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Connecting Physics with Engineering in Industrial RD

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Profitable products are frequently enabled by innovations that prevent early commoditization. At its best, industrial physics research provides the key differentiators for such products. To fulfill this goal, it's necessary to establish effective working relationships between R&D staff with both physics and engineering backgrounds. In the semiconductor industry, the "middle ground" is often materials science, electromagnetics, or a wide range of phenomena useful for creating sensors. In this brief presentation, we will mention a few examples of such collaborative development at Texas Instruments, including MEMS devices, ferroelectric memory, and silicon-IC-based radar.