



Technology
Pioneers
2010

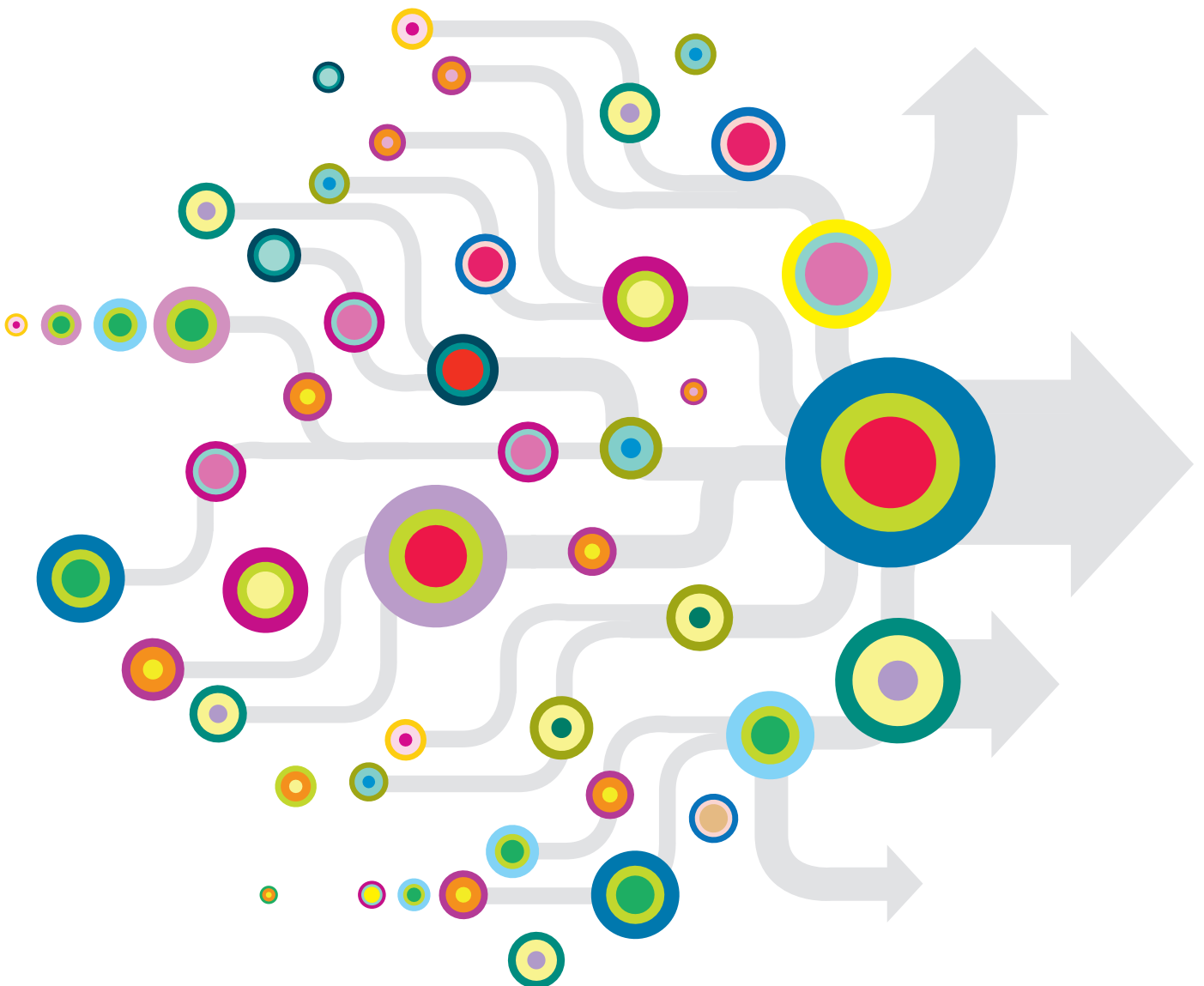


COMMITTED TO
IMPROVING THE STATE
OF THE WORLD

Embracing Disruption:

Redesigning the Future

The World Economic Forum's
Technology Pioneers 2010



**The views expressed in this publication
do not necessarily reflect those of
the World Economic Forum.**

World Economic Forum
91-93 route de la Capite
CH-1223 Cologny/Geneva
Switzerland
Tel.: +41 (0)22 869 1212
Fax: +41 (0)22 786 2744
E-mail: contact@weforum.org
www.weforum.org/techpioneers

© 2009 World Economic Forum
All rights reserved.

