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Advancing Factory Robotics: DFI Delivers 100K+ FS700 Qseven Modules to KEBA for Teach Pendant Assembly

Background of Story

DFI Inc., a global leader in embedded motherboards and industrial computers, has collaborated with our enduring customer, KEBA, an Austrian company, to develop their product, the Robotic Teach Pendant KeTop T70. The worth thing to highlight is DFI's successful delivery of over 100,000 units of its FS700 Qseven module to KEBA has significantly bolstered factory automation capabilities. This signifies DFI's exceptional supply quality and service during the adoption of FS700 by the customer, demonstrating the hardware's crucial role in seamless factory automation operations.

Industry: **Industrial Automation**

Application: **Robotic Teach Pendant, Industrial Automation HMI**

Solution: **DFI FS700 Qseven Module (NXP i.MX6 system-on-chip)**

DFI's FS700, launched in 2014, based on i.MX6 platform. Its low-power ARM Cortex-A9 integration offers advantages in 3D and 2D graphics as well as high-definition video. This Qseven module is a compact Computer-on-Module designed specifically for mobile applications. Being ARM-based, it delivers powerful performance at a low cost and with low power consumption.

This demonstrates the remarkable value our customer found in selecting DFI's FS700 for their product platform, after conducting several comparisons with samples. In the end, KEBA chose DFI's FS700 primarily due to two key points provided by DFI.

Challenges Faced by KEBA and DFI's Support

In 2013, KEBA started on the development of their industrial automation solution, KeTop T70, a Teach Pendant that is lightweight, ergonomic, and accompanied by a high-resolution display. So when KEBA was developing their product, they needed modular development and validated countless samples from various vendors, ultimately choosing DFI as the standout option. The main reason is that the FS700 adopts the Qseven module, and since the Teach Pendant is a handheld device, it requires minimal space and low power consumption.

However, another issue continues to plague them. The main issue stemmed from the complexities of integrating the ARM platform, which differs significantly from the more familiar x86 architecture. Their limited resource for ARM further compounded the challenge, significantly slowing down their research and development efforts.

In summary, from the above, we can essentially extract 2 aspects of issues that DFI adeptly resolves.

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1. KeTop T70's adaptability to future changes

By choosing DFI's QSeven SoM, KEBA can guarantee their customers trustworthy investment protection. In today's rapidly evolving environment, contemporary visualization devices must provide seamless speed and fluidity in user interfaces. With its modular design, the KeTop T70 guarantees adaptability to future needs. This facilitates seamless and quick transitions to newer processor technologies, eliminating concerns about performance degradation when expanding visualization applications.

2. DFI's expertise in ARM platform assistance

In 2014, ARM's hardware ecosystem in the industrial control sector lagged behind the x86 platform, lacking high-speed signal integrity(SI) measurement which is crucial to ensuring the stability of end applications. DFI's Research and Development team played a crucial role in enabling KEBA to provide stable hardware during the initial i.MX6 development phase, despite the lack of complete SI measurement and calibration.

Andrew Chiou, the General Manager of DFI's Research and Development Management Center, who headed this project, commented, "During this project, our team diligently resolved issues from the lack of high-speed SI measurements to ensure stable hardware. By maintaining continuous communication with the customer, we accelerated KEBA's product launch, leading to a successful market debut. The ongoing FS700 delivery for over a decade demonstrates our customers' consistent appreciation for our product and service excellence.

DFI and KEBA:
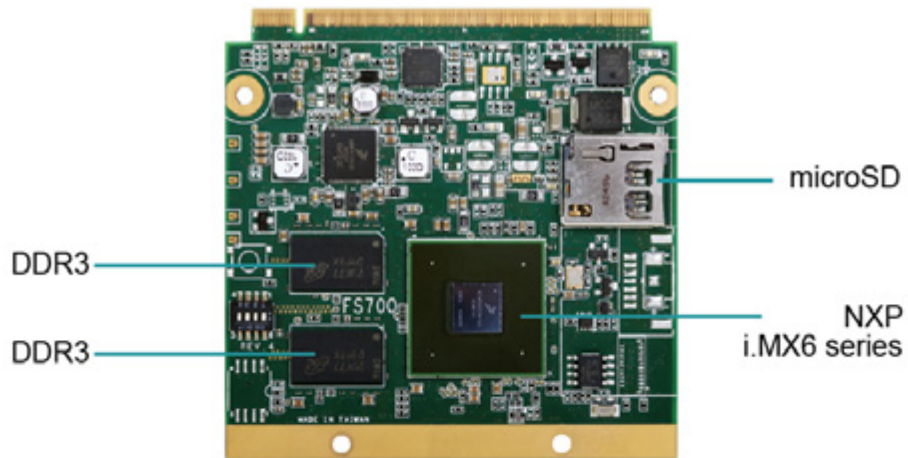## Pioneering the Ongoing Evolution of Industrial Automation Solutions

DFI and KEBA's longstanding partnership in industrial automation showcases top-notch innovation. With DFI's ARM platform expertise and KEBA's trust in DFI's product quality, we've achieved remarkable success. "Based on our long term strategic partnership with DFI we have been able to fulfill our customers' needs for automation. With DFI leading the way in providing FS700 with value-added service, and KEBA driving progress, our collaboration is driving the industrial evolution", Sigrid Stockinger, Head of Purchasing is stating.
DFI and KEBA aren't just business partners; we're pioneers shaping the future of Industry 4.0. Together, we inspire excitement for cutting-edge technology, having laid the groundwork for the automation revolution for more than ten years ago.

Learn more about KEBA: https://www.keba.com/en/home

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FS700 - Key Features

Learn more about DFI's FS700: https://www.dfi.com/product/index/188

DDR3

DDR3

microSD

NXP
i.MX6 series

Top

eMMC

DDR3

DDR3

Bottom

DFI

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Founded in 1981, DFI is a global leading provider of high-performance computing technology across multiple embedded industries. With its innovative design and premium quality management system, DFI's industrial-grade solutions enable customers to optimize their equipment and ensure high reliability, long-term life cycle, and 24/7 durability in a breadth of markets including factory automation, medical, gaming, transportation, smart energy, defense, and intelligent retail.

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