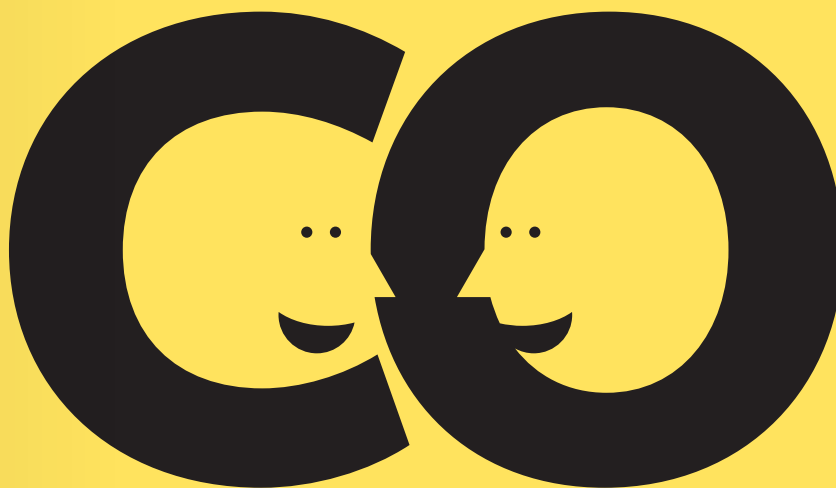


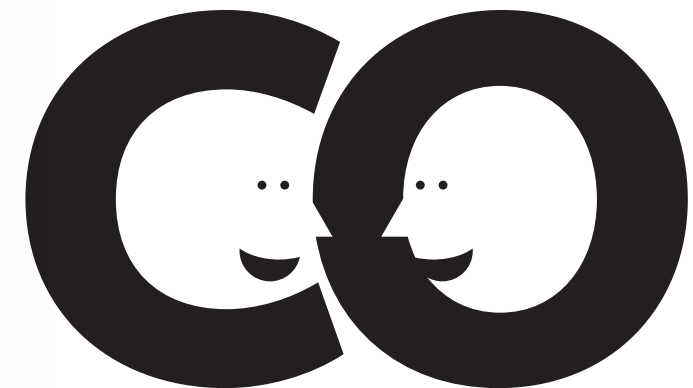
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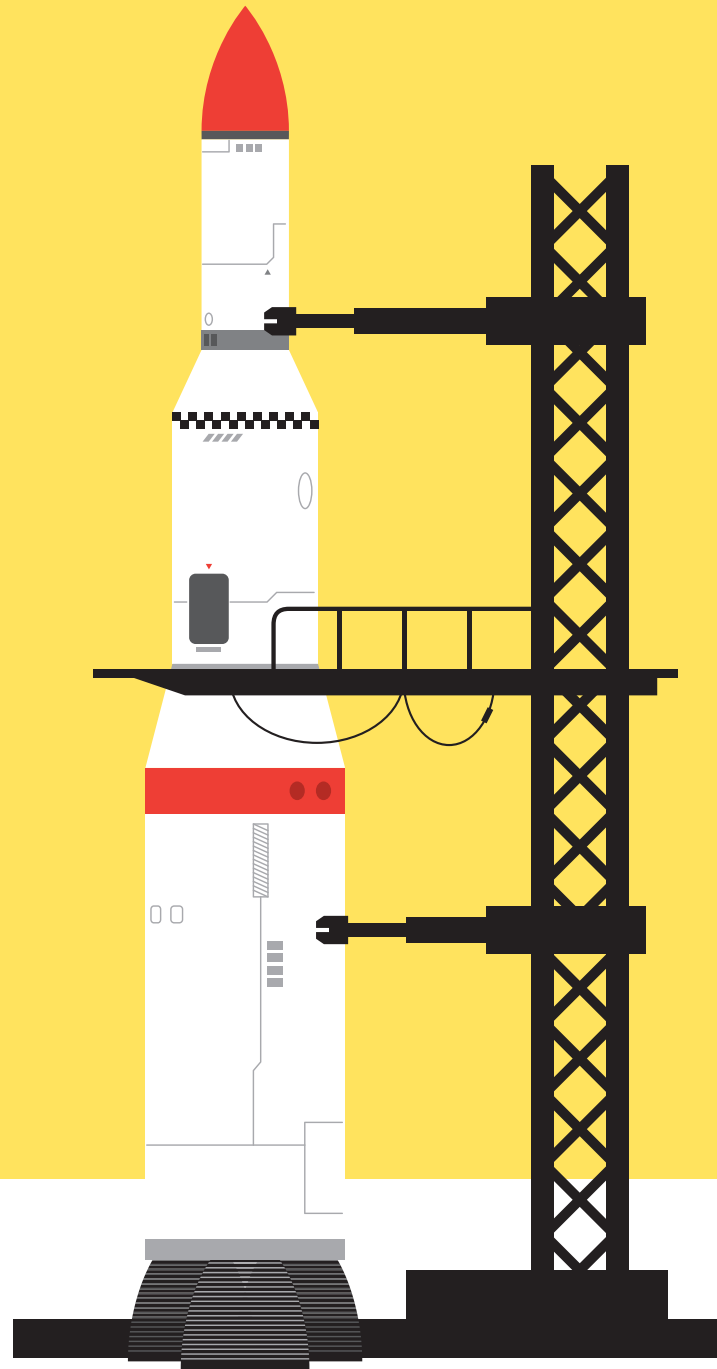
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THE
MOMENT
OF



