

Project Management Report from Milan



*By Luca Cavone
International Correspondent
Milan, Italy*

This month we want to share the results of a recent interactive forum organized by UNITECH, a consortium of European technical universities and industrial firms. The following summary of the event was provided by UNITECH Secretary-General David Ward. It was relayed to me by Roberto Mori, Chair of the Executive Board of the International Project Management Association (IPMA), who participated in the event in representation of IPMA Italy.



Engineering the Future of Europe: The UNITECH Perspective

Overview of the Forum

Last Autumn, UNITECH International, a non-profit association of leading European engineering universities, innovative companies and top-level students, held an interactive forum "Engineering the Future of Europe: The UNITECH Perspective."

Organized by Politecnico di Milano, a founding UNITECH Academic Partner within their 150th Anniversary celebrations, the event explored how Europe is challenged by its most critical economic crisis for several decades and how it must deal with an urgent need for new solutions to ensure a rapid return to growth that will prove sustainable in the long run.

To that end, the keynote speech, presentations and interactive panel discussions focused on answers to the following questions:

- How can sustainable economic growth and industrial development be promoted throughout Europe?
- What roles can engineering, technology and innovation play in promoting a high-value, globally competitive industrial economy in Europe?
- How should the political, industrial and academic agendas be aligned to support proposed strategies?

Drawing on established UNITECH experience created through the long-standing and continuous engagement of technical universities and industrial corporations, the following key messages guided the forum:

- **Engineering** – A structured and coherent engineering approach is needed to analyse the European situation, design feasible solutions, and execute the necessary actions; technology and innovation are likely to be crucial elements of a successful development strategy.
- **Future** – Proposed strategies and actions should look to the future in ways that ensure sustainable and competitive development in the European region that is based on technological advancement and economic development.
- **Europe** – A well-designed development strategy should bring together political, industrial and academic leaders from across Europe to provide a holistic and comprehensive view of the European outlook.

The forum's keynote speaker, Jeremy Rifkin, President of the Foundation on Economic Trends, addressed the micro- and macro-economic factors that engineers of the future will be facing. After his speech, a panel of Executive Board members of relevant European corporations and leaders of academic institutions discussed possible strategies and opportunities to link companies and universities more closely together to help European engineers tackle the future challenges that Mr. Rifkin outlined.

- **Karin Markides** (President, UNITECH International and President, Chalmers University of Technology)
- **Giovanni Azzone** (Rector, Politecnico di Milano)
- **Jack Golden** (Group HR Director, CRH)
- **Dieter Kerkhoff** (Director New Technologies, Johnson Controls)
- **Reinhard Ploss** (CEO, Infineon Technologies)
- **Hendrik Wehr** (Lead Production Director, Vorwerk)
- **Filippo Zingariello** (Global Strategic Development Director, SKF)
- **Gianni Riotta, Chair** (La Stampa)

Jeremy Rifkin's Vision

The European crisis is part of the larger global downturn affecting every nation, Mr. Rifkin explained. A mounting energy bill, the real time impacts of climate change on agriculture and infrastructure, the slowdown of the global economy, rising unemployment and escalating consumer and government debt have brought the world to the brink of a historic crisis of epic proportions.

Nearly everyone, he said, is in agreement that tough new austerity programs will have to be enacted in the member countries to reduce government debt, and new regulatory mechanisms will need to be put in place to oversee European financial institutions and markets. Any austerity programs, however, have to be designed carefully so that they do not compromise the guiding values of the European Dream, which include the preservation of the social/market model and the continued commitment to sustainable economic growth.



Mr. Rifkin noted that the Second Industrial Revolution -- powered by ever more expensive fossil fuels and organized around an aging electricity grid and an outmoded transport network, all embedded in a crumbling carbon-based infrastructure -- is incapable of spawning thousands of new businesses and millions of new jobs. It is becoming increasingly clear, he said, that what Europe needs, above all else, is a bold new economic narrative that can take it into a more equitable and sustainable future.