No part of this publication may be
reproduced or transmitted in any form
or by any means, including photocopying
and recording, or by any information
storage and retrieval system.

REF: xxxxxxxxxxxx



Contents

| | |
|---|----|
| Foreword | 3 |
| Embracing Disruption: Redesigning the Future | 4 |
| Ten years of the World Economic Forum's Technology Pioneers | 12 |
| Technology Pioneers 2010 | 15 |
| Selection Committee | 30 |
| Acknowledgements | 33 |



Technology
Pioneers
2010

André Schneider

Managing Director and
Chief Operating Officer
World Economic Forum



Foreword

Entrepreneurship, innovation and technology have always played a key role in shaping and improving society. This proves to be even more the case during times of crisis, similar to the one the world faced this past year during the biggest recession in almost a century. New companies are already planting the seeds for recovery and for the next wave of growth and progress. It is against this background that the World Economic Forum is pleased to present the 2010 class of Technology Pioneers, entrepreneurial companies at the edge of innovation and technology in their respective fields.

This year, the Forum observed a remarkable rise in the number and quality of candidate companies, especially in the case of cleantech-related ventures, suggesting that concern surrounding the environment and climate change coupled with the “green stimulus package” are driving resources and top innovation to this area. Geographically, the Forum also saw an increase in the number of candidate companies from emerging markets, and for a second year in a row we have awarded recipients from four continents.

The companies selected this year are active in important fields in the main categories of energy and environment, health and information technologies, telecommunications and new media. Not only are they developing groundbreaking products and services that can help achieve the promises of sustainable energy, the reduction of the various digital divides, and the treatment and improved monitoring of various health conditions, but they are also redesigning businesses and societies with their disruptive innovations.

Disruptors by definition rethink and redesign, be it business models, innovation paradigms or societal progress. By integrating the Technology Pioneers into the activities and initiatives of the World Economic Forum, notably to the Annual Meeting 2010, we are certain these disruptors will also live up to the challenge of contributing to rebuild and improve the state of the world.

The Forum would like to thank all the members of the selection committee. A unique pool of leading academics, business visionaries, entrepreneurs, media leaders and venture capitalists provided their guidance and insights to assemble an impressive group of Technology Pioneers.

It is a testament to the spirit and selectivity of the Technology Pioneers Programme that over 80% of the companies the Forum has chosen since its inception are still active. We congratulate the 26 Technology Pioneers 2010 for their remarkable achievements and welcome them to the wider community of the World Economic Forum.



Embracing Disruption: Redesigning the Future

US finance software maker, Intuit, started out as an innovative upstart with the audacity to go up against the likes of Microsoft. It hit a sweet spot with its innovative approach to managing finance online and grew to be a US\$ 3.2 billion business. So why was a newcomer able to run away with a key segment of Intuit's market?

Intuit acknowledges it got too comfortable: it stayed too focused on its original customer base, a generation attracted to the company some 20 years ago when people first started to transition from balancing chequebooks and making trips to their local bank branches to using Quicken on their PC and banking online.

It also made another error, a common one for big corporations: it assumed that just because a particular segment was not growing that the potential was not there. "We had blinders on," says Intuit CEO Brad Smith.

It took Aaron Patzer, Founder of Mint.com, one of 34 companies named as a Technology Pioneer 2009 by the World Economic Forum, to look at one of those markets, personal finance, with fresh eyes and come up with a service that strongly appealed to the Web 2.0 generation.

The site does not just analyse consumers' finances; it suggests ways that they can do more with their money, and then channels them to financial services providers who can aid them. Those companies pay for leads and the new customers steered to them by Mint.com.

Mint.com was designed to be simpler to use than Intuit's rival Quicken personal finance product, plus it is free and accessible from mobile devices. These innovations helped the personal financial management software category to grow again, attracting over 1.5 million users in two years for Mint.com. They would also serve to redesign Intuit's whole future.

Realizing just how fast its young rival was growing, Intuit decided to embrace the disruption: it not only bought the start-up for US\$ 170 million in September, it made the radical decision to replace its own personal finance division with Mint.com and additionally use the start-up's technology to transform areas beyond personal finance.

"We have to challenge ourselves to check our hubris at the door and not be overly confident," says Intuit's Smith. "A company cannot come up with every great idea."

Mint.com is just one example of the way Technology Pioneers chosen by the World Economic Forum are disrupting established companies.