START-UPS

co·society®
SYSTEMATIC BUSINESS INTERSECTIONS



— Introduction —

The time of *co-startups* has arrived. Why? Because collaboration based on two good ideas offers more than the sum of its parts. Because sharing resources and know-how increases output. Because combining technologies, applications and services adds value to a solution. Proof of these ideas can be found in the ten collaborative startups described in this issue:

Rehabilita is a collaborative coalition of nine leading R&D companies and eleven health centers and research institutions that share and combine their knowledge to create new models for physical, cognitive and cardiorespiratory rehabilitation. **Hydromodel Host** exploits the power of cloud computing to share resources and to provide monitoring of aquifers using numerical models hosted in the cloud. Combining disciplines has enabled **Inspecta** to offer *artificial vision* solutions for diverse industrial applications such as quality control in the cork industry and video monitoring of customer behavior for the retail and advertising sector. **Solvay** is collaborating with other companies to test new materials for the radically innovative project Solar Impulse: an airplane powered exclusively by photovoltaic cells that can fly day and night without fuel. **Enertia**, which provides intelligent monitoring and management of energy consumption, and **Kantox**, a collaborative system for future currency exchange, were created to transform problems into business opportunities. The last four cases share a critical feature: social networking that enables greater efficiency and better results, in the areas of health (**NHS and Facebook**), education (**Harvard University and MIT**), P2P tourism (**AirBnB and Vayable**) and co-responsibility for public roads (**Repara Ciudad**).

THE CO-SOCIETY TEAM

1

REPARA CIUDAD:
CITIZENS CO-RESPONSIBLE
FOR PUBLIC ROADS

2

KANTOX:
COLLABORATIVE
CURRENCY EXCHANGE

3

ENERTIA:
INTELLIGENT USE OF ENERGY
CONSUMPTION DATA

4

REHABILITA:
USING CROSS-SECTOR KNOW-HOW
TO ADVANCE NEUROLOGICAL REHABILITATION

5

INSPECTA

6

HYDROMODEL HOST

7

SOLAR IMPULSE:
COLLABORATING IN SEARCH
OF A PARADOX

8

AIRBNB AND VAYABLE:
THERE'S STILL PLENTY
OF ROOM TO INVENT

9

NHS AND FACEBOOK

10

HARVARD + MIT



1

Repara Ciudad: citizens co-responsible for public roads

While traveling around the city or stopping in the street, people often notice damage to sidewalks, urban infrastructure or road signs, and think that they'd better notify city hall immediately, as municipal maintenance crews might not detect the incident. Thanks to smart phones and geolocation, instantaneous on-site notification of urban defects is now possible.

