When we analyze the semiconductor industry we reach the inescapable conclusion that survival requires chip companies to become System-on-a-Chip (SOC) companies. In other words, they must be capable of rapidly designing and producing, in high volume, ICs that are truly systems on a chip. It’s no secret that most semiconductor industry players lack the infrastructure and expertise to develop such ICs. Yet without a strong SOC product portfolio, the likelihood of long term survival diminishes significantly.

Developing SOC ICs demands a powerful design capability coupled with a wealth of system-level knowledge, or so-called Intellectual Property (IP). Both are essential. But this begs several questions. In the area of IP, how will semiconductor companies gain access to it? Chip makers will have the ability to put several hundred million transistors on a chip, but will they have the ability to turn that into a profitable business? What do they have to do to ensure that they have the requisite IP to exploit this phenomenal manufacturing capability? Moreover, quantitatively speaking, exactly how strong of a design capability will they need to develop SOC ICs and, therefore, remain competitive? That is, what level of design capability will be necessary to boast world class design capability 3 years from now? For that matter, how do we even measure design capability and what metrics do we use? These and other related issues will be discussed and addressed in this presentation.

Mr. Collett will also present the results of several IC design capability benchmarks that his firm recently performed using its Design Productivity Management System (DPMS)™, which is in production use today in many of the world’s largest semiconductor companies.