Consider the class of 2010: Twitter, a real-time Web microblogging service, is changing the way big companies interact with their customers. CollabNet is using cloud computing to transform the way conservative organizations as diverse as Deutsche Bank and the US Department of Defense develop software. Silicon Valley's Bloom Energy is aiming to displace both traditional electricity companies and petrol stations. Serious Materials is impacting the construction industry, supplying the means to make new homes more energy efficient. London-based Playfish, which has successfully integrated online games with social networks,

is attracting the interest of established game companies. And some of the Technology Pioneer biotech companies in the class of 2010 are already working with big drug companies to explore ways they might build the future together.

Like Intuit, companies around the globe are struggling with how to remain innovative. Most are savvy enough to acknowledge that if they cannot always invent products

Among those getting high marks for creatively engaging with start-ups is Swiss drug giant Novartis, which invested in two of the 26 companies in the 2010 class of Technology Pioneers: MicroCHIPS and Proteon Therapeutics. It is also currently conducting trials with a young biotech company from the class of 2009, Proteus Biomedical.

“ We have to challenge ourselves to check our hubris at the door and not be overly confident ”

and services fast enough to beat competitors to market. But recognizing the necessity of bringing in innovation from the outside is one thing. Doing it successfully is another.

In their struggle to find the right formula, many companies are experimenting with a whole range of new ways to engage with start-ups. Companies that have launched new initiatives in recent months include some of the world's largest pharmaceutical companies as well as communications sector firms such as Amdocs, France Telecom Orange and Swedish mobile handset maker Sony Ericsson. Software behemoth Microsoft, US computer graphics cardmaker Nvidia and consumer electronics retailer Best Buy are also trying new methods of engagement.

Some large organizations are trying harder than others, according to John Santini, CEO and Co-Founder of MicroCHIPS, a Technology Pioneer 2010, which develops devices for the controlled release of drugs. “There is a balance that must be obtained in which you are properly rewarding everybody involved and sharing the risk,” he says.

Cities are testing the waters by working with cleantech start-ups in an effort to go green. 2009 Technology Pioneer RecycleBank, which offers a rewards programme to motivate people to recycle, is teaming with municipalities and solid waste services companies across the US. The company, which raised US\$ 28.25 million in a third round of venture capital funding in November, struck a deal recently with Waste Connections of Colorado to increase household recycling volumes in Denver suburbs and Colorado Springs. It is also working with the city of Atlanta to launch its incentive-based rewards programme.

“Novartis has been incredibly innovative in how they have tried to structure deals,” says Santini of MicroCHIPS. “I think they have done a better job than most in creating win-win deals rather than lopsided ones.”

Novartis is one of five big drug companies involved in Boston-based Enlight Biosciences, an industry consortium founded in July 2008 by PureTech Ventures, an early stage fund focused on medical needs that have yet to be addressed by emerging science. Enlight's goal is to help identify and develop new enabling technologies to facilitate drug discovery.

The big drug companies have learned the hard way that the classical approach to research and development does not scale. In the last 10 years the world's 14 largest pharmaceutical companies spent US\$ 480 billion to get just 85 new products approved. That model is unsustainable.

Making matters worse, it is getting more and more difficult to find some of what they need on the open market. First, more life science investors are diverting their funding towards late-stage therapeutic programmes, so important discoveries of great strategic value to drug companies are not always commercialized. Second, even if young companies do manage to get funding they do not always direct their focus on areas that would most help big drug companies.

To tackle those issues and avoid costly duplication, Novartis, Merck, Pfizer, Lilly and Johnson & Johnson are teaming through Enlight Biosciences to fund high-impact enabling technologies and platforms that directly address their most pressing common needs with innovations drawn from start-ups and academic laboratories.

Of course, Novartis is also working with biotech start-ups through more conventional means. It is, for example, conducting exploratory trials with promising young companies such as 2009 Technology Pioneer Proteus Biomedical, which makes tiny computing devices inside pills which can report when they have been swallowed, record information about the body's response to the drug, and transmit the information to mobile phones and the Internet, allowing doctors to track a treatment's impact in real time.

"We hope that our independence and information flow integrity help to build trusted relationships with scientists, bio-entrepreneurs and other investors, ensuring that Novartis will be invited to take a seat at the table in a host of new areas," says Murray. He credits Novartis CEO Daniel Vasella and Raymund Breu, Chief Financial Officer and a Founding Novartis Venture Fund Board Member, for strongly supporting experimentation by the Novartis

“ Future innovation is going to occur at the interface and not in drugs or devices alone ”

The merger of drugs and devices means that “future innovation is going to occur at the interface and not in drugs or devices alone,” says Santini of MicroCHIPS, and Novartis has recognized that.