Repara Ciudad is an urban damage reporting and registration service that anonymously connects citizens to their city halls, enabling city residents to take on a greater role in maintaining and improving their public spaces. This initiative's aim is twofold: to bring city residents and public authorities closer together in order to promote their co-responsibility for the city environment, and to create a more participatory, transparent and efficient public administration.

City residents report the damage using a smartphone or other device connected to the Internet. They classify the type of damage; take and submit a photo of the damaged object or area; enter the location via geolocation or by typing in the address; briefly describe the damage; and then indicate whether or not there exists any safety risk, so that the city hall can prioritize repairs. An-

other way to prioritize repairs is through support (or votes) obtained from other residents for the same incident. Users can report anonymously or leave their personal data. To encourage participation, Repara Ciudad features a points system to rank each user, whereby the most active citizens are given the highest priority.

The city's urban services department and technicians receive an email whenever any damage or malfunction is reported. City hall, in turn, can report the status and resolution of the problem, and can send photos of the final result to users.

Urban damage or malfunctions are classified into nine categories: Cleaning; Traffic Lights & Road Signs; Vehicles; Lighting; Street Equipment; Public Roads; Trees, Furniture Pick-Up, Animals or Noise; and Public Transport. The service is available in Catalan, Spanish and English. By late 2011, Repara Ciudad was being used in more than 250 municipalities, mainly in Catalonia and other parts of Spain.

More information

Repara Ciudad:
<http://reparaciudad.com/>



Kantox: collaborative currency exchange

After 2 years of studying import and export companies, the founders of Kantox realized that many financial derivatives have become a problem because they are difficult to hedge against currency fluctuations. The company, which was founded in London in 2011 and also has offices in Barcelona, sought a radical, innovative solution: provide a simple and transparent hedging solution to SMEs or large corporations that does not require any line of credit and does not entail any operational risk, and therefore, does not require intermediation by a bank.

The procedure is a simple barter market for corporate foreign exchange needs: through a web platform, Kantox puts two companies into contact with each other: a company which will be earning money from an overseas receivable in a foreign currency within the near future; and another company, which will need to do the same

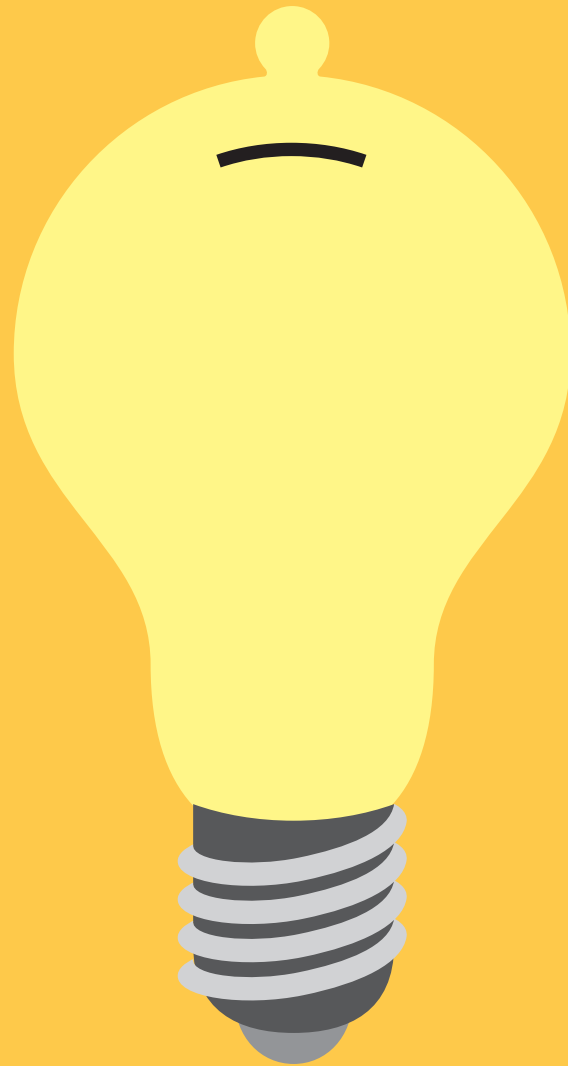
operation in the same time frame, but with the currencies reversed. Through Kantox, the two companies digitally sign an agreement by which they exchange their foreign currency flows at the end of the established time period. On that date, the two companies transfer their currency flows to a segregated client account managed by a Kantox financial partner, who then pays out each party by transfer in the request currency.

