



FIVE THINGS SIEMENS PLC USERS OUGHT TO KNOW

Introduction

Are your Siemens PLC projects trapped in a maze of archive folders and shared drives? Or maybe you're wrestling with clunky Git integrations that just don't fit the OT world? You're not alone. Managing project files for automation projects is a notorious headache. But what if you could break free from those old, rigid systems?

Imagine a world where version control isn't a chore, but a powerful ally. That's what Copia Automation's Industrial DevOps Platform delivers by bringing the dynamic, adaptable power of Git directly to your Siemens PLC projects. No more digging through endless folders, no more risking costly errors with outdated files.

As a Siemens PLC user, you deserve a better way. Modernize your OT stack and gain unprecedented control.

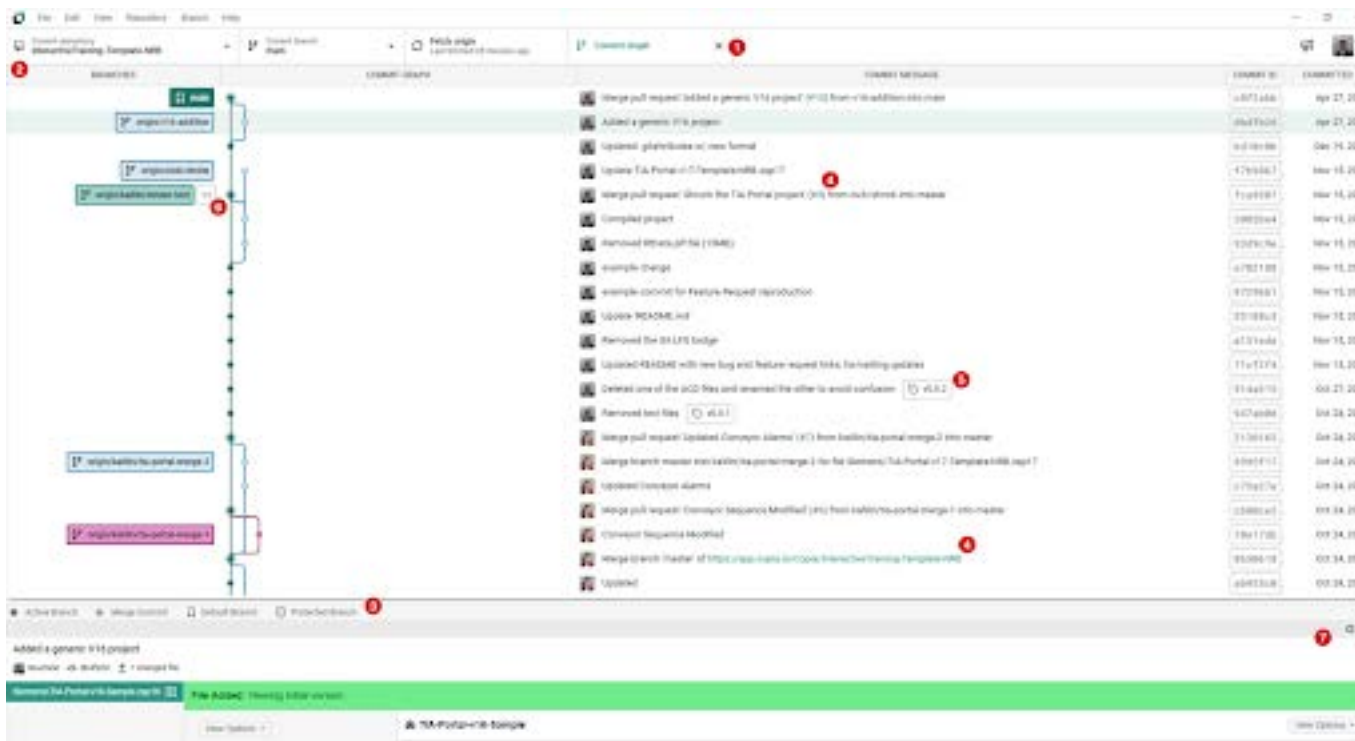
In this whitepaper, we delve into five crucial aspects that every Siemens PLC user should acquaint themselves with regarding Copia's functionalities and the unprecedented benefits it delivers to Siemens PLC programming.