Novartis' multi-pronged approaches to working with start-ups give it some important differentiators that allow it to avoid some common pitfalls.

A start-up's technology might be a perfect fit with a big corporation's strategy when discussions begin, but strategies and the executives that advocate them shift frequently, meaning a young company might be sidelined before it ever gets a real chance. “You need a champion in the larger corporation but with the financial pressures put on corporations today and the intense focus on P & L statements, earnings per share and quarterly results, it severely limits their ability to look beyond a year,” says Santini of MicroCHIPS. “True innovations are three, four, five years out and by then priorities change.”

That is where some traditional pharmaceutical company venture funds fall down, says Campbell Murray, Managing Director in the Cambridge, Massachusetts office of the Novartis Venture Funds, which invested in MicroCHIPS. Many are too closely tied to the drug companies. The Novartis Venture Funds, headed by Executive Director Reinhard Ambros, avoids that problem by being completely independent, he says.

One of the secrets to the success of the Novartis Venture Funds is a “one-way firewall,” says Murray. “We are fortunate to benefit from scientific input and industry experience from colleagues in other areas of Novartis, but we made investments in devices and vaccines for a decade prior to those becoming areas of core strategy for the Swiss drug maker.”

Venture Funds. “They have been stalwarts in safeguarding the Fund's independence against the common industry practice,” he says.

The Swiss drug maker has also set up a more traditional side fund that is a direct extension of Novartis Pharmaceuticals, in partnership with MPM Capital, a venture fund based in Boston and San Francisco. That fund, called the MPM Bio IV NVS Strategic Fund, has taken an option in 2010 Technology Pioneer Proteon Therapeutics, a company developing products for renal and vascular diseases.

Just as big pharma companies are concluding alliances, joint ventures and licensing deals, multinationals are looking at multiple ways of working with cleantech start-ups. In an Ernst & Young 2009 global cleantech report released 5 November, more than 300 executives from global corporations with revenues in excess of US\$ 1 billion said their companies are speeding up adoption of clean technologies. The respondents predicted that their companies will spend at least US\$ 10 million on cleantech investments by 2010, with 22% predicting a cleantech spend of at least US\$ 100 million.

The growing participation of corporations in the cleantech space is stoking interest in technology collaborations, laying the foundations for what is promising to be an active period for cleantech mergers and acquisitions and other partnership opportunities, says Gil Forer, Ernst & Young's Global Director of Cleantech.

Almost 80% of respondents said they had acquired or might consider acquiring cleantech companies; 53% expect their rate of cleantech company acquisitions to rise over the next five years. Some 38% indicated these combinations would take place through corporate venturing units.

Chevron's venture fund, Chevron Technology Ventures, has been particularly active recently, investing in LS9, a company which synthesizes biofuels and chemicals from organic feedstocks such as switchgrass and Codexis, another company relying on custom-made microbes; and signing a testing agreement with Solazyme, a synthetic biology company specializing in marine microbes.

Even big corporations who are used to dealing with start-ups are not always clear about the best way to engage with them. Lack of knowledge of corporate politics inhibits progress in many cases, as does miscalculating the time needed to get a deal done even when the pitch does manage to make its way to the right decision-makers. If a start-up figures it will take six months and it takes twelve, it might not adequately conserve cash flow and might run out of money before a contract is signed.

“ Some of the traditional industries have no history at all of dealing with emerging companies ”

Its investment comes as large oil companies take a closer look at biofuels. In August, BP signed a US\$ 10 million deal with algae specialist Martek BioSciences Corp. to study how to grow algae through fermentation and in February put US\$ 90 million into ethanol specialist Verenum, according to Greentech Media. And in July, ExxonMobil announced a US\$ 300 million deal with Synthetic Genomics which reports say could expand to US\$ 600 million, to develop next generation biofuels.

Beyond acquisitions and investments, there are plenty of examples of collaborations between young cleantech companies and more established firms. For instance, Silver Spring Networks, a 2008 Technology Pioneer, is partnering with utility companies across the US on separate smart grid technology pilot projects, including one with Florida Power & Light, GE and Cisco Systems to launch “Energy Smart Miami”, a model electricity system for US cities and the cornerstone of a broader US\$ 700 million statewide investment. The project involves the deployment of more than one million advanced wireless smart meters to every home and most businesses in the Miami-Dade area.