For a fee of €295, Kantox customers receive 1 year of access to the platform, a credit-rating that their potential counterparts can use to gauge risk, and a digital signature for the hedging contracts. Each transaction carries a commission of 0.68%, regardless of the timeframe of the operation.

Kantox has devised a radically innovative approach to financial services whereby that these do not create any systemic risk and are adapted to companies' needs.

More information

Kantox:
<http://kantox.com/es>



3

Enertia: intelligent use of energy consumption data

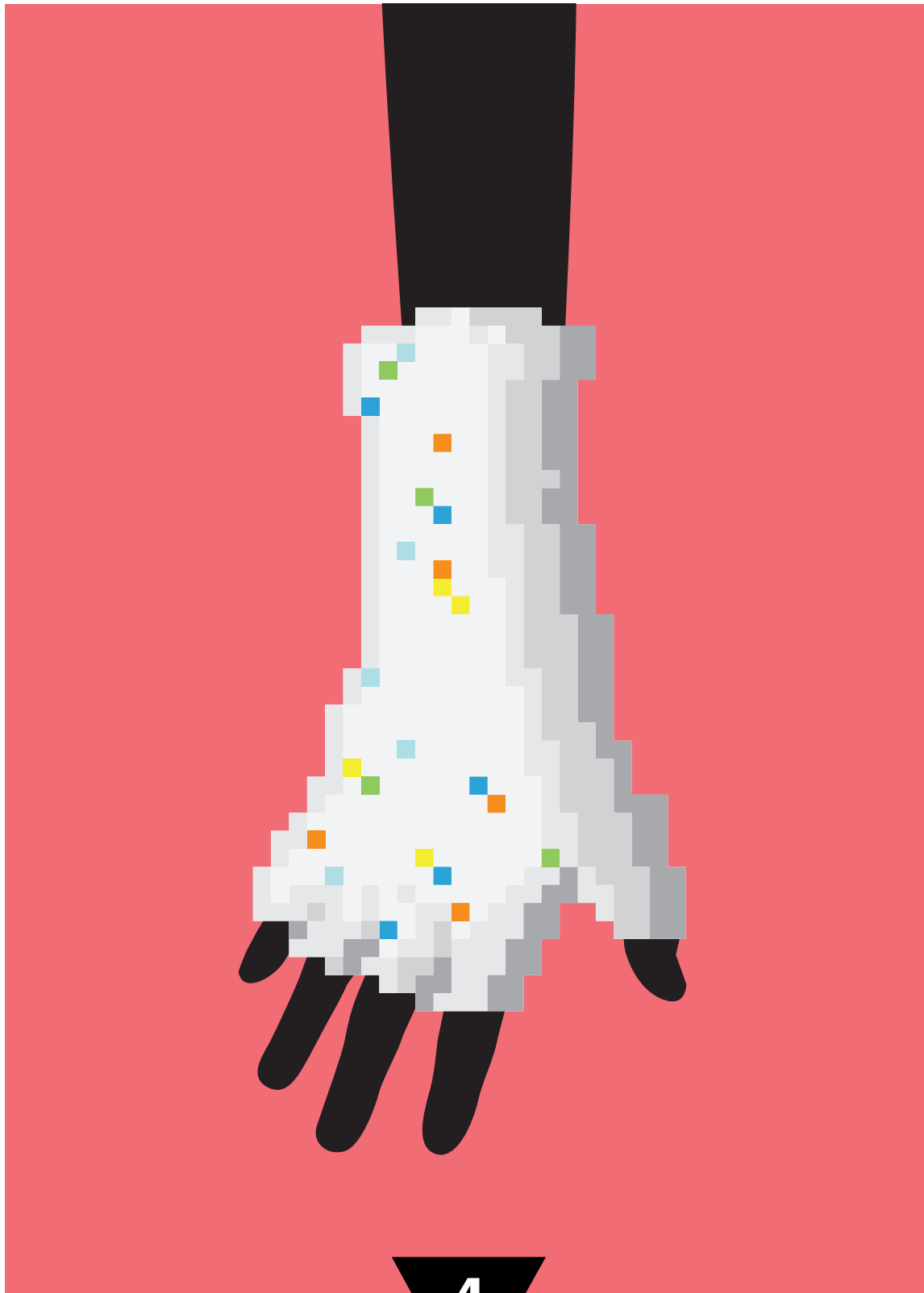
Technology and advanced information management systems enable real-time monitoring of various energy consumption metrics in a company. However, that information has remained in the hands of utility companies.

