

THE INDUSTRIAL PHYSICIST

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EDITORIAL OFFICES
One Physics Ellipse
College Park, MD 20740-3843
Tel: 301-209-3051
Fax: 301-209-0842
e-mail: tip@aip.org

ADVERTISING OFFICES
500 Sunnyside Boulevard
Woodbury, NY 11797-2999
Tel: 516-576-2440
800-247-2242
e-mail: advtsg@aip.org

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EDITORIAL

On our own

With this issue, *The Industrial Physicist* becomes a stand-alone magazine, destined to rise or fall on its own merits. Two trial issues were sent as supplements to all subscribers of *Physics Today* in 1995. Now, with this first issue of 1996, we have our own subscribing readership.

The overwhelming response we have received—measured by reader correspondence, subscription sign-ups, advertiser participation, and author submissions—indicates that we are on to something. Physicists in industry need information on how to be more effective in their jobs and in their careers. Industrial managers need information on R&D techniques that work, and on trends that will affect the future of their companies. We designed *The Industrial Physicist* to serve these needs.

In this issue we cover some important developments in industrial electronics.

Microfabrication facilities are springing up all over the world, to feed the mushrooming market for silicon chips. This appetite is being fueled by demand for personal computers, washing machines, dishwashers, wristwatches, automobiles, and cellular telephones. Some 12,000 related job openings are expected in Silicon Valley in 1996 ("The microfabrication boom," page 10). On another front, there are some promising developments in polymer semiconductor materials. Two companies are looking to bring out products in the near future ("Plastic-powered displays," page 13).

Also, the role of computer modeling in the

deposition and etching industry is explored in the feature article on page 26. Our equipment feature on page 30 looks at ellipsometry as a method of measuring thin films. Finally, from Denmark, there is news of a very successful collaboration between industry and academia at the Mikroelektronik Centret in Lyngby (page 36).

The cover story on Structured Inventive Thinking (page 18) may be the first such story in the West. This problem-solving methodology engages scientists and engineers in a natural, productive team effort through a common language. It is new in the United States, having been adapted from "systematic inventive thinking," as taught at the Open University of Israel, which in turn is a simplified version of TRIZ, the theory of inventive problem solving invented in the former Soviet Union 50 years ago. Our article explains how the method is being used at the Ford Motor Company. According to one of our readers (Letters, page 8) we in the West have been prevented from learning about this technique until now, partly by the Cold War and partly by language differences. The technique promises to help scientists and engineers find solutions to complex problems quickly and efficiently.

The Industrial Physicist is now on its own, addressing the specific needs of physicists in industry—but like the very audience it serves, it will always exist in the context of the broader physics community.

Ken McNaughton
Editor/Associate Publisher

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