And GridPoint, another former Technology Pioneer, which makes smart grid software to manage distributed energy resources, is also working on grid projects across the US, partnering with Xcel Energy, Duke Energy, Austin Energy, Progress Energy and Seattle City Light on grid projects.

The race to build smart grids is throwing together lots of companies who are not used to working together. “When you talk about large multinational technology corporations they know how to deal with emerging companies but some of the traditional industries have no history at all of dealing with emerging companies,” says Ernst & Young's Forer.

Then, there is the problem of identifying emerging competition or a great new technology that might transform a business unit. Mint.com is located in the same city as Intuit – Mountain View, California – and was getting buzz in the US market. But innovation has no borders. Indeed, the Technology Pioneer Class of 2010 includes companies from Africa, Brazil, India, Israel and Europe. It is much harder to connect with start-ups when they are halfway around the world.

For all of these reasons and more, Amdocs, a US based supplier of billing and customer relationship management products to communication companies, has decided to come up with a new multi-pronged but standardized way of working with start-ups.

The company has a long history of working with start-ups around the globe. But there was no defined process. “It varied widely by business unit or strategy,” says Seth Nesbitt, Amdocs' Vice-President of Product and Solutions Marketing.

In October, Amdocs unveiled a programme called “Open Innovation” at an event held in Silicon Valley. The programme's goal is to foster new ideas and collaborations between Amdocs and start-ups in the communications sector.

“Our customers are measuring us on how innovative we are, so it has become even more critical now that we work well with start-ups,” says Nesbitt.

The new approach defines three different ways that start-ups can engage with Amdocs. Amdocs Ascent! is a start-up partnership programme focused on combining external innovation from start-ups with existing Amdocs products and services. Amdocs Engage! is a business development

programme promoting business opportunities between Amdocs, service providers and start-up companies. As part of the programme, Amdocs introduces selective start-ups to firms in its global customer base. Amdocs Ventures focuses on investments in carefully selected start-ups. One of its first moves was to take a minority stake in 2010 Technology Pioneer Amobee, a company with technology that helps phone operators earn money from mobile advertising.

Microsoft and Nvidia are also experimenting with different ways of engaging with start-ups, giving their respective companies a window on new opportunities, while ensuring a future market for their own products.

Microsoft's BizSpark programme, which was launched in November 2008, is aimed at convincing start-ups the world over to run their businesses on Microsoft's Windows

“ Our customers are measuring us on how innovative we are, so it has become even more critical now that we work well with start-ups ”

“Start-ups put a lot of effort into trying to engage with this bigger entity and then all of a sudden there is a change of strategy; they have used up six months of funding and it hasn't gone anywhere,” says Nesbitt. “This programme is really staged to say ‘there are different levels of engagement with us and here is how to do it.’”

Mobile handset maker Sony Ericsson is also reaching out to start-ups and venture capitalists in new ways. It launched a business unit in October called “Industry Collaboration” to seek innovations in hardware, software, applications and content. It plans to forge ties with universities and venture capital groups and channel the findings into its own operations, says Chris Hare, Head of the new unit.

France Telecom Orange is also experimenting with new ways of working with start-ups. “We have 5,000 researchers, but we know that is just a drop in the bucket,” says Nathalie Boulanger, Senior Vice-President in the innovation marketing group at France Telecom Orange. “We will be stronger if we can expand the work we do with others.”

In October, Orange opened a new developer centre in Israel which will serve as an experiment for an “open innovation” programme. At the centre, developers can carry out last mile testing of mobile content and applications. It will also serve as a way for developers of a variety of communication technologies to connect with Orange. If it works well, the programme may be exported to other countries where France Telecom Orange does not already have research labs, says Boulanger.

platform. It is an aggressive move by Microsoft to give away free software and support to ensure that start-ups consider using its tools when they build their infrastructure rather than open source alternatives.

The use of open source software is becoming pervasive, with 85% of companies currently using such software in their enterprises and the remaining 15% expecting to use it in the short term, according to a survey conducted by technology consultancy Gartner Group. The survey was conducted in May and June 2008 and included 274 end-user organizations across various countries and markets in Asia-Pacific, Europe and North America.

