

The Building Blocks of American Innovation System



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How does NYS Center for Engineering Design and Industrial Innovation contribute to the innovation process?

The NYS Center for Engineering Design and Industrial Innovation develops leading-edge information, visualization, and simulation science and technologies for product development processes that enable companies to better compete and innovate in the world marketplace. At the heart of the science and technology we are engaged in is the notion of design, which, as Nobel Laureate Herbert Simon noted, is the process of changing an existing state into a preferred one. We focus on the process of innovation in the context of engineering design — therefore, we focus on the process of changing existing ideas, products, and systems into preferred ones.

One of the things we have focused on is the process of re-innovation, or taking a once innovative company and helping them to innovate again in changing markets with new pressures

and dynamics. We focus on the engineering design and innovation processes necessary to succeed and lead in such a market. We leverage the expertise of a number of disciplines including the engineering sciences, computational sciences, management, marketing.

We have been successful because we focus on the issues of synthesis or the issues of integration. For instance, how can information be synthesized to create knowledge? How can a decentralized decision network converge to a high quality solution? How can customer, design, and manufacturing be better connected to provide more integrated value for a product's lifecycle? These issues, among others, demand that the emerging science of design be at the forefront of our research, education, and leadership agendas.

What are the specifics of the innovation system in the US?

As President Obama has recently outlined in his strategy for American Innovation (www.whitehouse.gov/innovation/strategy), the building blocks of American Innovation are an educational system aimed at teaching XXI century skills, fundamental research leadership, and advanced physical and information technology infrastructures. These building blocks are meant to promote market-based innovation by catalyzing innovation hubs, accelerating business innovation from companies of all sizes, and promoting open markets.

How important are technological (innovation) parks?

These play a critical role as long as they are strategically developed between corporate and academic partners. The corporate parks need a strong connection to the academic knowledge-capital system not only for research leadership, but also for thought and educational leadership.

Could you dwell upon the most improved innovation parks in US?

I don't know a lot about the new parks in the US. I do know that companies such as Microsoft, Procter and Gamble, Accenture, IBM, AT&T, Computer Sciences Corporation,

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Ford Finalizes Russian Joint Venture with Sollers

Ford Motor Co. has finalized a deal with Russian automaker Sollers to build and sell cars and other vehicles in Russia, a key part of Ford's ambitious overseas growth plan. The two companies have lined up \$1.4 billion in long-term financing from Vnesheconombank, the Russian development bank, for the 50-50 joint venture called Ford Sollers. The venture, which includes one Ford plant and two Sollers factories, is scheduled to start operating later this year.

Russia is expected to be one of the world's fastest-growing auto markets and fits into Ford's plans to expand sales overseas. The Dearborn, Michigan, company told investors on Tuesday that it plans to increase global sales to 8 million by 2015, up 50 percent from 5.3 million last year. Much of the sales growth was expected to be in Asia.

While domestic auto companies in Russia have been struggling, the market itself has been gaining strength. Car sales in Russia rose by 30 percent last year to 1.9 million, according to the Moscow-based Association of European Businesses.

www.rdmag.com

14th Semi-Annual Russian-American Innovation Technology Week

The 14th Semi-Annual Biotechnological Russian-American Technology Week (RANIT-BIO) will start on June 23, 2011 in Philadelphia and conclude on June 30, 2011 in Washington, D.C. RANIT is the most significant semi-annual event organized by the Mid-Atlantic-Russian Business Council, which is devoted to Russian-American technology and business cooperation. It will bring together entrepreneurs, scientists, venture capitalists, and established corporations within the American and Russian technology industries.

www.events.allaroundphilly.com

Qualcomm, and Verizon have all started innovation parks recently. Also, the US National Science Foundation's Industry/University Cooperative Research Center (I/UCRC) program is attempting to provide government funding and support for these types of collaborative innovation relationships between corporate and academic partners.

What are the latest trends in innovation policy?

President Obama's recent priorities aimed at wireless initiatives, patent reform, K-12 education, clean energy, and entrepreneurship.

What may be achieved through these changes?

