SHAPING A SHIFT IN LUXEMBOURG

Turning Jeremy Rifkin's Third Industrial Revolution into reality

By Martha Kempner

In 2011, Jeremy Rifkin, an American economic and political theorist, published *The Third Industrial Revolution: How Lateral Power is Transforming Energy, the Economy, and the World.* This book explains that a successful and sustainable economic paradigm shift requires a communication tool, energy sources and modes of transportation. Rifkin has been an advisor to many nations in the European Union, but Luxembourg is the first to adopt his strategy as a whole country. Tom Eischen, government commissioner for energy, notes that Rifkin "succeeded in opening minds," in part by pointing out how "energy, mobility and digitization will change the future."

Luxembourg used Rifkin's philosophy to develop a national strategic plan to prepare for the future. The Third Industrial Revolution in Luxembourg defines a long-term economic model based on technological advances in three areas: communication, energy and transportation.

The strategic study, released in November 2016, is a collaboration between the Ministry of the Economy, the Chamber of Commerce and IMS Luxembourg (a network of organizations and businesses dedicated to corporate responsibility), and many more sectors of the country participated in its development. Carlo Thelen, director general of the Chamber of Commerce, explains that in creating the plan they took a "bottom-up" approach that was open and inclusive. Nearly 300 stakeholders, from academia, business and government, participated. They were organized into topic-specific working groups, including ones focused on energy, industry, mobility and other areas.

An "energy internet" makes up a key component of the strategic plan. "Renewable energy sources, like wind and sun, are not controllable," Eischen explains. "The future electricity system will have to manage situations of high demand and high supply in a different way, and this will only work through smart and digitized grids: the energy internet." As a first step, Luxembourg's government and national distribution–system operators are deploying smart metering systems across the country, which can send data about electricity and gas usage to a centralized system.

Pending projects include promoting electric and emission-free personal vehicles, establishing a road map for sustainable food production and developing technological platforms that work for industrial and public research. In addition to government-sponsored projects, the Chamber of Commerce is assisting businesses with digitization and energy transition. As an example, Thelen points to Tarkett, a company that manufactures flooring and sports surfaces. Recently, the company invested in printing technology that customizes a product with a unique design, and still quickly executes an order. Tarkett also adopted a new business model: customers rent carpet tiles rather than purchasing them. Tarkett installs the product, and eventually retrieves it for recycling at the end of the rental period.

The strategic study was merely the beginning. Thelen says: "I do believe that the most exciting part is still to come. The process of setting up a nationwide strategic study has proven to be a key element in turning the ideas and measures into reality."