**P R E S S R E L E A S E**

**PROFINET tester architecture simplified**

**Nuremberg, Germany – November 9, 2022:** The availability of a flexible testing system for the interfaces of open communication systems is an important part of product quality assurance. With the PROFINET Tester, PI (PROFIBUS & PROFINET International) is providing member companies with such a tool, free of charge, as part of a Test Bundle. This tool is also being used by accredited PI test labs for the certification testing of devices and controllers.

The proof that the tool meets the needs of a broad range of device and controller manufacturers of basic technology for PROFINET products is demonstrated by its increasing usage by the development teams of manufacturers in test processes which accompany development. Easy operation and open interfaces for test automation have supported this trend. Active feedback to the Test System Development Group, which oversees tester development, is an important mechanism for continual development of the tool. The new version of the tester features a considerably simpler and more powerful architecture based on an external embedded board.

At its core is the ART (Automated Real-Time Tester) software which organizes the test cases in a clear way, executes them, displays the test results and finally provides documentation in the form of an automatically generated test report. The included set of test cases are those used in certification testing. The source code and detailed descriptions of the included test cases are also provided so that users of the tester themselves can, with minimal effort, generate additional test cases (e. g. those required in product development) or, should an error occur, quickly identify the causes.

The Test Bundle is updated annually. In addition to clarifications and corrections to the existing test cases, test cases for additional functions are also integrated. In the most recent edition, the tester was converted to a new architecture. The most substantial change is an external embedded board with multiple interfaces in which the test procedures are run in real time. This eliminates the need for an especially powerful computer and other devices previously required in the tester configuration. Time-critical actions were relocated to the external embedded board as part of the test system update. This simplifies the tester architecture considerably and significantly reduces hardware acquisition costs.

With issuance of the latest version, a set of test cases for TSN functions is now available as well. Additionally, the test cases for certification of PA profile V4, the provision of specific PROFINET test cases for APL devices and the network-load tests represent a significant step regarding the certification of PROFINET over APL devices. The start of certification for PROFINET over APL devices is slated for the next edition of the test bundle at the 2023 Hanover Fair.

This makes it possible to offer one-stop testing of all certification-relevant interface features – from the physical layer to the PROFINET protocol and the PA profile to net-load and interoperability behavior – at an accredited PI Test Lab.

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**Graphic:** Simplified PROFINET tester architecture based on an external embedded board.

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**Press contact:**

PI (PROFIBUS & PROFINET International)

PROFIBUS Nutzerorganisation e. V.

Barbara Weber

#### Haid-und-Neu-Str. 7

#### D-76131 Karlsruhe, Germany

Phone: +49 721 986 197 49

Barbara.Weber@profibus.com

<http://www.PROFIBUS.com>

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