Here are **five things you should know about Copia**, and the benefits it delivers for Siemens PLC programming:



01

Copia inherently allows for multi-user programming, allowing your team to work collaboratively and simultaneously, without needing to use the limiting old way of check-in, check-out code changes.



This is what a project history looks like, with multiple engineers modifying the same project



02 File Type and Language Support

Currently, Copia supports Siemens Step7 TIA Portal v14 SP1 - v20 and Step7 5.x v5.6 SP2 - 5.7 SP1. With this support, Copia can create visual diffs, rendering logic and highlighting code changes in Ladder Logic (LD), Structured Control Language/Structured Text (SCL), Function Block Diagram (FBD), and Statement List (STL), as well as in Variable lists and User-defined Data Types (UDT).

The screenshot displays the Copia interface with three main components:

- BRANCHES:** A sidebar on the left showing a list of branches: 'main', 'origin/demo-branch', 'origin/TwinCAT-samples', and 'origin/docs-update'. A red arrow points to the 'origin/demo-branch'.
- Commit Graph:** A window titled 'Commit Graph' showing a list of commits. The table below represents the data shown in the graph:

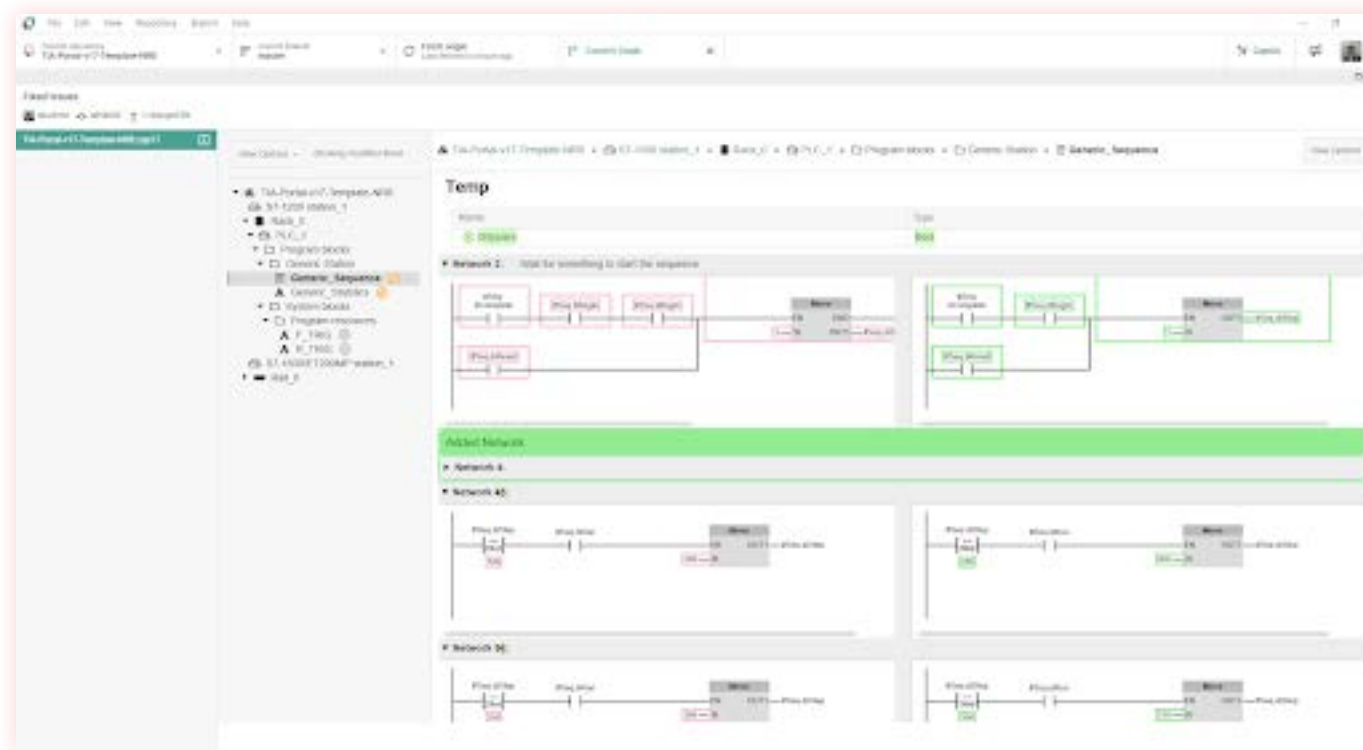
minutes ago	COMMIT MESSAGE	COMMIT ID	COMMITTED
	Merge pull request 'Demo PR' (#3) from demo-branch into main	95a19d7	Jan 25, 2023
	Compiled hardware changes	eda3b21	Jan 25, 2023
	Multi-rung changes; hardware config changes	5af6cd68	Jan 25, 2023
	Updated Sequence FB	79a88a6	Jan 25, 2023
	Merge pull request 'Added TwinCAT project sample' (#2) from TwinCAT-samples into ...	0233f9b	Jan 25, 2023
	Added TwinCAT project sample	8eccc34	Jan 25, 2023
	Merge pull request 'added customer info' (#1) from docs-update into main	a2d71d5	Jan 25, 2023
	added customer info	1cf26e1	Jan 25, 2023
	Initial Commit	dd7b15d	Jan 25, 2023

