Can we characterize emerging smart microsystems using our old characterization stuff?

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Microsystems (MEMS) are miniaturized devices combining: sensing, signal processing and actuation. MEMS are integrated using monolithic or hybrid technology. Smart Microsystems are: able to describe a situation and diagnose it, able to decide or help to decide interacting with the environment, as small as possible - networked and energy autonomous. They are not only electronics.

In the presentation the main features of smart microsystems as well as the most frequent fields of applications are described. Standard equipment used for characterization of microelectronic structures and needs related to selected types of smart microsystems are discussed. The need to integrate the standard tools of characterization with atypical devices previously rarely used in the manufacturing processes in microelectronics is also presented.

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