Still, the BizSpark programme appears to be making inroads. As it approaches its one year anniversary, more than 6,600 start-ups in Europe have signed up to become part of the BizSpark programme, making it the largest region outside the US, says Cliff Reeves, General Manager, Emerging Business Team, Microsoft Corporation.

“What is even more interesting is that more than 600 ‘Network Partner’ organizations – hosters, incubators, investor groups, government agencies, and entrepreneur support groups – have joined the community,” says Reeves. Even global banks such as HSBC and law firms like Osbourne Clarke are signing up as network partners.”

Microsoft hopes to grow the community further by extending the range of services it offers. “In the near term, this will include providing greater access to grant funding through EU Grants Advisor for BizSpark companies,” says Reeves. The service aims to make it easier for start-ups to see

where they can avail themselves of national and EU grants when they need it most, in the first three years of their life. “We will also continue to add products to the BizSpark offer and ensure that partners have access to enhanced training, early adopter programmes and product roadmaps,” he says. Recently Microsoft announced the addition of Windows Azure to the BizSpark offering.

Google Earth. And, after providing some initial funding for Berlin-based Mental Images, Nvidia eventually bought the whole company, which specializes in rendering and 3D modelling technology for a variety of sectors that require sophisticated images, including the entertainment industries.

In other cases, Nvidia's investments attracted venture capitalists to fund the companies.

“ We are trying to make tech work for people and make them happy ”

Microsoft's IP Ventures programme is yet another avenue for Microsoft to engage with start-ups. The IP Ventures programme was started in May 2005 to help Microsoft better leverage some of its intellectual property by spinning it out to start-ups.

Start-ups in the IP Ventures programme, such as InishTech, an independent Dublin-based company which took over Microsoft's Software Licensing and Protection Services unit in 2009, are offered an opportunity to take part in the BizSpark programme, ensuring that they stay in Microsoft's orbit.

Nvidia is also trying to seed its own future by increasing engagement with start-ups. In March, Nvidia, the inventor of the graphics processing unit (GPU), launched what it calls a GPU Ventures programme, a global initiative to invest in early stage companies leveraging graphics processors for visual and other high-end computing applications. GPUS are increasingly replacing microprocessors and are being used for a whole variety of applications, such as the search for a cure for diseases like Alzheimer's or charting the surface of Mars. “We want to increase the total available market for GPUS around the world,” Jeff Herbst, Vice-President of Business Development at Nvidia, said at the time. “The more disruptive the applications the better.”

Nvidia has already invested in a number of start-ups including Elemental Technologies, Keyhole Corporation, Mental Images, Right Hemisphere and Accelware.

Elemental Technologies, which makes transcoding technology, teamed with Nvidia to build a product for Adobe Systems, a software company that pioneered the PDF. Nvidia also provided funding and publicity for Keyhole, which was acquired by Google (Technology Pioneer in 2000) for

Nvidia itself is ready to invest anywhere from US\$ 500,000 to US\$ 5 million in individual start-ups in its search for innovative new GPU computing companies. And is not just handing out cash. It is proposing the kind of “smart money” that start-ups crave, offering its distribution channels and marketing support.

Consumer electronics company Best Buy is also investing in start-ups and offering up its distribution channels and marketing support.

In May, Best Buy launched a new media digital fund to invest in areas such as music, video, games and personal media management. The fund, with Best Buy as the sole limited partner, is being managed by Fuse Capital (the new name for Velocity Interactive Group).

The giant retailer is also engaging with individual venture capital firms. “We have a wonderful relationship with Kleiner Perkins, we will talk to these guys, listen to their start-ups, bring them to market and learn from them,” says Kal Patel, Best Buy's Executive Vice-President, Strategy and Emerging Business.

Best Buy has also made a limited partner investment in VantagePoint, a large cleantech fund, to learn more about that sector. The company recently started to get into clean transportation by experimenting with electric bikes and is considering entering emerging areas such as home energy management.

The retailer also engages with start-ups through Best Buy Capital, which operates more like a traditional venture firm, taking minority stakes in a number of young upstarts.

“These are the companies that the core business doesn’t see a benefit in engaging with yet but we may see a seed we want to plant,” says Patel.

