Industrial Performance Center

The Industrial Performance Center (IPC) is an interdisciplinary community of researchers dedicated to the study of productivity, innovation, and industrial development in the United States and around the world. IPC carries out field-based, often large-scale research projects bringing together scientists and engineers with scholars from the social sciences and management disciplines. Our research teams observe strategic, technological, and organizational developments in industry and analyze the implications for firms, their employees, and the societies in which they operate. Through this research we seek to help leaders in business, government, and education better understand global industrial developments and develop practical new approaches for strengthening public policies, business strategies, technical practices, and educational programs. IPC serves as a focus at MIT for interdisciplinary research on the rapidly changing global economy, monitoring and analyzing patterns of organizational and technological practice in different countries, interpreting them for our partners and sponsors, and feeding our observations and insights back into the core disciplines and educational curricula of the Institute.

Research Highlights

The center's research is organized around five major themes: innovation in the energy industries; new concepts and frameworks for managing innovation; local innovation systems and the university role; globalization and global value chains; and technology, offshoring, and the future of work.

This year research continued on the US energy innovation system under a major grant from the Doris Duke Charitable Foundation. The goal of the Energy Innovation Project is to carry out a comprehensive assessment of the strengths and weaknesses of the energy technology innovation system in the United States, considering the entire complex of incentives, regulations, markets, and public and private institutions within which the development, demonstration, adoption, and diffusion of new energy technologies takes place. Work this year focused on the distillation of lessons from prior energy innovation experience in the U.S. and overseas, as well as from innovation policies and practices in other industries, the latter carried out in conjunction with the National Bureau of Economic Research. Another important focus of research was to identify the principal bottlenecks to achieving scale in technology deployment in important application domains, including residential and commercial building energy efficiency, carbon capture and storage, and smart-grid applications. Several workshops in these and related areas brought leading academics and practitioners to MIT to explore a range of innovation policy options. The research will eventually lead to recommendations for improvements to federal and state research, development and demonstration policies, as well as mechanisms for early adoption and large-scale deployment of supply- and demand-side innovations. Faculty and graduate students from eight different MIT departments are participating in this project.

IPC also continued its partnership with the John Adams Innovation Institute to study the competitiveness of Massachusetts industries and to develop practical insights into what

can be done to improve the long-run economic outlook for the state. The research has focused on the future of biomanufacturing in Massachusetts and the competitiveness of the state's solar photovoltaic cluster.

In a related project funded by the Masdar Institute of Science and Technology Cooperative Program, a cooperative program with MIT, research continues on the roles of public research institutions in the development of innovative industries and the broader consequences for economic development, especially in communities within which research institutions are located. This project is focusing on development of the solar photovoltaic industry in different locations in the US and Germany and builds on ongoing IPC research to specify conditions associated with development of successful local innovation systems.

Work continues on IPC's China Energy Program, which analyzes technological and institutional innovations in China's energy sector. Following completion of the first national survey of the investment, operational, and environmental strategies of Chinese power plant owners and operators last year, field research on energy-related investment and operational decision-making at the provincial and local levels continued in several parts of China.

People

Professor Suzanne Berger was presented with the French Legion of Honor medal in recognition of her contributions to strengthening intellectual ties between US and French researchers.

Professor Michael Piore continued his service as president of the Society for the Advancement of Socio-Economics.

Professor Richard Lester was named head of the MIT Department of Nuclear Science and Engineering, effective September 2009.

Visitors to the center this year included Georgeta Vidican, assistant professor, Masdar Institute of Science and Technology, and Ana Siqueira, assistant professor of strategy, Graziadio School of Management, Pepperdine University.

Richard K. Lester
Director
Professor of Nuclear Science and Engineering

More information on Industrial Performance Center can be found at http://web.mit.edu/ipc/www/.