Below the commit graph, a window titled 'Merge pull request 'Demo PR' (#3) from demo-branch into main' shows the merge details. The main area displays a ladder logic diagram for 'Network 3' and 'Network 34'. The diagram includes a 'Move' block with inputs and outputs, and a 'DI 8x24VDC_1' block. The diagram is rendered in a visual diff format, showing changes in the logic.



03 Renders Ladder Logic In-App

Don't have access to TIA Portal? You can still view your whole project, rendered in both Copia's desktop app and in your web browser.

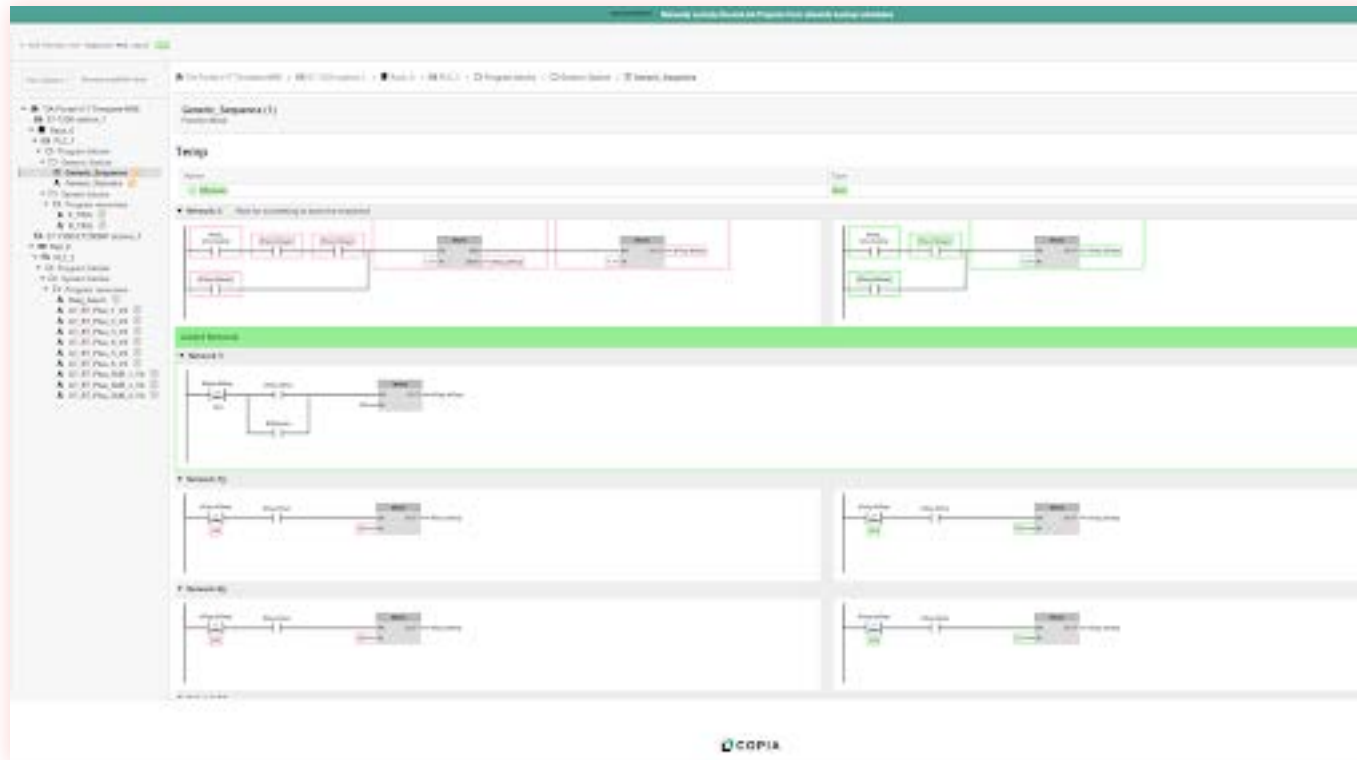


A Siemens project rendered in Copia's desktop app



03

Renders Ladder Logic In-App (CONTINUED)



Siemens project,
rendered in a web
browser

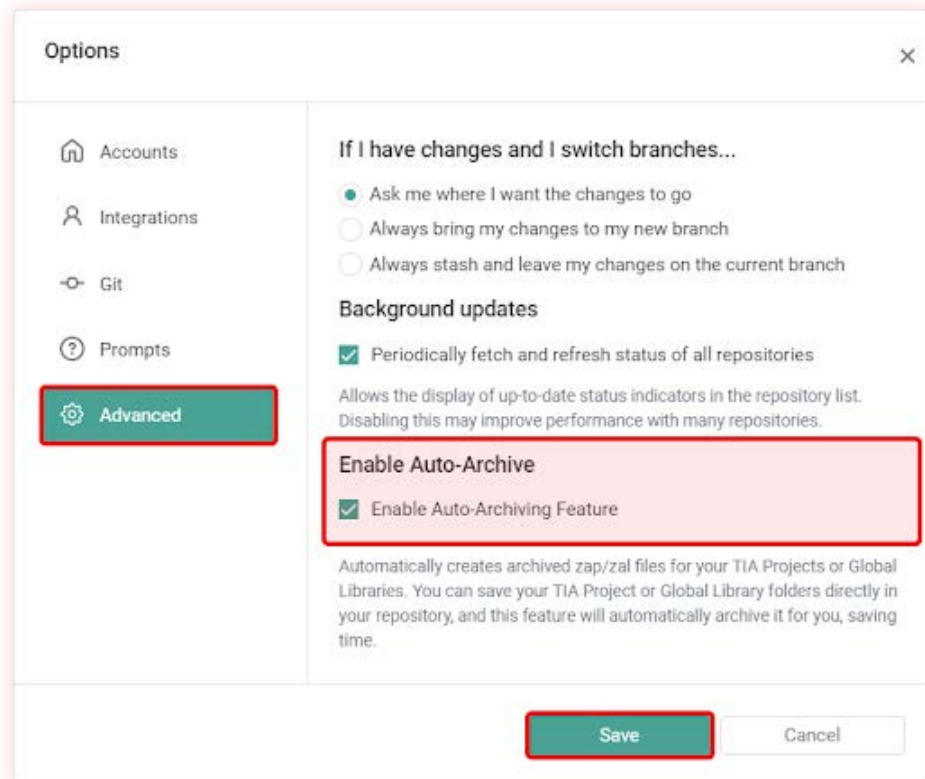


04 Project Archives

The quickest way to get started with version control for your Siemens PLC is to start using Copia. To do this, put your TIA Portal folder in a repository and Copia will begin detecting changes and automatically create the archive file for your project.