Patel says engaging with start-ups will help Best Buy better serve its customers. “We are trying to make tech work for people and make them happy,” he says.

everyone else is moving to using larger and larger equipment. He predicts that eventually others will follow eSolar’s lead. “A breakthrough idea is a crazy idea until it jumps over the chasm and becomes a breakthrough,” says Gross. It is difficult to incubate or introduce such revolutionary ideas inside big companies because risk takers regularly get shot down by naysayers, who prefer to try and perfect what already works. “A commitment to innovation and to

“ A breakthrough idea is a crazy idea until it jumps over the chasm ”

It is also learning from start-ups, such as Mobshop, a company it was introduced to through Kleiner, Perkins, Caufield & Byers. In return for a hefty stake in the company’s warrants, Best Buy is distributing Mobshop loyalty cards in its stores. “If this works then we also might actually have a way to create more traffic into the stores and benefit the core business,” says Patel. “There is a whole lot of learning going on.”

But to learn, companies have to be open to change. Serial entrepreneur Bill Gross, whose current company, eSolar is a 2010 Technology Pioneer, remembers the reaction to one of his first companies, goto.com, which is credited for being the first company to successfully provide an Internet search engine which relied upon sponsored search results and pay-per-click advertisements. The idea was publicly proclaimed “a crazy idea”, recalls Gross, who sold the company, which was renamed Overture, to Yahoo for US\$ 1.6 billion. A similar technology now generates 90% of Google’s revenues.

Gross was first named a Technology Pioneer in 2006 for his company Energy Innovations. His new company, eSolar, was selected for 2010. “eSolar likes to zig while others zag,” says Gross. eSolar, a producer of large-scale solar thermal power plants, is bucking the trend by using modular designs, small mirrors and computing power to lower costs, while

embracing change, especially if it comes from the outside and disrupts an existing business, has to come from the chief executive.”

That is a lesson that Intuit’s CEO has taken to heart. The company recently held an “Entrepreneur’s Day”. Over 100 companies submitted applications to come in and present products or technology ideas. The company narrowed the list to 40 for a round of “speed dating” with company executives. In the end, it decided to work with 12 of the 40.

To prevent another Mint.com from stealing away a significant amount of business, Intuit executives now meet ever quarter to discuss new upstarts and the five new things the company can learn from them, says Smith.

As for Mint.com, it will become the primary stand-alone online personal finance management service that Intuit offers directly to consumers. Patzer, who has not yet turned 30, will become general manager of Intuit’s personal finance group and be tasked with using the start-up’s technology to improve Quicken products. Intuit will leverage Mint.com’s technology in other areas of Intuit’s business, such as software used in tax preparation. With future product integration, Mint.com’s unique “ways to save” engine will help consumers and small businesses make the most of their money.



“ If you are not looking to
disrupt yourself you will be disrupted ”

Intuit is in the process of transforming from desktop software to software as a service and realized that it needed a different mindset and a different skill set to get there, says its chief executive. He believes it is a good thing that Mint.com came along to help it redesign its future.

His advice to other big companies? Embrace disruption. “Make sure as an organization that everybody inside the company feels accountable for innovation,” say Intuit’s CEO. “If you are not looking to disrupt yourself you will be disrupted.”

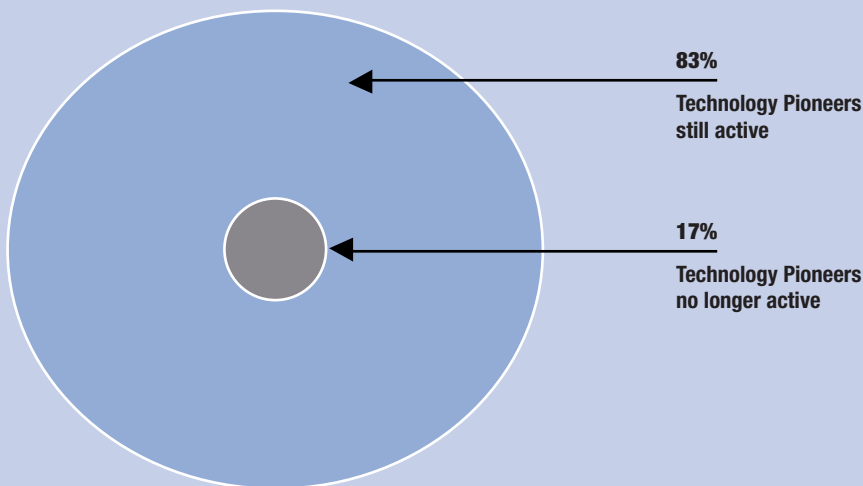


Ten Years of the World Economic Forum's Technology Pioneers

In 2010, the Technology Pioneers Programme celebrates its 10th anniversary since its inception in 2000.

