

Dear Editor:

We would like to submit the manuscript entitled "User-oriented Development Method in FSM-supported Multiprocessor Embedded Programmable Logic Controllers" which we wish to be considered for publication in *IEEE Transactions on Industrial Informatics*. All authors have read and approved this version of the article, and due care has been taken to ensure the integrity of the work.

The paper proposes a use-oriented development method in FSM-supported multiprocessor embedded PLCs to address the bottleneck of the complexity of logic and motion control mixed applications in PLCs.

The paper illustrates progress in both theorem and practice. Theoretically, we propose a customized multiprocessor embedded PLC to enhance the performance, a multi-language supported uniform development platform to improve the adaptability of developers, and an optimized system structure (reasonable memory allocation, user-oriented thread structure, proposed LPM data interaction, modular software design, and finite state machines) to reduce the development complexity.

In practice, we implemented a distributed control system of injection molding machine using the proposed method and ePLC. Through comparison with TECHMATION and KEBA systems, the startup time of the implemented system was increased by more than 5 times, while the key performance is almost identical.

Thank you and best regards.

Yours sincerely,

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