Why put all of this electricity consumption data to good use, to improve energy consumption management and make the electrical grid smarter? So asked Enertia, a company that provides solutions for companies to better manage their energy use. These improvements enable savings of up to 40% on energy costs, reduced maintenance costs and CO₂ emissions, and greater productivity.

Enertia employs various hardware and software solutions (developed in England), including the Eniscope, an energy analyzer which is connected to the electrical grid to track consumption in real time, either from the building itself or any mobile device connected to the Internet; and LESS, an intelligent system in which low-cost lighting is combined with state-of-the-art sensors. Enertia also offers solutions for consumers, to save on air conditioning, refrigeration and the use of electric motors. All of the company's tools are interactive: specific devices are disconnected in response to a specific parameter value (e.g. high voltage or consumption).

More information

Enertia:
<http://www.enertia.eu/>



Rehabilita: using cross-sector know-how to advance neurological rehabilitation

The R&D&I alliance Rehabilita brings together the know-how of different companies from diverse sectors to achieve major progress in cognitive rehabilitation and cardiopulmonary function. It is a scientific and technological consortium comprising nine leading R&D companies and eleven research centers and hospitals that are generating the knowledge needed to overcome current barriers in medical rehabilitation.

Led by GMV, a technology business group, consulting firm and engineering technology company, the initiative focuses on clinical research and biomedical technologies, electronics, robotics and information technology and communication. It includes diverse organizations and institutions from distinct disciplines: clinical research centers, scientific groups linked to various universities, and several companies, each of which contributes its expertise.

Rehabilita includes an Innovation Area led by the Lavinia Group, which is responsible for developing the software, the highlights of which include an editor of therapeutic scripts and a generator of interactive virtual environments which works on multiple devices and platforms. The main limitation in current rehabilitation methods is that therapists are unable to create detailed, long-term programs tailored for each patient, as this would entail major costs for the health administration. Rehabilita seeks to provide solutions by developing virtual, interactive 3D environments that can generate information and knowledge on clinical practice; recreate scenarios; and—using smart

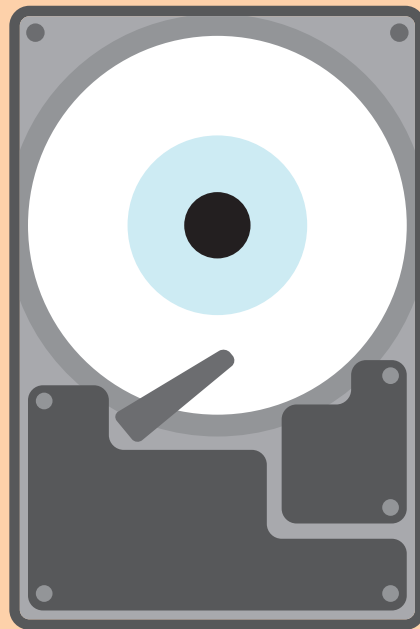
technology—customize, adjust and monitor care programs to develop a new, evidence-based rehabilitation paradigm.

Definitive prototypes will be released in 2012. These will be based on smart textiles with sensors; interactive virtual environments; robotic devices with advanced capabilities sensing and motion capabilities; etc. The objective is to change the way rehabilitation is done, by employing new technologies such as robotics, Internet, mobile technology and video games.

