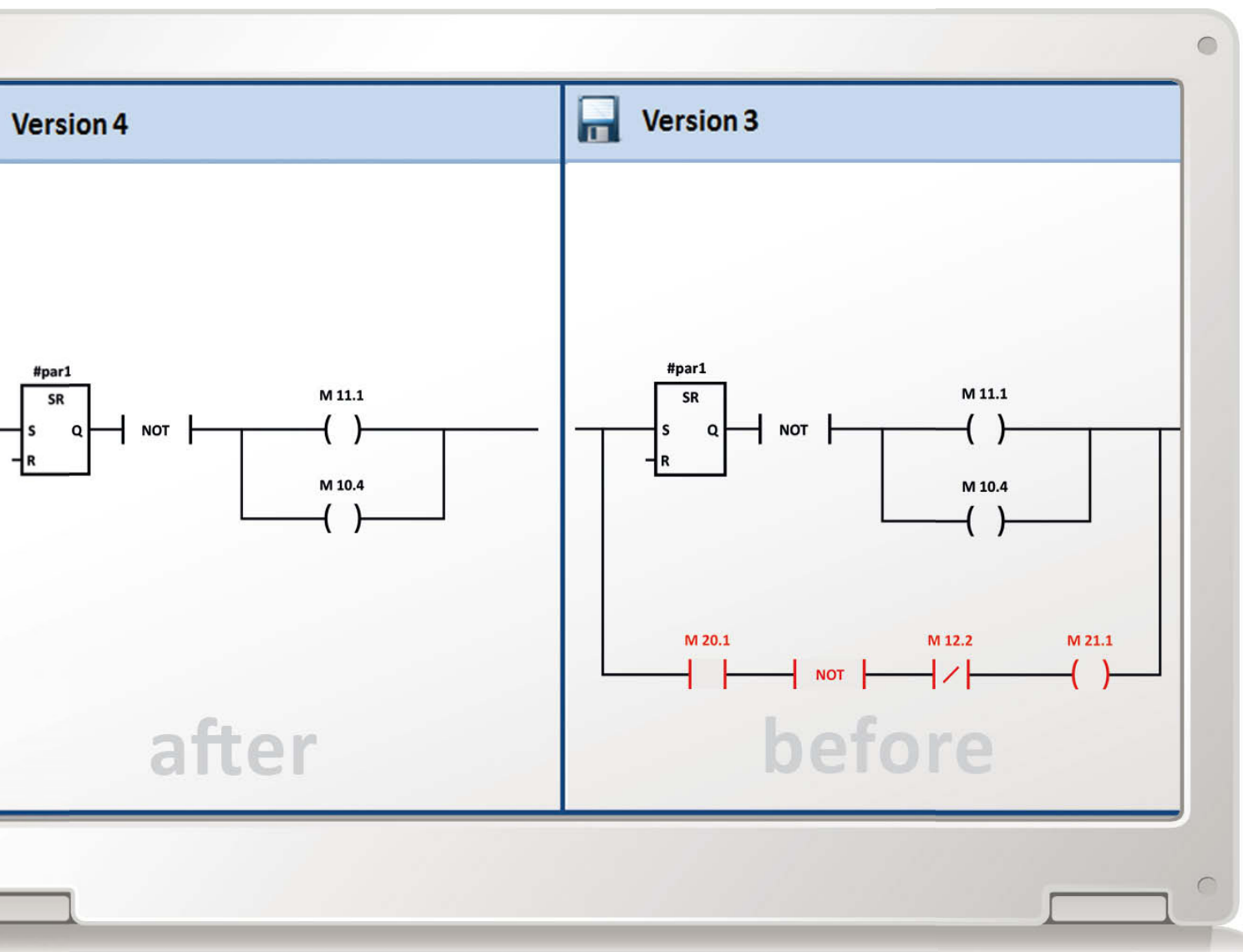
Change history						
Version	Timestamp (local)	User name	Change reason	Comments		
16	10.06.2015 12:56:48	PMayer [Paul Mayer]	Logic extended	New product v		
15	10.06.2015 12:29:31	AGlaser [Achim Glaser]	CR 5889			
14 [Approved 05/20...	29.05.2015 15:43:06	HMüller [Hans Müller]	Approved			
13	11.05.2015 15:40:39	PMayer [Paul Mayer]	CR 8776 (with logic fix)			
12	11.05.2015 15:38:49	HMüller [Hans Müller]	Optimization revised			
11	05.05.2015 09:56:32	AGlaser [Achim Glaser]	Fixing of logical error			
10 [Approved 04/20...	10.04.2015 12:30:09	PMayer [Paul Mayer]	Material handling optimized			
9	10.04.2015 12:01:15	PMayer [Paul Mayer]	Small adjustment (see review report)			
8	07.04.2015 10:15:48	HMüller [Hans Müller]	Adjustment of follow-up time conveyor belt 1			
7	26.03.2015 15:33:33	PMayer [Paul Mayer]	Material handling optimized			
6	26.03.2015 15:29:10	AGlaser [Achim Glaser]	CR 6320			
5 [Approved 03/20...	17.03.2015 15:27:39	HMüller [Hans Müller]	CR 5779			

