Desirability Index: an EKG for Your SPC System

Despite a recent emphasis in the semiconductor industry on e-diagnostics, advanced fault detection methods, and run-to-run controllers the need and importance of an effective statistical process control system has not diminished. Maintaining stable and predictable factory performance throughout multiple process lifecycles can be a daunting challenge due to the increased volumes of SPC data and a competition for engineering resources. Several years ago Infineon Technologies Richmond, a high volume manufacturing site devoted to leading edge DRAM production, implemented a “desirability index” metric to track the health of our SPC systems. This paper will introduce the mechanics of our metric, the life support network employed to maintain the system, discuss some of the observed benefits and pitfalls, recount a growing pain or two, and outline where we hope to mature this aspect of our SPC system.

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