

THE CASE FOR AN ECONOMY DRIVEN BY INNOVATION, SCIENCE AND IMAGINATION

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"The world is watching us just as we are watching the world."

We can no longer see the world merely as an object. To create a sustainable world, we cannot simply carry on as we do today. A sustainable world calls for more imagination and innovation in science, uses and economic models.

For the last two centuries our production methods and lifestyles have been constructed using a limited number of processed natural resources, a limited amount of knowledge — mainly chemistry — and, above all, knowledge that has been kept separate in silos, in order to achieve economies of scale. While this 'normalization' of the economy has resulted in tremendous progress, it has overly focused on the product of human labor to the detriment of nature and life. And yet everything points to the current era as one of transition from a resource-based economy to an experience-based economy in which the way we use and experience a product has more value than the product itself.

Science, uses and the economy all go hand-in-hand. A marvelous example of this is additive manufacturing. 3D modeling and 3D printing are revolutionizing the world of production. We are seeing a shift from mass production to mass customization. At the same time, new uses are emerging (miniaturization; reshored production) which in turn call for greater scientific innovation (the focus is being put back on fundamental research into material components; new materials are being developed; production is being fine-tuned at the scale of the atom).

Of course political commitments must be made to cut carbon emissions during these crucial COP21 climate talks. Allow me to reiterate the fact that Europe has never gone back on its commitments. But the next step is a major climate conference that also engages scientists, citizens and entrepreneurs to focus on two essential aspects: a holistic approach to the environment (encompassing resources and knowledge) and innovation. Rather than simply improving things, the challenge now is to produce things in ways that have never been used before and to learn in ways that have never been applied before. And to do this, we need to innovate, innovate, innovate! My only advice to governments is this: invest in innovation, support everyone — from citizens and start-ups to large industrials — who engages in innovation. We can realistically look forward to a carbon free world by 2050 if we invest in innovation but not if we rely on compensation. This will involve transferring skills — rather than technologies — and developing R&D partnerships with emerging economies. Large firms have a premier role to play in the development of a global economic, cultural and political community. They are endowed with a unique opportunity as well as a responsibility to work toward this goal.

Achieving a more sustainable future is only possible by leveraging the virtual world. Building on the past and pointing to the future, the virtual twin is a real scientific and industrial asset as well as an asset for the wider community. It enables us to invent new usages, the products underpinning them and the production tooling involved, all in a virtual universe. Generally speaking, in life there are no rehearsals. But in the virtual world, we can simulate and evaluate impacts before making the product itself. . At the COP21 conference Dassault Systèmes will be presenting its solutions for cleaner energy (notably by promoting an energy mix), sustainable mobility (through the development of connected, autonomous vehicles), and the sustainable city. The city of the future — the smart city — is where all these major trends meet: intelligent transport systems; new services and associated retail outlets; intelligent systems for managing flows of people, energy and waste; a forward-planning approach to security issues; and fresh citizens' initiatives).

Digital innovation and collaboration platforms are fostering the emergence of new economic models based on ultra-high-speed connectivity with users and tapping digital data—the world's new "natural resource." Developing the new economy calls for specific conventions and agreements, in particular with regard to the use of public data for commercial purposes. Data regarding citizens, their health and the cities in which they live must not simply be made available without adequate protection. In other words, our models must be reinvented.

Over and above the technological aspects, for each and every one of us the digital revolution means greater scope for imagination and innovation. It a journey of transformation and an exciting major project for society as a whole as we seek to achieve harmony between products, nature and life.