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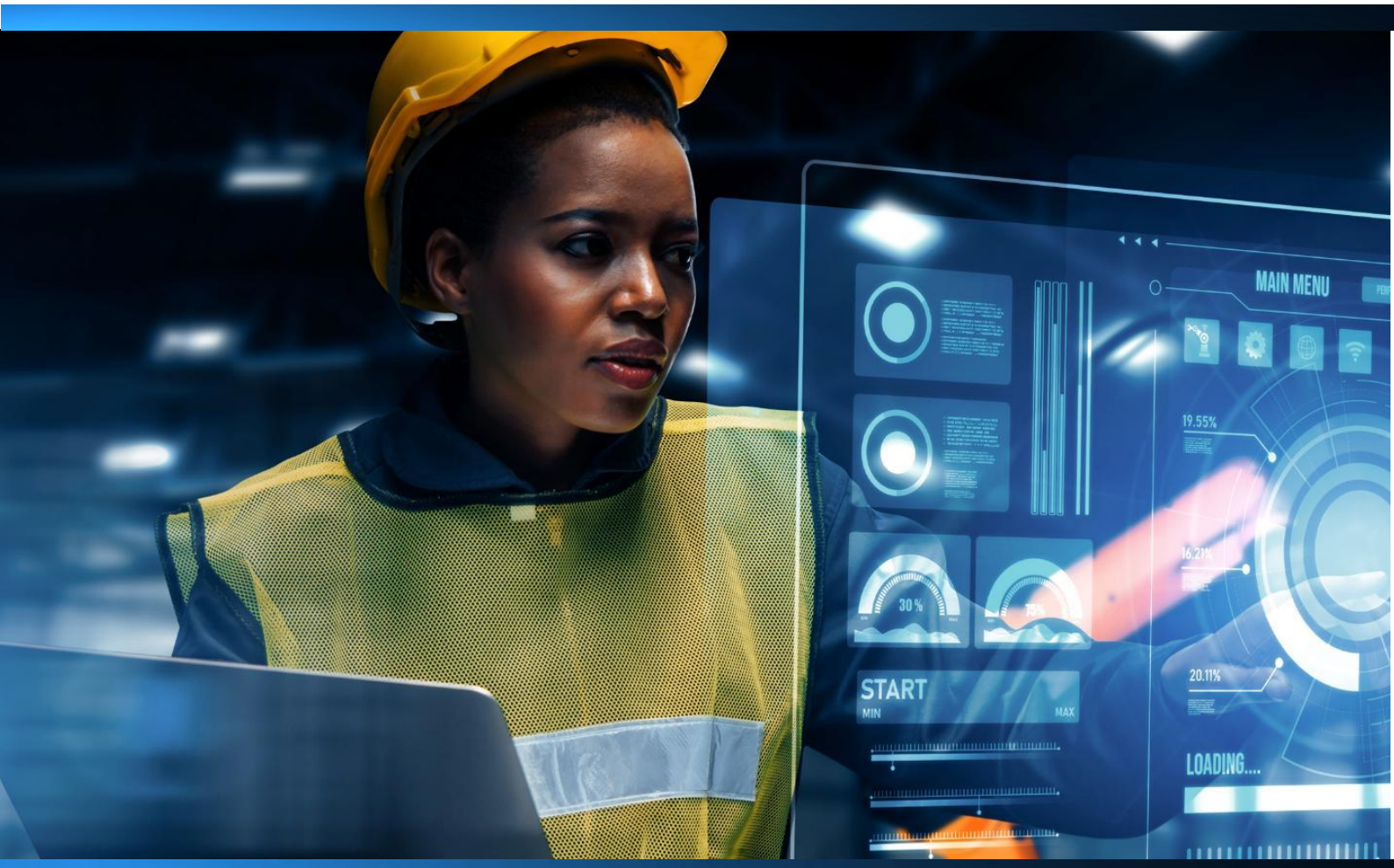
Operational Technology

Programmable Logic Controller (PLC) Backup and Versioning Control



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Programmable logic controllers (PLCs) are the core of industrial operations. Unauthorised changes, accidental overwrites, or hardware failures can lead to extended downtime, safety risks and production losses. PLC backup and versioning control ensure that control logic is protected, traceable and quickly recoverable, maintaining operational continuity and system integrity.

1. Tools and Technologies

1.1 Automated PLC backup software

These tools automatically back up PLC programs, configurations and firmware on a scheduled or change-detection basis.
Why it is used: Eliminates reliance on manual backups and ensures the latest logic is recoverable.

1.2 Version control and change tracking systems

Versioning platforms track every modification, recording who changed what, when and why.
Why it is used: Enables rollback to a known proven version and supports audit, compliance, and troubleshooting.

1.3 Vendor-specific PLC integration

Technologies that integrate directly with PLC platforms (e.g. Siemens, Rockwell, Mitsubishi, Schneider) to safely extract logic without disrupting operations.
Why it is used: Ensures compatibility, accuracy and non-intrusive backups.

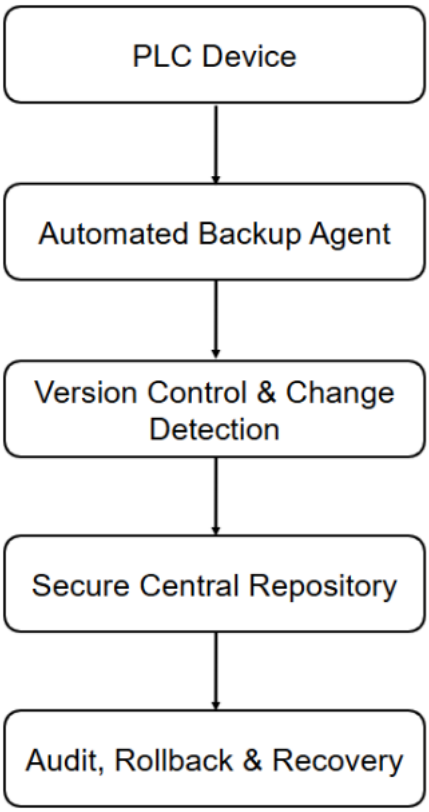
1.4 Centralised backup repositories

Secure servers store PLC backups in a structured, access-controlled environment.
Why it is used: Prevents loss of critical logic and enables fast recovery across sites.

2. How It Works (IEC 62443 / NIS2 Aligned)

- **Continuous PLC discovery and backup:** Control logic, configurations and firmware are automatically backed up without disrupting operations.
- **Change detection and version control:** Every logic change is logged with full traceability (who, what, when), enabling rapid rollback to approved versions.
- **Secure, centralised storage:** Backups are stored in access-controlled repositories, supporting integrity, availability, and audit requirements.
- **Rapid recovery and incident response:** Known-good PLC versions can be restored quickly after faults, cyber incidents, or unauthorised changes.

3. Process Flow



4. Business Value

- Reduced downtime
- Faster recovery
- Protection against unauthorised or unexpected modifications
- Compliance with IEC 62443 & NIS2 requirements
- Automatically captures PLC logic changes in real time or on schedule
- Enables rapid restoration after failures or cyber incidents
- Improved operational governance, compliance and operational resilience

5. Fortify Your Operational Resilience

Ensure that your control logic is protected, traceable and quickly recoverable. Contact our OT specialists today to ensure your operational continuity and system integrity are maintained.

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