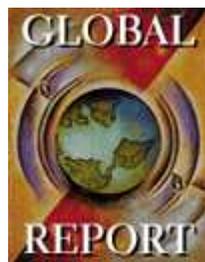


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Design in an analog world

By Joshua Israelsohn, Technical Editor -- 11/1/2004

EDN



Analog-design talent has become harder to find and more expensive to develop at the same time that digital products and processes have hit constraints due to fundamental analog effects. Beyond the analog nature of many key problems faced by nominally digital technologies, the nature of system interfaces has not changed: Predominantly digital products must interact with an analog world. Thus, the demands on analog design have actually grown with the advancement of digital technologies.

Thanks to relatively inexpensive, readily available computational and communications capabilities, companies have expanded their potential talent pool to a global scope. Challenges remain, however. Managing activities in remote corners, integrating the work product from disparate groups, and maintaining a shared vision all place complex demands on managers and engineers alike.

Lest we start with a misunderstanding, this issue is not akin to the so-called outsourcing of service jobs, most famously to Bangalore, India. Analog-design groups bear little resemblance to IT help-desk call centers or tax-filing services. The sort of expertise upon which design teams depend is not easily replicated.

EDN asked several industry leaders to give their perspectives on this trend. Tony Gribben is the Analog/RF IC Director for the Cadence Design Foundry located on the Alba Campus in Livingston, Scotland. Typical projects require Gribben and his team to develop custom ICs cooperatively with colleagues in the United States and customers that could be based anywhere in the world. The Cadence team relies on parallel development efforts, careful data management, advanced planning, and frequent formal communication. Read ["Advice for the multisite design team."](#)

Bob Conrad is senior vice president and co-general manager of Fairchild Semiconductor's Integrated Circuits Group. Conrad sees an advantage to integrating the design group within a larger product-development and marketing team that is local to the customer and responsible for the full product lifecycle. Read ["Think globally, act locally."](#)

Dick Meaney is the vice president of the precision converter group at Analog Devices in Limerick, Ireland. Meaney's group routinely designs, manufactures, and develops processes for converters in close cooperation with ADI technical and marketing groups located around the world. Read ["Cultivate the common cause."](#)

As if to underline the diversity of viewpoints on

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these issues, while Meaney was preparing his comments, ADI Fellow Chris Mangelsdorf sent in several points of his own from half a world away, where he serves as director of ADI's Japan Design Center. Read "[Analog geography](#)."

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