Differences between version 15 and 16						
SIMATIC S7						
Version	File or project	Object	Object class	Extended	Change reason	Comments
16	s7_online.s7p	Declaration list	Declaration list...	Version: 0.1		
16	s7_online.s7p	Code/line comm.	Network differe...	Version: 0.1	Logic adaption	Attention: P
16	s7_online.s7p	Declaration list	Declaration list...	Version: 2.0	General optimization	Generally v
16	s7_online.s7p	Code/line comm.	Network differe...	Version: 2.0	Parameter adjustment	Attention: P

Quality management made easy: versiondog

versiondog can be a solid foundation for your quality management and help ensure that your documentation meets certification standards such as GAMP, GMP, FDA 21 CFR 11, VDA 6.x and ISO 900x. Project data for all versions is stored centrally and available at any time, and full annotation means that all changes are quickly and easily comprehensible.

AUVESY understands the importance of effective quality management, and is itself certified to ISO 9001.

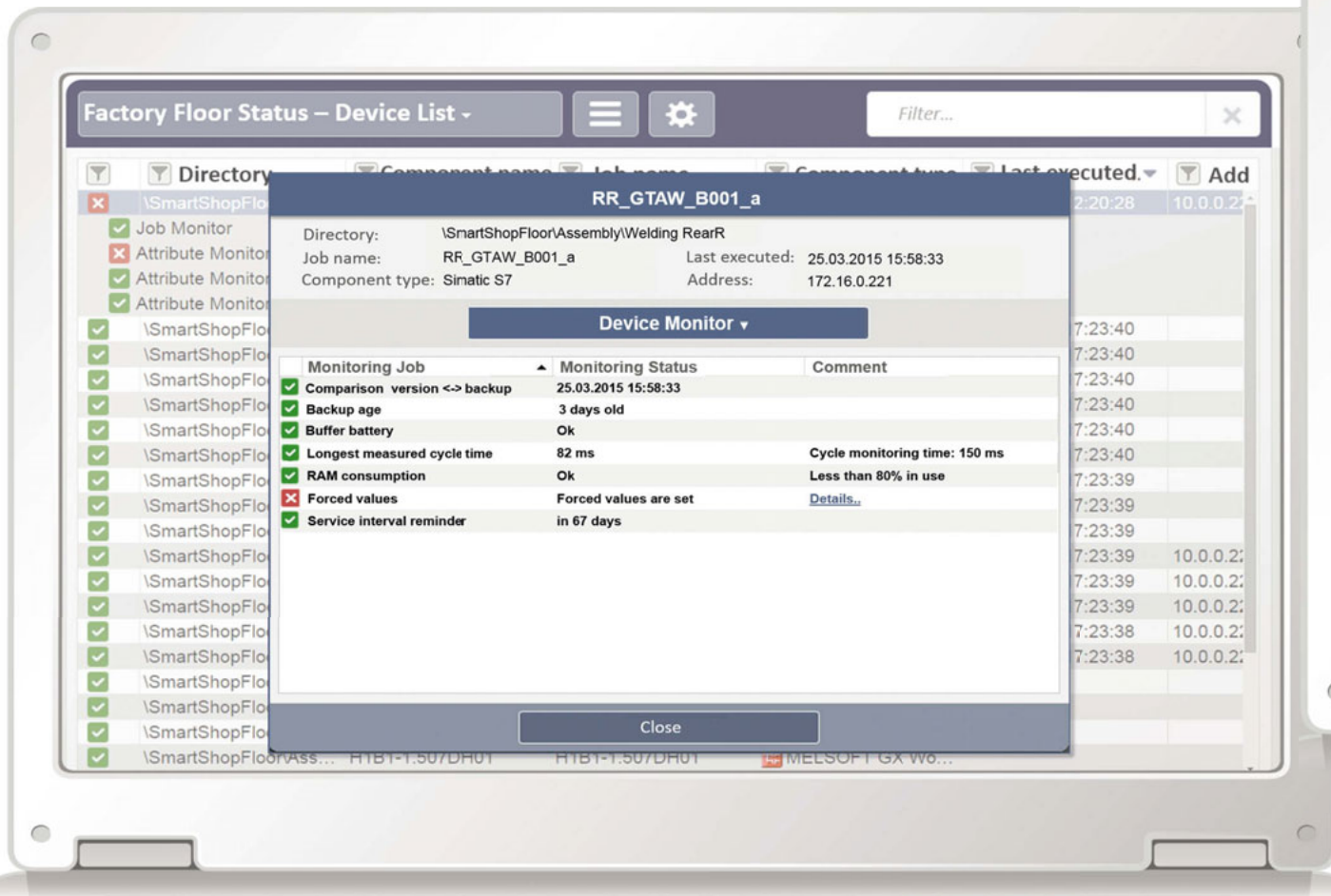


Your versiondog advantage - quality improvement

- Track all changes to programs and data in use in production and quickly comprehend the reasons for them (right back to the base version)
- Quickly find and restore an error-free version
- Smooth and optimise your daily workflow
- Reduce waste by closely monitoring quality-relevant setpoints and parameters


versiondog Factory Floor Status - the web-based report client

Our web-based add-on, versiondog Factory Floor Status, provides you with a comprehensive overview of your devices, including an MLFB overview, firmware versions, hardware serial numbers, cycle times, battery status, backup results and much more. The search function helps you quickly perform analyses and compile reports.



Predictive maintenance: versiondog