Rehabilita is a *CENIT (Consortios Estratégicos Nacionales en Investigación Técnica* [National Strategic Consortia for Technical Research] project, an initiative of the Spanish Center for Industrial Technological Development (CDTI), under the Spanish Ministry of Economy and Competitiveness (previously known as the Ministry of Science and Innovation), which seeks to increase public-private partnerships. The project has received €15 million in public funding.

More information

Rehabilita:
<http://tiny.infonomia.com/rehabilitalavinia>
<http://tiny.infonomia.com/rehabilitagmv>



Inspecta

Inspecta, founded in 2003 as a spinoff of the Computer Vision Center at the Universitat Autònoma de Barcelona (UAB), innovates through collaborations with researchers from the UAB and the University of Barcelona.

Computer vision (or *artificial vision*) is an artificial intelligence field aimed at understanding the information contained within an image or video. The first industrial application to which the company employed its technology was quality control of cork stoppers for bottles of wine and cava. Their CorkInspect system analyzes the color of the bottle cap and has a self-learning system by which the machine learns to classify based on a set of samples.

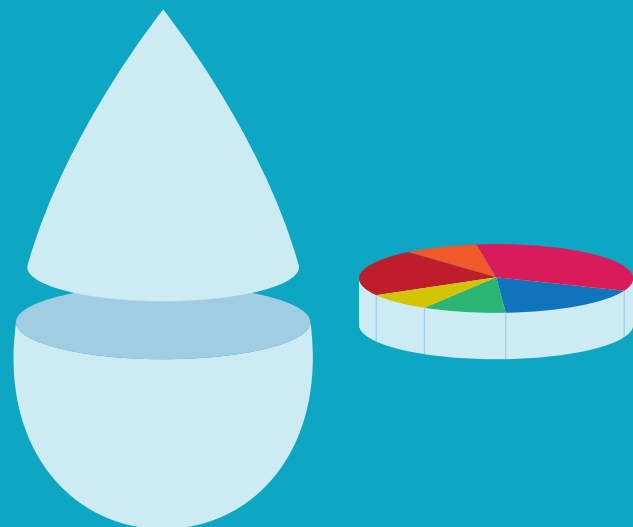
Subsequently, the company applied its accumulated knowledge to applications in other areas such as retail, smart cities, healthcare, and advertising based on video analysis of consumer behavior.

For retail, Inspecta has devised various tools to analyze customers at the point of sale. These tools can be combined into one solution and offer additional, valuable information, such as the extent to which exhibitors or advertisements capture audiences, or the *conversion rate* of people that enter a store and end up buying something. Inspecta is beginning to apply some of these tools to the field of smart cities.

For healthcare, Inspecta has created a neuro-functional stimulation system for trauma patients; a cervical and lumbar rehabilitation program that detects the incline of the patient's posture at all times and offers the options to correct it; and, for the ICU, applications to detect patient agitation and tools to accelerate their neurological recovery through the new concept of 'serious gaming'.

More information

Inspecta:
www.inspecta.es



Hydromodel Host

Hydromodel Host is a startup in Barcelona that is working on the expansion of the Panama Canal, which is located on an aquifer. Its role is to provide the Canal authorities and construction companies with information on changes in the aquifer levels.

The Company's technology allows real-time tracking of the aquifer emptying process and provides transparency to the project. All agencies and companies involved in the project can visualize progress on the aquifer and suggest improvements or detect possible risks.

Hydromodel Host tracks aquifer levels using numerical models that exploit large amounts of data. The Company hosts these models on the cloud, where it also compiles the solutions and improve-

ments suggested by its partners. In this hosting system, each aquifer has a dedicated virtual computer for handling its data, which combines and processes the vast amount of observational data collected, and then generates management scenarios. This enables major savings in water resource management, civil works and mineral exploration, as the computers used for calculation are only "hired" for a required window of time needed.