The hope is that innovation — knowledge capital — becomes a leading national characteristic, leading to a more effective integration of design and manufacturing.

What helps and what hinders the development of innovation system in the US?

Helps — capitalism, freedom of knowledge creation, mimicking the ultimate creation and design of the natural world, and a growing recognition that we must get better at solving not just problems, but complex problems.

Hinders — old models of teaching and learning, a lack of commitment to design and innovation in our curricula.

What do you mean by "mimicking the ultimate creation and design of the natural world"?

Essentially, I mean bio-mimicry, which is a new discipline, that studies and extracts ideas from the creation of nature and then imitates these designs to solve technical, environment, global, and societal problems.

What is your forecast for the development of innovation system in the US?

I agree with the Former US Secretary of Education Richard Riley who said that we are preparing students for jobs that don't yet exist, using technologies that haven't been invented in order to solve problems we don't even know are problems yet. This is brilliant and must be at the foundation of any innovation system. But to think like this requires new ways to learn, to think, and to teach. Companies are

challenged to get to market faster, reduce development costs, and design better products and systems. Many times, if a company can do 1—2 of these simultaneously, they are market leaders. The sustainable, long-term, global leaders will be the companies who can be innovative to accomplish all three.

"Preparing students for jobs that don't yet exist, using technologies that haven't been invented in order to solve problems we don't even know are problems yet" seems like an enormously hard task. Why do we need to put so much effort at first place? Innovations existed in all times. Why do today we need an innovation system and all costly and complicated mechanisms to promote innovation? Is there a qualitative difference between now and then, which makes us do that?

You are correct; we have been creative from the beginning. We are all given an ability to create and innovate and that has not changed. But with the acceleration of information availability rapidly escalating, our methods to innovate and the ways we think about innovation must change. The increasing pace at which innovation can be achieved demands new models — models that capitalize on an interconnected and digital world. Our fundamental ability to creatively innovate has not changed; but our strategies, methods, and models must adaptively transform. Too many problems have not been solved by old ways of thinking for us to sit by and hope that our old ways of innovating are going to work somehow.

What research or technological achievements may assure a technological breakthrough in the years to come?

I am of the opinion that advances and achievements in the science of synthesis will facilitate breakthroughs in the engineering and physical sciences. The grand challenges facing our global societies are transdisciplinary, as they cross disciplines and demand new ways to identify problems, to pose these problems, to solve these problems, to implement the solutions, and to teach the skills to do all four.

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International Conference "Innovative Food Technologies in a Field of Agricultural Production Storage and Processing"

Production Storage and Processing"

The 2011 International Conference "Innovative Food Technologies in a Field of Agricultural Production Storage and Processing" organized by Krasnodar's Research Institute of Agricultural Production Storage and Processing, Russian Academy of Agricultural Sciences will be held June 23—24, 2011 in Helendzhik, Krasnodar's Area. The conference will be organized to invite international delegates, to share their latest research findings on Food and Agricultural Sciences. .

www.researchgate.net

JSC Pharmstandard to Hold the AGM

JSC Pharmstandard, the leader of Russian pharmaceutical industry in R&D and production of the medicinal products, invites its shareholders/holders to its annual general meeting of shareholders on 30 June 2011. There are following key items will be discussed at the AGM: 1. Adoption of the financial statements for the year 2010 and 2010 annual report; allocation of profit and losses of the company based on year 2010 financial results. 2. Dividends for the year 2010. 3. Election of the Board of Directors. 4. Election of Audit Committee. 5. Appoint independent audit company for the year 2011.

www.chemrar.ru

14 PSI 2011 - The Ershov Informatics Conference PSI 2011

The Ershov Informatics Conference (the PSI Conference Series, the 8th edition) will take place June 27—July 1, 2011 in Novosibirsk, Akademgorodok. It is the premier international forum in Russia for research and its applications in computer, software and information sciences. The conference brings together academic and industrial researchers, developers and users to present and discuss the most recent innovations, trends, experiences and concerns in the conference area.

www.psi.nsc.ru