For the last few years, the Cyber-physical Systems (CPS), which is a system of collaborating computational elements controlling physical entities, plays an important role in the Smart Factory. Many factories have applied CPS into their producing process.

The ability to link the design of manufacturing process and the implementation in Cyber-physical Systems is very useful. The process-oriented modeling and the component-oriented modeling respectively depict the process and the implementation. This research, based on the traceability from process-oriented modeling to component-oriented modeling, is developing a traceability approach to trace the changes from process-oriented to component-oriented when process-oriented is changed and establish the new mapping. All the possibilities of changes in component-oriented modeling are represented in graphs as the results of this approach.