Hydromodel Host is yet another example of collaboration between disciplines (in this case, computer engineering and hydrology, among others), through shared resources in the cloud, a potential use of cloud computing which remains little exploited.

More information

Hydromodel Host:
<http://hydromodelhost.com/>

Solar Impulse: collaborating in search of a paradox

Solar Impulse is an airplane powered only by photovoltaic cells, which flies at an average speed of 70 km/h and a maximum altitude of 8,500 m. It is an international collaborative project that endeavors to demonstrate that solar energy is a feasible option for transportation and that use of 100% clean energy will bring about progress. The project, which began in 2004, is led by Solvay, and its main partners include Omega, Schindler and Deutsche Bank.

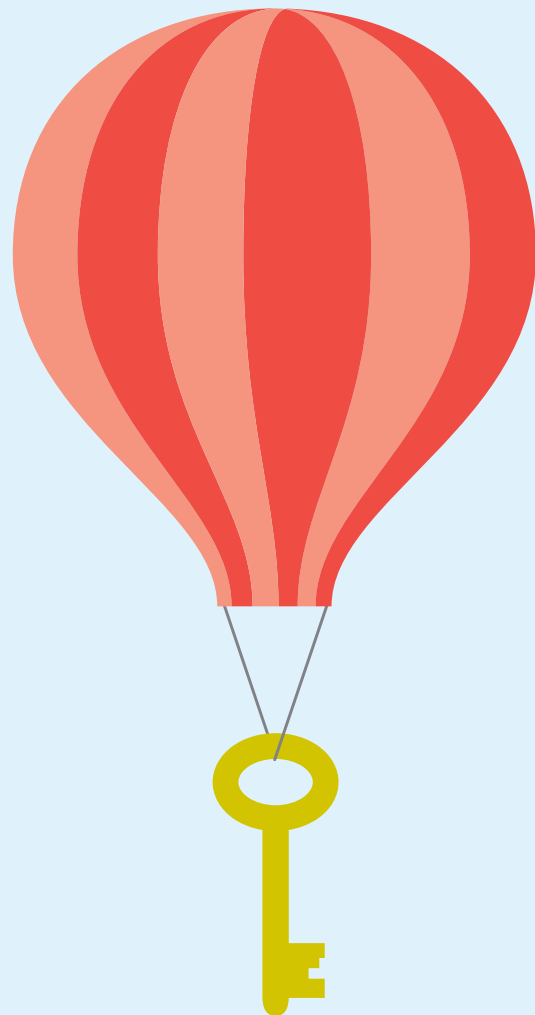
In July 2010, Solar Impulse became the first aircraft in history to fly day and night without using fossil fuels and without emitting greenhouse gases. Summer 2012 will mark a test program for a round-the-world flight scheduled in 2014. The first stage of the program will span 2,500 km, from Payerne, Switzerland, to the region of Ouarzazate, Morocco, where the largest solar thermal energy plant in the world will be constructed. On the return flight from Ouarzazate to Payerne, the plane will stop at Barajas airport, where it will be on public display for a few days.

The project involves four different levels of partnership. The Solvay group contributes to the project through its chemical and plastics divisions, by providing advanced technical solutions for renewable energy, energy storage, insulating materials and lightweight materials—all which it offers through eleven products, 25 different applications and more than 6,000 parts.

To bring this initiative to citizens that are interested in sustainable development, environmental protection and social responsibility, Solar Impulse partners have launched the *Supporters Program*, a crowdsourcing endeavor. Anyone can support the project through different levels and financial contributions, from collecting an official team badge, for €40 per year; adopting a photovoltaic cell, which Al Gore and Paulo Coelho have done (€160 per year); getting a private visit at the project headquarters in Switzerland (€1,665 per year); or having their name printed on the plane's fuselage (€8,330 per year). The partners have also started *Angels Program*, an investment program with two categories of investors.