The new versiondog Factory Floor Status feature is our innovative new solution that will help you keep on top of maintenance. This web-based add-on can be accessed from anywhere within the network to get a detailed picture of the status of the devices in a facility. Factory Floor Status not only shows you the status of automated backup and compare jobs, it also closely monitors and displays a wide range of other device information.



versiondog

Logged in as: versiondog

Factory Floor Status – Device List

Filter...

	Directory	Component name	Job name	Component type	Last executed	Add
✗	\SmartShopFloor\Ass...	RR_GTAW_B001_a	RR_GTAW_B001_a	Simatic S7	23.09.2015 12:20:28	10.0.0.2
✓	Job Monitor					
✗	Attribute Monitor: ForcedVariables					
✓	Attribute Monitor: LoadMemoryRAM					
✓	Attribute Monitor: ScanCycleTime					
✓	\SmartShopFloor\Ass...	Conveyor 1.B1.5	Conveyor 1.B1.5	Simatic S7	22.09.2015 17:23:40	
✓	\SmartShopFloor\Ass...	Conveyor 1.B1.4	Conveyor 1.B1.4	Simatic S7	22.09.2015 17:23:40	
✓	\SmartShopFloor\Ass...	Conveyor 1.B1.3	Conveyor 1.B1.3	Simatic S7	22.09.2015 17:23:40	
✓	\SmartShopFloor\Ass...	Conveyor 1.B1.2	Conveyor 1.B1.2	Simatic S7	22.09.2015 17:23:40	
✓	\SmartShopFloor\Ass...	Conveyor 1.B1.1	Conveyor 1.B1.1	Simatic S7	22.09.2015 17:23:40	
✓	\SmartShopFloor\Ass...	Conveyor 1.A1.5	Conveyor 1.A1.5	Simatic S7	22.09.2015 17:23:40	
✓	\SmartShopFloor\Ass...	Conveyor 1.A1.4	Conveyor 1.A1.4	Simatic S7	22.09.2015 17:23:39	
✓	\SmartShopFloor\Ass...	Conveyor 1.A1.3	Conveyor 1.A1.3	Simatic S7	22.09.2015 17:23:39	
✓	\SmartShopFloor\Ass...	Conveyor 1.A1.2	Conveyor 1.A1.2	Simatic S7	22.09.2015 17:23:39	
✓	\SmartShopFloor\Ass...	RR_GTAW_B001_c	RR_GTAW_B001_c	Simatic S7	22.09.2015 17:23:39	10.0.0.2
✓	\SmartShopFloor\Ass...	RR_GTAW_B001_b0	RR_GTAW_B001_b0	Simatic S7	22.09.2015 17:23:39	10.0.0.2
✓	\SmartShopFloor\Ass...	RL_GTAW_A001_b0	RL_GTAW_A001_b0	Simatic S7	22.09.2015 17:23:39	10.0.0.2
✓	\SmartShopFloor\Ass...	RL_GTAW_A001_a	RL_GTAW_A001_a	Simatic S7	22.09.2015 17:23:38	10.0.0.2
✓	\SmartShopFloor\Ass...	Conveyor 1.A1.1	Conveyor 1.A1.1	Simatic S7	22.09.2015 17:23:38	10.0.0.2
✓	\SmartShopFloor\Ass...	Handling_QG1_B	Handling_QG1_B	ABB IRC5		