Today, internet technology and renewable energy resources are beginning to merge in Europe to create the infrastructure for a Third Industrial Revolution, one that can revitalize the European market, advance the next stage of European economic integration and help solidify the European Union as a political space.

In the coming era, he said, millions of Europeans will produce their own green energy in their homes, offices and factories and share it with each other in a green electricity grid over the internet, just as we now generate and share information online.

The five pillars of the Third Industrial Revolution that Mr. Rifkin outlined include:

- Shifting to renewable energy
- Transforming the building stock in every country into micro-power plants to collect renewable energy on-site
- Deploying hydrogen and other storage technologies in every building and throughout the infrastructure system to store intermittent energies
- Using internet technology to transform the power grid of every continent into an energy internet that acts just like the internet in that when millions of

buildings are generating a small amount of energy locally, on-site, they can sell surplus back to the grid and share electricity with their continental neighbors

- Transitioning the transport fleet to electric plug-in and fuel-cell vehicles that can buy and sell electricity on a smart, interactive, continental power grid.

Regarding these five pillars, Germany is setting the pace in the transitioning of the continent into a Third Industrial Revolution, according to Mr. Rifkin. The country currently generates 20% of its electricity from renewable sources and is expected to produce 35% of its electricity from renewables by 2020.

The distributed nature of renewable energies necessitates collaborative rather than hierarchical command-and-control mechanisms. Mr. Rifkin explained that the extraordinary capital costs of owning and operating gigantic, centralized telephone, radio and television communications technology, as well as fossil fuel and nuclear power plants, are giving way to the new “distributed capitalism.” In this system the low entry costs in lateral networks make it possible for virtually everyone to become a potential entrepreneur and collaborator and to create or share information and energy in open commons.

The shrinking of transaction costs in the music business and publishing field -- due to the emergence of music file-sharing, the advent of eBooks, and the growing reliance on news blogs, for example -- is wreaking havoc on these traditional industries. He predicted that we can expect similar disruptive impacts as the diminishing transaction costs of green energy allow manufacturers, service industries and retailers to produce and share goods and services in vast economic networks with little outlay of financial capital.

As an example, Mr. Rifkin cited manufacturing in the past and the future. The traditional industrial way of life is made of highly capitalized, large, centralized factories equipped with heavy machines that churn out mass-produced products on assembly lines. But what if in the future, he asked, millions of people could manufacture batches or even single manufactured items in their own homes or businesses, and do so more cheaply and more quickly but with the same quality control as the most advanced state-of-the-art factories on earth?

Although it sounds like science fiction, he said, that particular process of 3D printing is already coming online, and it promises to change the entire way we -- and European engineers of the future -- think about industrial production.

Key Messages from Panel Discussion

Mr. Rifkin's thought-provoking comments acted as a stimulus for discussion in the following panel. Participants debated some of the possible scenarios he outlined and concluded that in the long run, success will be feasible only through decades of efforts and investments in governmental policies, through development of new technologies across industries and through massive cultural change.

The panelists reminded the audience not to take for granted that all the forces Mr. Rifkin described will act together in the same direction. For example, it is not clear how emerging countries, which are the current engines of the global economy, will respond to these ideas and in which direction they will invest.

In Europe, however, innovation and change are the key ingredients in the recipe to end the current crisis. It is not enough to do things better and create new products and services, participants said. Real wealth creation comes from completely new business models and concepts, wherever they come from and whatever their form.

Within its current knowledge economy and knowledge society, Europe has a desperate need for the new, participants pointed out, and this success factor should come from the collaborative interaction between companies and universities. This interaction must occur at both the teaching and the research level, thus enabling European graduates to bring value to their employers and to conduct research projects that will deliver innovation to society. At the same time, corporations will have to further interact with academic institutions and support relevant projects and activities within universities.

Moreover, panelists pointed out, real breakthrough innovations will come more and more from crossing the boundaries of different fields and disciplines in companies and in universities. Multi-disciplinarity and cross-fertilization are the key sources of new ideas and concepts. In the last years, some of the most disruptive innovations and developments have come from the intersection between medical doctors and engineers, for example.