More information

Solvay:
<http://www.solvay.com/EN/ABOUT/SOLARIMPULSE/Home.aspx>
 Solar Impulse:
<http://www.solarimpulse.com/en/>



8

AirBnB and Vayable: there's still plenty of room to invent

AirBnB is a global P2P network that matches tourists with local residents who are offering cheap accommodations. Anyone who wishes to rent out a room, a part of their home or their whole house, for a period of a few hours up to a few days, can do so through AirBnB, without having to be registered as a tourist accommodation business. The Company ensures that the information provided about the accommodations is as complete as possible, through good online images as well ratings by people that have stayed there. Each resident suggests an appropriate rate, based on the demand at a given time. In addition, they may offer extra services, such as preparing breakfast or acting as an impromptu tour guide.

This formula completely does away with intermediaries such as travel agencies, hotel reservation companies and tourist services. It enables residents to earn money from their homes and tourists to stay abroad for much cheaper than at hotels, while enjoying contact with locals.

A similar business model is being used by **Vayable**, an international tourism platform in which local residents offer tours of a specific nature based on their personal expertise or experience: for example, an architect can give a local architectural heritage tour; a former guerrilla can show the places in a forest where they used to hide; an epicure can take visitors around the city's hidden gastronomic gems; or a professional sailor can be hired out to offer 1 day of training.

The two platforms have decided to collaborate, to jointly offer their services through a unified business model based on selling sensations and unique experiences that go far beyond traditional tourist services. As with any social platform, the prestige of each service is generated by the online comments and recommendations of its users.

More information

<http://www.vayable.com/AirBnB>
<http://www.airbnb.es/>

NHS and Facebook

The National Health Service of the U.K., which controls blood and organ donations, has decided to launch a Facebook campaign to raise awareness about the need for donations. Through the page NHS Blood and Transplant, Facebook users can register directly as donors and share information with friends, express their wish to be donors to immediate family members connected to the network, and help maximize public awareness about organ donation.

By harnessing the world's most popular social network, the Campaign aims to increase awareness on the need for donations (in the U.K. more than 10,000 people are on the organ donation waiting list), and to bring this issue to a population of users who may not be aware of it. Considering

that often times, the relatives of a person who has just died must make difficult decisions on organ donation, the NHS created its Facebook campaign to help individuals publicly express their wish to be an organ donor, thereby relieving their loved ones of future stress.

The collaboration between NHS and Facebook is also geared at broadening the debate on organ donation and disseminating relevant information. Similar campaigns are being prepared in Australia, the Netherlands and the U.S.

More information

<http://technorati.com/social-media/article/facebook-and-the-nhs-team-up/>



Harvard + MIT

Top American universities are promoting several initiatives to provide free online courses, known as *Massively Open Online Courses* (MOOCs), in what may be a response to the success of the Khan Academy, a worldwide phenomenon which provides more than 3,200 videos and exercises to perform at a personalized pace.

Harvard University and Massachusetts Institute of Technology (MIT) have signed an agreement to create EDX, a non-profit organization that aims to offer free online courses, adapted from traditional courses, to anyone with an Internet connection. Each of institution has invested \$30 million in the project, for which they will launch five courses this autumn. They are using the same platform recently developed by MIT for its project MITX, which has already offered the course Circuits and Electronics, in which 120,000 people have enrolled, 10,000 of which have completed the mid-term exam. Those who pass the course receive a certificate, but do not receive any official credit.

In addition to offering engineering courses, in which electronic grading is relatively easy, EDX will offer courses in humanities, in which students' work may be graded through crowdsourcing or evaluated by natural language software. Projects like this can have a major impact on societies around the world, for example, on billions of future students in China and India.

EDX is designed not only to build an online global community of students, but also to investigate new learning methods and technologies.

The Project goes far beyond mere educational videos: it includes discussions, labs, quizzes and other interactive learning tools. As an open source initiative, it can be used by other universities. The technology of online education, with video lectures, exams, immediate feedback and learning adapted to each student's pace, is developing so rapidly that it is still considered to be in the experimental phase.

Princeton University, Stanford University, the University of Michigan and the University of Pennsylvania have collaborated to create a similar initiative, called *Coursera*, for which they have garnered \$16 million in venture capital.

More information

edX:

<http://www.edxonline.org>

Coursera:

<https://www.coursera.org>

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