

Influential, often times controversial – Jeremy Rifkin is a man with a vision. He speaks with Global Contact about the 3rd Industrial Revolution, its four pillars, and the role that knowledge and new business models will play.

Text Elizabeth Fryman

# A man with a plan

## What is the 3rd Industrial Revolution?

“We’re facing an unprecedented challenge right now. We have three crises that are feeding off of each other – the global economic meltdown, the energy crisis and real time climate change. When you put those together, it’s clear that we’re at the end of an age, and the question then is what do we do?”

What’s missing so far is a new economic vision that would be powerful enough to address the enormity of this moment in history. In 2002, we began to develop the beginnings of a game plan. It starts with the premise that the great economic moments in history occur when energy revolutions converge with communication revolutions.

In the 19th century we had a convergence when print became very cheap. That communication revolution converged with coal, steam and rail to give us the first Industrial Revolution. In the 20th century, the first generation of electricity – the telegraph and telephone – became the vehicle to manage oil, the internal combustion engine and suburban build out.

We’re on the cusp of the 3rd Industrial Revolution, and companies like KEMA are right in the center of it. We’ve had a powerful communication revolution in the last 15 years with personal computer and the Internet. This new technology communication revolution with electricity is completely different from centralized, top down, one-to-many communi-

cations. This is distributive communication. When distributed information & communication technology (ICT) converges with distributed energy, we have a very powerful 3rd Industrial Revolution.”

## And four pillars support this - the first being renewable energy.

“Oil, gas and uranium are what we call elite energies; they’re centralized and require a multitude of resources to secure. Distributed energies are everywhere. But we faced the issue of how do we collect them? We were thinking about centralized solutions - wind and solar parks - which are essential, but transitional. Renewable energy is everywhere; why collect it only in certain locations? So pillar two is buildings. We see every existing building converted into a partial power plant over the next 30 years.

The third pillar is energy storage. Hydrogen is the way – it’s the basic element of the universe. When you use it as energy the only byproducts are water and heat.”

## Why hydrogen and not electricity storage?

“We need all of it, but hydrogen is going to be the most important because it’s like digital to media: completely convertible. When you use it for storage you have tremendous opportunities that you wouldn’t have with other mediums. The possibility of storing large amounts of energy becomes available. Hydrogen is important on the grid – the ability to use hydrogen on mini-

grids and across the entire grid is going to be essential. I’m for all forms of storage, but I think hydrogen will provide us with a universal centerpiece.”

## And then the fourth pillar...

“The fourth pillar is where the distributed ICT converges with distributed energy, and again, this is where KEMA really comes in. You take the power grid and convert it using the same technology as the Internet so it becomes the ‘intergrid’ or smart grid. When buildings are producing their own power, whatever they don’t need they can share.

The answer to the question – how do we run a global economy on renewables? – came with grid IT. You can connect thousands of desktop computers with software and the distributed computing power exceeds what you get with centralized super computers. We can take grid IT to the transmission and power lines. That’s how KEMA plays a role. If millions of buildings produce just some of their own energy and share it at surpluses across continental grids, the distributed energy shared exceeds by a magnitude the centralized, nuclear, coal-fired power plants.”

## KEMA is a knowledge company. Can you comment more about the role that knowledge plays in your vision?

“A 3rd Industrial Revolution infrastructure is going to require completely different job skills. We’re going to have a whole generation of

## Jeremy Rifkin

As the president of the Foundation on Economic Trends and author of 17 bestselling books, Jeremy Rifkin works closely with leaders of industry, heads of state and pioneers in research, turning his vision into action. His accomplishments include advising the government of France during its European Union presidency, as well as the leaders of Germany, Portugal and Slovenia during their respective European Council Presidencies, on issues related to the economy, climate change and energy security. He currently advises the European Commission, the European Parliament and several EU heads of state. Mr. Rifkin’s Sustainable Development Team also advises governments and corporations on the latest technologies and best practices designed to address climate change and energy security.



workers now that are skilled in renewable energy. Skilled in construction – from the bottom level up to architects. We have to begin to create new jobs converting the power grid across the country: from engineers to installers. We’re going to have an entire new workforce instructed on transport and logistics. We need to change our skill sets, and we need to create new business models that reflect the distributed nature of distributed capitalism. Open source, collaborate business skills and

“When distributed ICT converges with distributed energy, we have a very powerful 3rd Industrial Revolution”

business models – everything from performance contracts to multiple partnerships across countries.”

## This ties into the new pact between business and research communities?

“Absolutely. I chair the 3rd Industrial Revolution Global CEO Round Table. We develop plans for entire regions. One of the plans we developed in Los Angeles was to take the university and community college system and connect it into a four-pillar infrastructure. The buildings have renewables converted into them, and hydrogen storage, and they’re connected using distributed, smart grid technologies. Companies come in and contract with them for R&D to begin to create a relationship between schools, R&D and development in the industry.

I think there’s an opportunity here to do something on a scale that we’ve never done. I’m hopeful, but I think we have to be completely focused for the next four generations on how we make a transition to this 3rd Industrial Revolution. Because if we’re not, I don’t see how we’re going to make it.” <<

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*This article is the second in a series of industrial perspectives, following our piece from Brad Roberts – chairman of the Electricity Storage Association – in Global Contact 2-2009.*