

2018 Strategic Technology & Innovation Management Programme

System Design Characterisation

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Industrial / managerial need addressed

The new product development process is complex and can be costly. System Design Characterisation (SDC) is a workshop-based process that targets the early stage of new **products**, **services** and **product-service systems** development, in order to clarify the design specifications before development and life-cycle costs are locked in. Through the systematic breakdown of the new design into its sub-systems and components by the nature of their relationships, as well as their importance to the end users, the application of SDC helps new product development teams to identify potential design complexities and provide suggestions to simplify the overall design.

Expected deliverables

Practical outcomes for STIM companies:

- Delivery of SDC workshops at the companies interested in applying the process
- Report to STIM members on the benefits derived from the process
- Companies would own the outputs from the process, and by participating, would learn how they may carry out the process by themselves.

Academic outcomes:

- Apply SDC process to a variety of NPD and design problems to examine its versatility, and gain further understanding to improve on its usability
- Advance the concept of “configuration type” for engineering design.

Engagement opportunities

Participating STIM companies would be given the opportunity to apply the complete, fully facilitated process multiple times at no fee.

The SDC would be delivered to the companies that first register interest in applying it. The SDC would be delivered for a maximum of 5 times under STIM.

Approach

The SDC workshop usually takes 6 to 8 hours, depending on the complexity of the design to be analysed. The workshop can be carried-out in 1 day or over 2 separate days. Participants are key cross-functional development team members. The workshop is most effective with 4 to 6 participants.

