

TTP to be used for fly-by-wire platforms

Parker Aerospace Selects TTTech's Advanced Communication Solution TTP for New Fly-By-Wire Actuation Platforms

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Parker Aerospace, a global leader in the design, manufacture, and servicing of hydraulic, fuel, flight control, fluid conveyance, and engine components and systems for aerospace markets, has chosen TTTech, the leading supplier of dependable networking solutions based on time-triggered technology, to provide an integrated communication solution based on TTP (Time-Triggered Protocol) for Parker's new generic fly-by-wire actuation platforms. Initial applications of this platform will be on the Bombardier CSeries and Embraer Legacy 450/500 aircraft programs.

TTP is an open industry standard and promoted within SAE as "AS6003 TTP Communication Protocol". It offers higher bandwidth compared to CAN, MIL STD-1553 and ARINC 429 and provides significant advantages in terms of reliability, modularity, lower weight, certification, reduced cost and faster time to market for aerospace systems.

As announced by Bombardier and Parker on July 18, 2008, Parker has been selected as the exclusive supplier of fly-by-wire flight control systems for all new Bombardier aircraft programs requiring this technology for a period of ten years.

"We are committed to building the best digital fly-by-wire platform in the industry and have selected the most advanced, yet mature solution available to provide increased reliability, reduced development cycle, and an overall improved value proposition," states Parker Aerospace Control Systems Division Vice President and General Manager, Mark Seidel. "Parker's fly-by-wire flight control system distributed architecture necessitates the need of a deterministic, highly reliable and high-bandwidth databus for interconnecting all the electronics elements as the backbone of the flight control system. The TTP databus from TTTech offers all the necessary ingredients of such a databus and includes the adaptability and portability features allowing for the use of common electronics elements on multiple platforms."

Modular embedded computing platforms based on TTP offer the same set of benefits as Integrated Modular Avionics, but in a completely distributed system. They help to reduce the design and system integration effort, costs for upgrades, incremental modernization and obsolescence management. With TTP, modular certification and system reuse on different aircraft platforms is supported. Through the reuse of TTTech's proven solutions in the aerospace industry, Parker will benefit from substantial risk and cost reduction as well as faster time-to-market.

The TTP-based communication platform is a mature DO-254/DO-178B Level A solution for design of critical embedded systems. It consists of a set of controllers, a physical layer, design/verification tools, embedded middleware components, and production testing equipment to cover all program lifecycle needs.

"TTP is designed for reusable, highly modular data communication platforms for the most demanding applications - such as fly-by-wire - in the aerospace industry. We are looking forward to supporting Parker and its customer and partners in the development of its advanced generic fly-by-wire platforms for several new aircraft programs", states Georg Kopetz Managing Director, TTTech Computertechnik AG.

About TTTech Computertechnik AG

TTTech Computertechnik AG is the leading supplier of solutions in the field of time-triggered data communication. The company's products improve the safety and dependability of networked computer systems in the transportation and automation industries. The solutions are based on TTP[®] and TTEthernet[™]. FlexRay[™] offerings are provided by TTTech's subsidiary, TTTech Automotive.

Standard software and hardware products are complemented by worldwide product and project support to efficiently develop and implement distributed embedded systems. TTTech's product range enhances the approach to handling safety-critical data communication with respect to cost, safety, and development efficiency. TTTech especially enables by-wire and integrated vehicle control systems and supports the reduction of system life-cycle cost and complexity.

Further information about TTTech is available at www.tttech.com.

About Parker Aerospace

Parker Aerospace is an operating segment of Parker Hannifin Corporation. Parker Aerospace designs, manufactures, and services hydraulic, fuel, flight control, fluid conveyance, and engine components and systems for aerospace and other high-technology markets. Based in Irvine, California, its product lines include primary and secondary flight control actuation, power generation and control components, thrust-reverser actuation systems, electrohydraulic servovalves, electric motor-driven hydraulic pumps, fuel pumps, motor-operated valves and fuel equipment, lubrication oil reservoirs, lubrication and scavenge pumps, fuel measurement and management systems, cockpit instrumentation, flight inspection systems, lightning-safe products, pneumatic subsystems and components, fluid metering delivery and atomization devices, wheels, brakes, and fluid conveyance products such as hoses, tubes, disconnects, and fittings.

About Parker Hannifin

With annual sales exceeding \$10 billion, Parker Hannifin is the world's leading diversified manufacturer of motion and control technologies and systems, providing precision-engineered solutions for a wide variety of mobile, industrial and aerospace markets. The company employs approximately 52,000 people in 48 countries around the world. Parker has increased its annual dividends paid to shareholders for 53 consecutive years, among the top five longest-running dividend-increase records in the S&P 500 index. For more information, visit the company's web site at www.parker.com, or its investor information site at www.phstock.com.

Press Contacts

TTTech Computertechnik AG
Petra Platzer
PR and Communication
Schoenbrunner Strasse 7
A-1040 Vienna, Austria
Tel.: +43 1 585 34 34-899
Fax: +43 1 585 34 34-90
E-mail: pr@tttech.com

Parker Aerospace
Alison Dittmeier
Media Relations & Communications Manager
US Mobile: +1 949 851 3515
E-mail: adittmeier@parker.com

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