**Highlights**

Dear Reviewers:

Regarding the contributions of this paper to the field of industrial control, the highlights are the following:

* A concept of a user-oriented development method containing a comprehensive optimization method for logic and motion control mixed applications.
* Details for implementing the concept, including adding sufficient processors, a graphical component with multi-language support to improve its adaptability by developers, and an optimized system structure.
* Implementation of a distributed control system for injection-molding machines.
* An increase in system startup time by more than 5 times in the case of almost identical key performance (based on the results of comparison with TECHMATION and KEBA systems).