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Ronald Dekker joined Philips Research in 1988 where he worked on the development of IC technologies. Since 2000 his focus shifted to the integration of complex electronic sensor functionality on the tip of smart catheters. In 2007 he was appointed part time professor at the Technical University of Delft with a focus on Organ-on-Chip and bioelectronics medicines. Since 2013 he has been the initiator of a number of large European initiatives that all have in common the development of open technology platforms for electronic medical devices.



Abstract

Organ-on-Chip, and lessons learned from the semiconductor industry

The term “Organ-on-Chip” is a fantastic marketing find! Although most Organ-on-Chip concepts rely on some form of microfabrication, the term can be misleading in the sense that it suggests the same pace of innovation as we are used to in the semiconductor industry. Unfortunately, it appears that for new emerging (bio)medical technologies such as Organ-on-Chip the innovation speed is much slower. In this presentation we will review how the semiconductor industry developed into an industry that re-invents itself every 1.5 year and what lessons we can learn from it for Organ-on-Chip. Keywords in the presentation will be open technology platforms, standardization, roadmaps and cooperation.