LENR-Cities

Energize the City

Michel Vandenberghe, CEO LENR-Cities.
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LENR-Cities SA is an innovative enterprise, located in Neuchâtel, Switzerland.

Our mission is to accelerate the development and industrialization of disruptive technologies. A major disruptive technology destabilizes the whole of society. A major innovation in the energy field falls into this category.

The core of our proposal is to minimize the shock of a disruptive technology and help ensure its widespread adoption.

Therefore, we create the necessary conditions to enable the emergence and development of a great number of applications, that is to say, a multitude of innovative companies capable of benefiting from these technologies.

If a technology opens a way to numerous applications, it is necessary to separate the technology-related development and financing activities from those that are related to the applications themselves.

We have developed a business model to implement this, all under the umbrella of an enterprise activity.

This unique business model is effectively two complementary business models, exploited by two separate enterprises, with each enterprise having a specific value proposition for investors.

The first offers scientists an environment adapted to their activities, as well as an innovative model that grants additional value to these activities.

The second offers a way for industrialists and investors to benefit from the knowledge and know-how developed by the first model.

It is a unique project; our ambition is to create a “black swan” – this is a term that refers to a company destined to emerge on the world stage.

Our goal is to contribute a response to the great planetary challenges that exist in the domain of energy and basic resources. Answering these challenges is key to the future of our societies.

We do not develop technologies. We do not develop applications. Our partners do. Our project is also a development medium for our partners’ activities.

We have chosen to build a project in the domain of energy, to enable the development of a clean, abundant and cheap new source of energy that will become a substitute for fossil energies. We also aim to enable development of all fields of LENR technology, including transmutation, nuclear waste remediation, direct production of electricity, room temperature superconductivity, and more.

Nevertheless, our model is not limited to LENR; it is applicable to all disruptive technologies whose field of application leads to the creation of a great number of applications. Several such technologies would already be eligible. The energy sector is the field where the value of our proposal is the greatest.

We are developing a specific, structured approach to disruptive innovations. We are a *pure player* in the development of innovation and business ecosystems, as well as in their integration.

This work was begun in 2004, but the first steps were taken in 1999. We have conceived a ***structured innovation product*** for industrialists and investors, allowing for a reduction in the cost of risk for the former, while creating increased value for the risks that the latter take.

The commercialization of this product by our companies is our source of revenue and financing.

Our goal is to encourage the market-level adoption of disruptive technologies while also minimizing the shock of these technologies on existing corporate activities, particularly for established players.

Once up and running, the technological activities and our enhanced value process will be auto-financed. Of course, we will need to find the initial financing required to develop our enterprises.

A new source of energy

Developing a new energy source is a challenge for the whole planet.

Obviously, the transition toward this new energy will take place at the cost of considerable upheaval: for the energy sector, of course, but also for every industry.

We have resolved the following problem, a problem inherent to every major disruptive technology: financing for a technological project is usually dependent on first having evidence of marketability. It is difficult to understand the effort necessary to create technological evidence in this context; that is to say, concretely finance and thereby mobilize scientific skills in these domains.

Once this problem is resolved, the creation of innovative corporate activities to increase the value of the applications of these technologies becomes a factor to consider, and this justifies the initial effort.

Technically speaking, we shall be applying a "sharing economy" type of model to the development of markets.

The model we will use to develop our structured product with our ecosystem partners has three facets (for scientists, industrialists and investors).

However, our product commercialization model has two facets, for the partners and clients of our ecosystem.

The heart of our model architecture is a model of increased value based on "open IP." We have redefined intellectual property in an Open Innovation Environment so as to industrialize this particular approach.

In other words, we transpose known models of the digital economy into science and industry. With a source of dense, distributed energy production one of the necessary conditions to this transposition is fulfilled.

So we can apply this know-how to the development of a line of technologies within the LENR field.

The project is complex and requires competence in legal and financial innovation, as well as scientific, industrial and business competence.

We have already created a prototype. We have built an ecosystem to develop the technology (http://lenrg.org). The business model of our enterprise is defined (http://lenr-cities.com) and presents the characteristics expected by investors. The creation of the second company is under consideration.

Note that our model is very innovative and requires additional attention to be understood since it integrates several innovations.