These archives can be parsed by, and rendered directly in Copia, giving you full access to the power of Git-based source control.

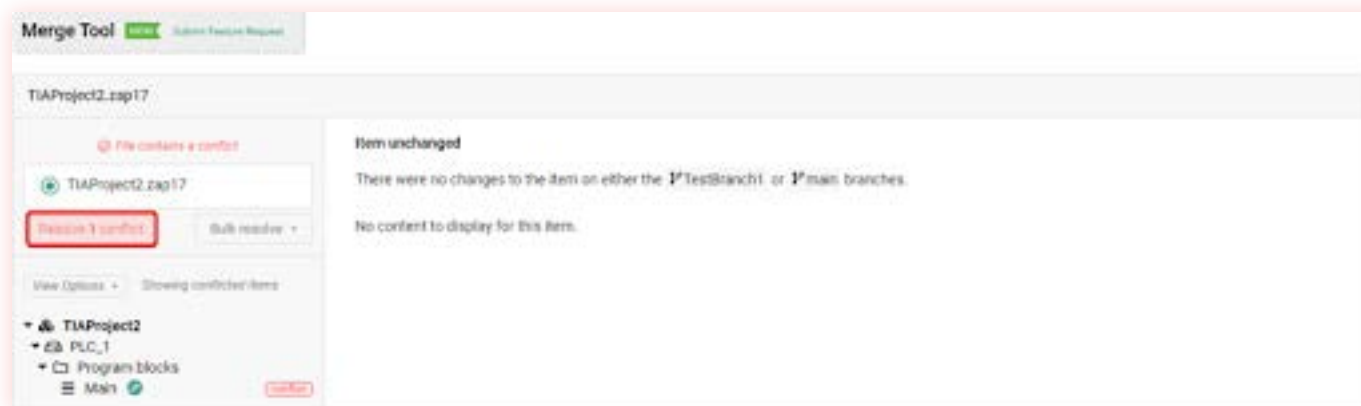
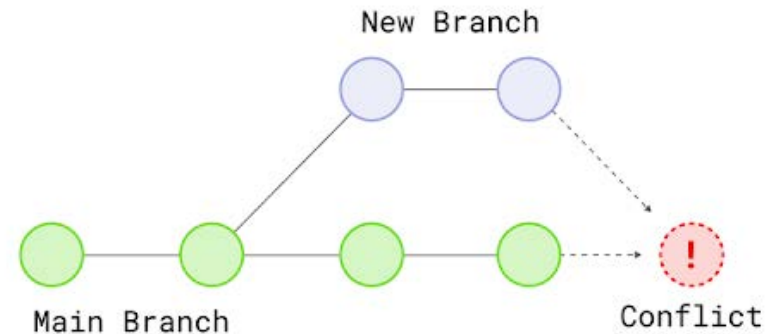
With Auto-Archive enabled, any project or global library folder added to a local repository will be auto-archived when the Desktop App is in a focus state (when it becomes the primary app open on the screen).