Your versiondog advantage - cost reduction

- Cut the duration of downtime or avoid it altogether
- Reduce lost production and wastage
- Improve efficiency when commissioning new production lines
- Save time with automated backups and documentation and by being able to spot errors quickly and easily

Optimised for your automation systems, regardless of manufacturer

The versiondog system is designed to work with the full range of automation devices and equipment commonly in use today, and is not tied to any single manufacturer. A helpful and knowledgeable in-house support team is there to give individual assistance with the details of integrating various different devices into the system. Flexibility regarding further development and required features is also assured.

PLC / Soft-PLC / CNC

- Siemens
- Schneider Electric
- Rockwell Automation
- Pilz
- Phoenix Contact
- Mitsubishi
- GE
- FANUC
- B&R
- Bosch Rexroth
- Beckhoff
- 3S CODESYS
- ...

- Siemens TIA Portal
- Siemens PCS7
- Siemens WinCC, Siemens WinCC flexible, Siemens ProTool
- Schneider Wonderware InTouch
- Schneider Electric Citect
- GE iFIX
- COPA-DATA Zenon
- ABB Freelance
- ...

SCADA / HMI

Field devices / Drives / Robots

- Stäubli
- Siemens
- SICK
- SEW
- Motoman
- Mitsubishi
- Leuze
- Lenze
- KUKA
- Kistler
- FANUC
- Danfoss
- Cognex
- Adept
- ABB
- ...

Files / Documents / PC

- Word, Excel, ASCII, INI, CSV, XML, PDF, *.exe*, .dll, *.* , Images (Acronis, Ghost, Drive Snapshot etc.)



The universal solution: versiondog

- Support for full spectrum of automation systems
- All industries
- In use worldwide (languages currently available: German, English, French, Spanish, Czech, Romanian)
- For any size of company, from SMEs to major international corporations



Data traceability with versiondog - your key to Industry 4.0

At the dawn of Industry 4.0, we are already seeing the beginnings of exponential increases in software complexity and data volume. Without a suitable automated data management system, companies are likely to be overwhelmed by developments.

versiondog has for many years been helping manufacturers minimise risk when making changes. You can always rollback if something goes wrong. There are many changes that will need to be made on the road to Industry 4.0. Some large, some small.

versiondog is ready to help you maximise benefit by minimising risk as you make the transformation.



Our client base speaks for itself:

Audi	Anglo American Platinum	Acelor Mittal	Bayer	Bitburger	BMW	Bosch
Brose	Carlsberg	Caterpillar	Coca-Cola	Continental	Copenhagen Airport	
CSL Behring	Daimler	Dürr	Ford	Fresenius	GlaxoSmithKline	GM
Heineken	Kraft Foods	Mann+Hummel	Mars	Munich Airport	Nestlé	Pirelli
Porsche	Procter & Gamble	Roche Diagnostics	Schaeffler	STIHL	Tetra Pak	ThyssenKrupp
Unilever	Volkswagen Group	Wessex Water	Xellia Pharmaceuticals	ZF Friedrichshafen		

More references at www.versiondog.com/references-industries

Find out more: www.versiondog.com

About us

versiondog from AUVESY (AUtomedated VErSioning SYstems) is the world's leading version control & data management system for automated production. The company continues to grow steadily as it has since it was founded in 2007.

With a team of around 65 employees and 15 International Sales Partners, AUVESY has more than 700 customers in 40 countries and across the board of industry.

Hundreds of versiondog systems are right now safeguarding customers' data, simplifying their data management and helping them optimise their workflow.



AUVESY.

data management for automation

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