It is not always easy to foster such kinds of integration among disciplines and people, who normally are used to their own approaches and mindsets. Participants believed that only through inspiration, hard work, passion and courage to push ahead on integrative innovation will we step forward and be able to create a sustainable wealth for the future.

Within this context, European universities will need to face three major challenges, according to the panelists:

- They must leverage the globalization process by being able to attract top students and professors; only in this way can they offer the intellectual capital required to foster innovation within the society.
- The global arena leads to the digital competition; contents digitalization is a fast-growing trend across all disciplines in universities, and it will radically change the way students are trained.
- The quality of the surroundings and the ecosystem around the universities are crucial to feed their innovation process and to develop human capital. No university can compete globally if it is not stimulated and supported by a strong industrial network around it.

A last key message was recorded from the audience. Mr. Roberto Mori, Chairman of IPMA (International Project Management Association), recalled that research, change, innovation can only be successfully achieved through projects, which in turn call for effective, professional project management. Therefore Universities, Corporations and Project Management Organizations should interact and cooperate more widely and deeply to ensure the success of all the new projects. IPMA, the first world project management association established in Europe and comprising today of 55 countries from all the continents, is in the best position to take primary part in that interaction thanks to its deep roots into the European culture.

Whatever the visions and the different perspectives expressed by the individual participants in September 2013, one message was crystal clear. Collaboration and innovation in the political, academic and corporate arenas are critical elements to help engineers usher Europe out of the current crisis. Such a change is not easy and it will take time, but all panelists agreed it is a necessity.

Background on UNITECH

For more than a decade, UNITECH, a unique consortium of Europe's top technical universities and industrial firms, has been addressing the issues discussed during the forum. They have done so by preparing the best young engineering talent to fill the leadership roles that will be responsible for securing Europe's future. UNITECH was created with the following mission:

- to bring the top technical universities in Europe closer to the corporate world
- to foster the all-round development of the top young engineering talent in Europe from technical knowledge to soft and behavioral skills
- to develop those talents into responsible and ambitious future leaders for European industry

UNITECH International Society currently incorporates 20 leading multi-national companies, 9 elite European engineering universities and an active alumni association. More than 850 students have participated in the decade-old program, and the UNITECH Alumni Association includes more than 350 UNITECH young international engineering professionals who actively network in the communities where they work following graduation.

As part of the year-long UNITECH programme, engineering students receive intensive business training and coaching and complete a university exchange and an internship with the blue-chip industrial companies who are UNITECH corporate partners. In addition to in-depth specialized subject knowledge, students must demonstrate management, social, communication and foreign-language skills to complete graduation requirements.

For further information, please contact:

UNITECH International Society
“Engineering a Network of Professional Possibilities”
c/o Bereich Rektor der ETH, SOX B 11, Sonneggstrasse 74
8092 Zurich, Switzerland

David J. Ward, Secretary General david.ward@unitech-international.org
Phone: +41-44- 632-0970 Mobile: +41-78-851-5929
Website: www.unitech-international.org

About the Author



Luca Cavone

International Correspondent
Milan, Italy



Luca Cavone is a Consultant at JMAC Europe, the Consulting firm of the Japan Management Association. He is mainly focused to support companies in Innovation Management and Product Development Projects typical of R&D and Marketing areas, with an interdisciplinary background of the business processes. In JMAC Luca follows also the study and development of project management methodologies based on the application of Lean Thinking approach. Before joining JMAC he worked several years in the Aerospace industry. Since 2009 Luca has been actively involved with the International Project Management Association (IPMA); at that time he was between the founders of the Young Crew Italy and was appointed as first chairman. In 2011 he left the position to join the Young Crew Management Board, where he's currently Head of Membership and Responsible for the Young Project Manager of the Year award. Since 2010 Luca is also a member of the Executive Board of IPMA Italy. Luca is an international correspondent for PM World in Italy; he can be contacted at luca.cavone@tiscali.it.