05 Merge Tool

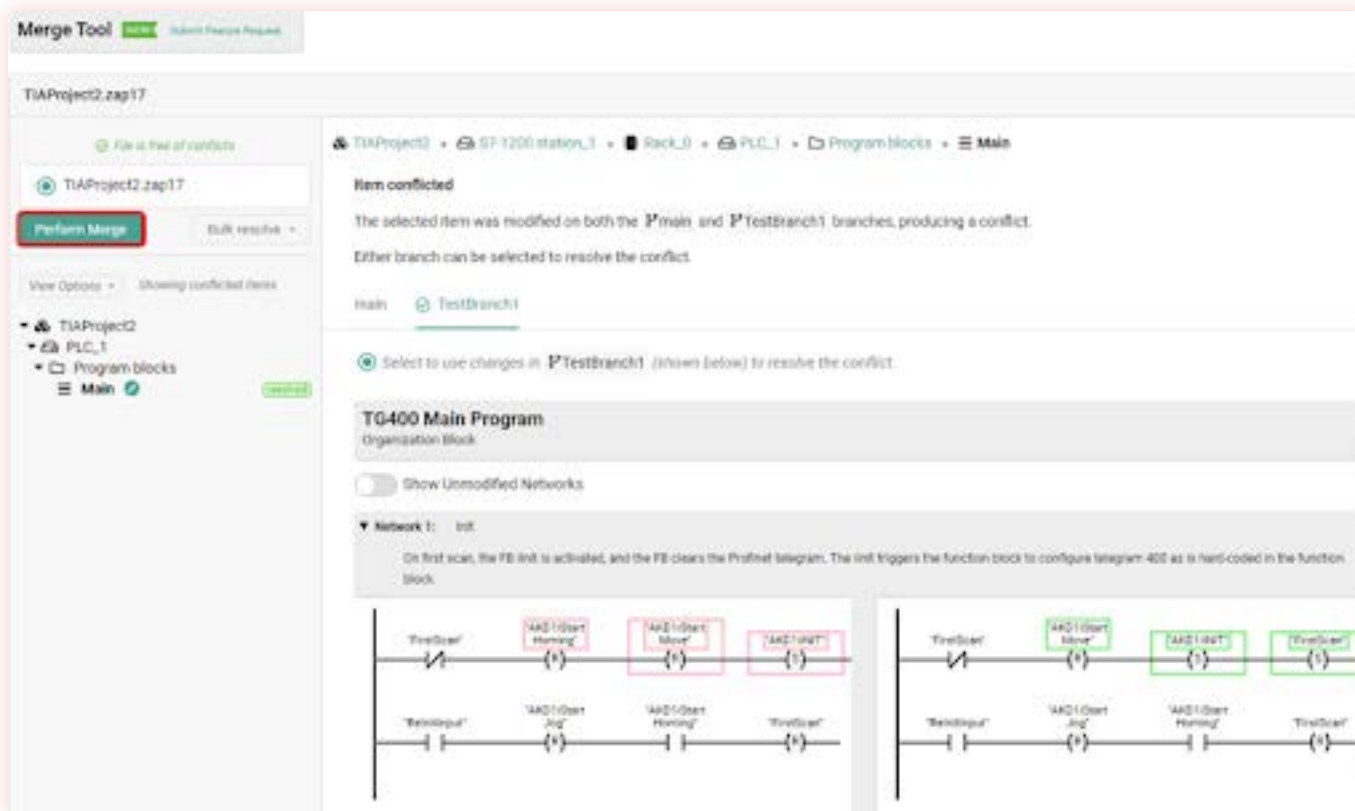
With multiple engineers working on the same parts of the same project at the same time, you may run into a situation where two engineers have made changes to a project that directly conflict with one another.

Advanced Merge will list the conflicted items on the left side of the screen, in a manner similar to programming software. You can click into each item in the project tree to review changes, and the number of conflicts are listed at the top of the merge tool.



05 Merge Tool (CONTINUED)

After the desired branch is selected, the previously conflicted banner will update to a “resolved” state. If there are several conflicts to resolve, perform the same process by clicking into each project item, reviewing each branch, and making a selection. To accept the changes, it’s as simple as pressing the teal Perform Merge button above the project tree.



Comparing the same network from two branches. The merge tool lets you resolve conflicted items individually, rendering both possible versions with changes highlighted.

Conclusion

Across all Siemens PLC programming, Copia Automation has emerged as a transformative force to manage version control and collaborative project development, saving time and empowering your workforce.

The agility of multi-user programming, the compatibility with various file types and programming languages, and the intuitive rendering of Ladder Logic and other graphical languages in Copia's interfaces accelerates onboarding and knowledge transfer. The power to harness project archives and seamlessly integrate as your version control system underscores its efficiency.

Perhaps most notably, Copia's merge tool provides a comprehensive approach to managing conflicts in complex projects. For Siemens PLC users, Copia provides a means to amplify efficiency and enhance team engagement.

Experience Copia firsthand by [requesting a demo today](#). Step confidently into the future of PLC project management with Copia Automation's Industrial DevOps Platform.





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Copia Automation provides unparalleled visibility and control of industrial automation code across multi-vendor devices for continuous quality control, streamlined production, and preemptive crisis management.

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