Low Energy Nanoscale Reactions (LENR)

Few scientists are aware of the work done in what is promising to become a new scientific field. LENR is opening the door to 21st-century industry.

Obviously, this technology is not within any existing field of science; it lies at the intersection of several scientific disciplines: quantum physics, condensed

matter physics, and nanoscience in particular.

One must remember that the more disruptive a domain is, the less active scientists there are in it, and these few are at the extremes of recognized science.

Initially, we analyzed the evolution of the field of LENR research, not from a scientific point of view, but considering the telltale signs of a disruptive innovation finding its way over the course of more than two decades. We have identified key scientists and convinced them to cooperate on a shared project, with the goal of leading the scientific community to support the project. These scientists are recognized worldwide.

In this way, we have built a team of world-renowned scientists with strong connections to the global community. If the theoretical key to LENR is revealed, it will likely be by them, and if this is not the case, our team will be perfectly positioned to respond to the explosive demand that will follow this revelation.

Last January we organized an event in Oxford, England showing that the field of application of this technology goes far beyond energy alone. We are very practical; the interest raised is a good indicator of this.

Following this event, we became involved in conceiving two projects with key scientific and technological players in the United Kingdom. Italian scientists will also take part in these projects.

Our first concern is the transformation of nuclear waste; the second will be to bring the necessary scientific proof to break the barriers of present-day physics. Three of our scientist team members are great theorists.

Information circulates in this scientific community, but to obtain access requires recognition by this community, the only means of obtaining information that is not filtered or redacted for public consumption.

Taking into account the range of possibilities of this scientific field, we have changed the acronym *Low Energy Nuclear Reactions to Low Energy Nanoscale Reactions,* because its applications effectively permit us to achieve at low energy reactions that ordinarily require very high energy. So-called "nuclear" reactions are one such example, but only one.

The application field overlaps the biological domain.

LENR is a revolutionary field in nanoscience, and an area of totally new applications centered on matter engineering.

N.B. We are aware of certain sensitive aspects of this technology in the fields of space and defense.

Ecosystems

Large enterprises, particularly those that are exposed if this technology were to become exploitable, are also watching these developments. We have made an agreement with Airbus Group to participate in our ecosystem. In fact, this responds to their need to develop their own ecosystem. It should be noted that in Germany, a company of the Airbus group took out a patent in 2013, which officially recognizes Airbus interest. The interest of Airbus's competitor, Boeing, in this field of research is already known.

Over and above the technological aspect, our model of ecosystem development has a value in and of itself for large industries that need to rethink their own ecosystems, in preparation for a time when industry undergoes a profound transformation, well beyond the changes we already know about.

We hold all the elements in hand when it comes to a project such as this. It is a unique opportunity.

We are at a critical point in the project, when everything seems possible and appetites are whetted. We now need to find heavyweight investors and legal allies.

Such a project can only come about under certain conditions: it needs to be led by a

start-up during the first stages and shared with big-time players afterward.

I am convinced that this is also an opportunity to take the reins of leadership. This is just one more piece of support for a technology that could become the key to energy independence. We are proposing to found a project open to the ambitions of a multicultural region, Europe, and to the world.

This type of a project also arouses the imagination. It carries within it a vision and a future and responds to an expectation. Our most fervent admirers have been the students we invited to Oxford; the project also captivated their parents. This emotional response is an important factor because each and every one of us longs to find the horizon.

The project is and remains a business enterprise. Business has a certain way of developing a market in an operational form; this fact is a radical and unique proposal.

As presented, our project requires our obtaining an investment structure to finance the projects made possible by the development of these technologies, which have multiple applications in the fields of transportation, electronics, (the shutdown of) nuclear facilities, the regeneration of basic resources, and more, as well as opening numerous new markets.

The project

The key criterion of such a project is the probability of success. All our efforts are concentrated on this criterion.

The investment for the applications is four orders of magnitude less than its economic potential; the technological investment is six orders of magnitude less. In other words, on the order of some three to five million Euros for the start-up of the project, which should rapidly self-finance the development of the technologies, and which might require close to 200 million Euros to develop the key applications (an empirical but reasonable estimate).

Our agenda is aligned with the projects of states that are undergoing energy transition. Out of necessity, we are working with those who allow us to work quickly. This project is worldwide and our team objective is to develop a European-centric project, with a focus on the axis of Italy, Switzerland, France and the United Kingdom. We are looking for partners in Germany and Belgium as well. We are looking for partners in other regions worldwide.

