実施報告

技術開発プロセスを設計するプラットフォームT7の提案と検証

Proposal and Validation of T7, a Platform for Designing Technology Development Processes

細川　哲夫*
Tetsuo Hosokawa

The research topic of Working Group 2 of the Product Develoment Process Study Group was the design of a technology development process that would combine creativity and efficiency. After setting DFSS (Design for Six Sigma) as a benchmark, the group sought to design a more effective technology process by combining the methods of quality engineering and quality control. Seven elements essential to technology development were defined, and quality engineering, DFSS, and quality control methods were applied to each defined element to construct a platform named 'T7'. By use of the T7 platform, the technology development process can be designed in three steps: first the necessary ones of the seven elements and their order of implementation is determined; next the optimum technique is selected for each element, or a decision is made not to use any technique; then a detailed plan is drawn up for each element. The effectiveness of the T7 platform was confirmed by applying it to past cases of successful technology development, and an effective technology development process was proposed for material and device development.

Key words : technology development process, Taguchi methods, DFSS, robust parameter design, generic function, CS-T, R-FTA, axiomatic design, Fukuhara method, QFD, T7, quality engineering

1. はじめに

品質工学会と品質管理学会の共同研究会「商品開発プロセス研究会」が2018年11月にスタートした。本研究会は以下の3つのWGからなる。

WG1：顧客価値創造の上流工程プロセスの開発
WG2：創造性と効率性を両立した技術開発プロセスの構築
WG3：損失関数の新事業プロセス評価への適用研究

筆者が幹事を担当しているWG2で議論された日本企業の課題の共有化を受けて，WG2ではDFSS (Design for Six Sigma) を現行の最も優れた技術開発プロセスとしてベンチマークし，“創造性と効率性を両立した技術開発プロセスの構築“というテーマで研究活動を開始した。以下にこれまでの研究

* リコー(株)，正会員