Based on the role our firm intends to play, the choice of Switzerland as the site of the parent company headquarters is called for.

The values of LENR-Cities are neutrality, transparency and trust, all of which are essential to create a new type of market operator and ensure the role of economic development.

The founding team is international: two, including myself, are French, one is Swiss and the last is Italian. The members of our scientific team are Italian and North American and our project is open to all the scientists of the world.

Hopefully, we shall receive support from state governments; however, above all, we are looking for those who can imagine and who wish to participate in building our future.

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Summary

The future of our society depends on our ability to invent an abundant source of energy that is clean and inexpensive. Only then will we be able to efficiently use and regenerate the elemental resources of our home planet.

LENR is the best technology candidate. Research activities began in 1989 and the technology is now at a TRL 4 state of maturity. Laboratory validation of the phenomenon has been produced.

Our work with the community of researchers has shown that beyond the production of energy the research field of LENR also covers technologies such as the treatment of nuclear waste, transmutation, superconductivity, hydrogen production and (with only a small amount of energy) the direct production of electricity. This list is not exhaustive. LENR is deeply linked to the science of materials in the field of sciences and nanotechnologies.

Recent developments by LENR indicate that the year 2015 may be Year 1 of a new industrial era. In a few years, the first users, businesses and individuals, may be energy- autonomous and independent and all of society will develop a new economy combining growth and sustainability.

LENR will be the catalyst of an industrial transformation at the service of each client, clean and adapted to each context...the opportunity to transform everyone's life.

The challenge is nothing less than creating a new economy. The goal is not only to industrialize LENR technologies, but also to permit all industries to innovate while integrating LENR into their own products and technologies.

We need to innovate to allow a massive, viral transition toward LENR industry, and beyond energy alone, to give preferential treatment to innovation and growth in all businesses.

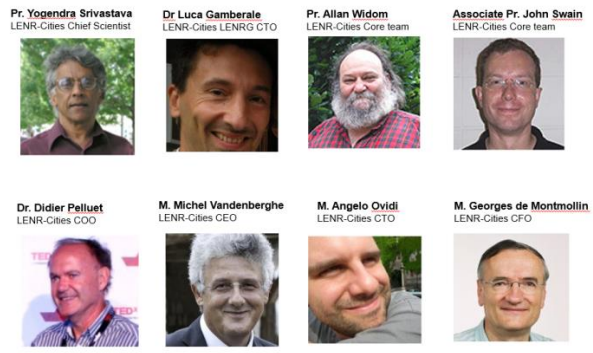
The DNA of the project should organize the transition so that success is the result. The development of LENR technology is inseparable from the market innovation necessary to manage its impact. It is obvious that the challenges we know of at a planetary level do not leave us with other options. The transition must be accomplished within 20 years.

The adoption of Web technologies is an example of a massive, rapid transition, but LENR technology does not require the same model of adoption. For this reason, LENR-Cities adapts the business models of the digital economy to the LENR industry. The goal of LENR-Cities is to put in place a market-adapted organisation in the form of an efficient and resilient ecosystem: LENRG. LENRG is a European-centric business ecosystem that aims to accelerate development and industrialization by orchestrating the mutual self-interests of scientists, industrialists, investors and the public at large.

The LENRG ecosystem is open to all players who wish to support these goals if this allows them to develop their own activities, technology and project. LENRG will give small and mid-size companies, communities and start-ups, an access to technology, a means to develop their offers on the LENR market, and the capacity to adapt to an evolving technological and economic environment. This is the path to transformation for major players.

LENRG requirements are: to be open, organized in a network, resilient, replicable, and able to be used at all levels of deployment. By offering a more competitive position it will become a privileged choice by all players. The LENR-Cities enterprise, architect of LENRG, promotes an open business model. The company is looking for sponsors to drive the development of an organization that is adapted to this project, neutral, transparent and trustworthy for all players.

The core team (from left to right): Yogi Srivastava, Michel Vandenberghe, Angelo Ovidi, Luca Gamberale, Georges de Montmollin, John Swain, Allan Widom et Didier Pelluet, (with the presence of Mrs. Pelluet to the left).



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