Born from a need to recognize and support those organizations that are dedicated to R&D and the eventual development of new technologies, the Technology Pioneers Programme is the World Economic Forum's means of identifying and integrating top innovators into the Forum's activities, and providing them with a platform to connect and partner with leaders from academia, business, government, civil society and media.

Technology Pioneers: Highly Successful Companies



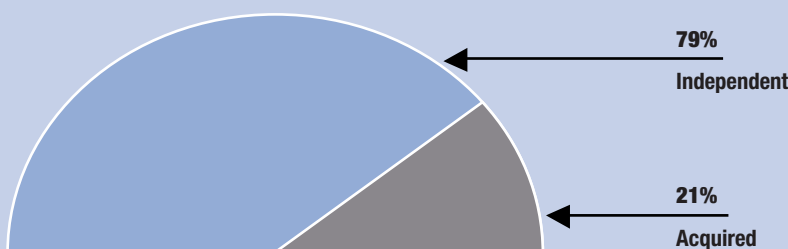
83%

From 2000 to 2009, there have been a total of **446 Technology Pioneers**.

Among them, **370*** companies are still active, either independently or after a M&A activity.

* Results are based on information available as of 31 October 2009.

Technology Pioneers M&A Activity



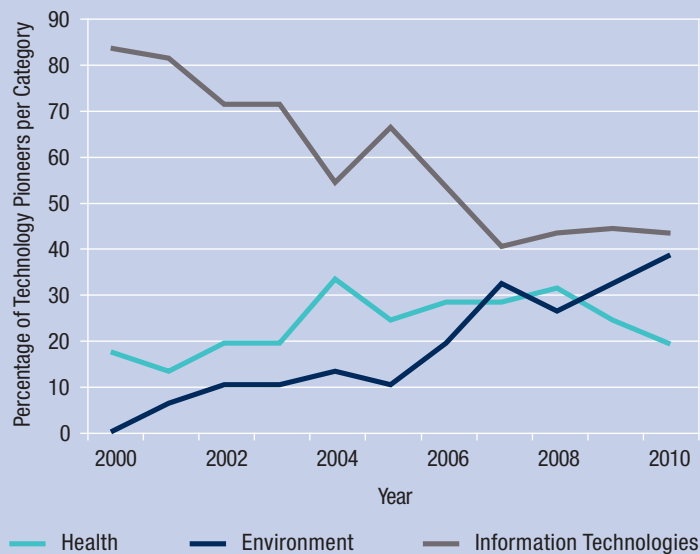
39%

Among the 78 acquired companies, 39% were acquired by industry leaders including **BT, Microsoft, IBM, Symantec and Yahoo.**

Among the active Technology Pioneers, **292 are still independent** and **78 have been acquired** by some of the most competitive companies in the world.

Technology Pioneers per Category Since 2000

Although companies in the category of information technologies historically constitute the dominant sector of the Technology Pioneers Programme, **the other categories have witnessed increased interest**. The energy/environment category has significantly increased since the start of the programme – in the 2010 class, 38% of the selected companies belonged to this sector.



62%

Information Technologies

22%

Biotechnology and Health

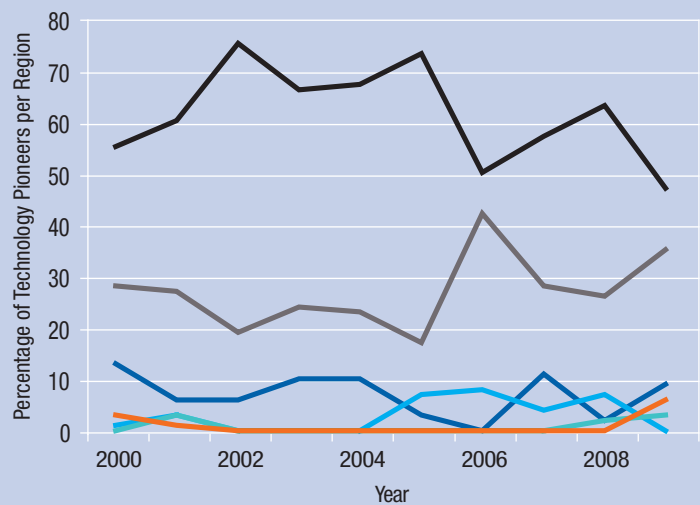
16%

Energy and Environment

Geographical Distribution of the Technology Pioneers Since 2000

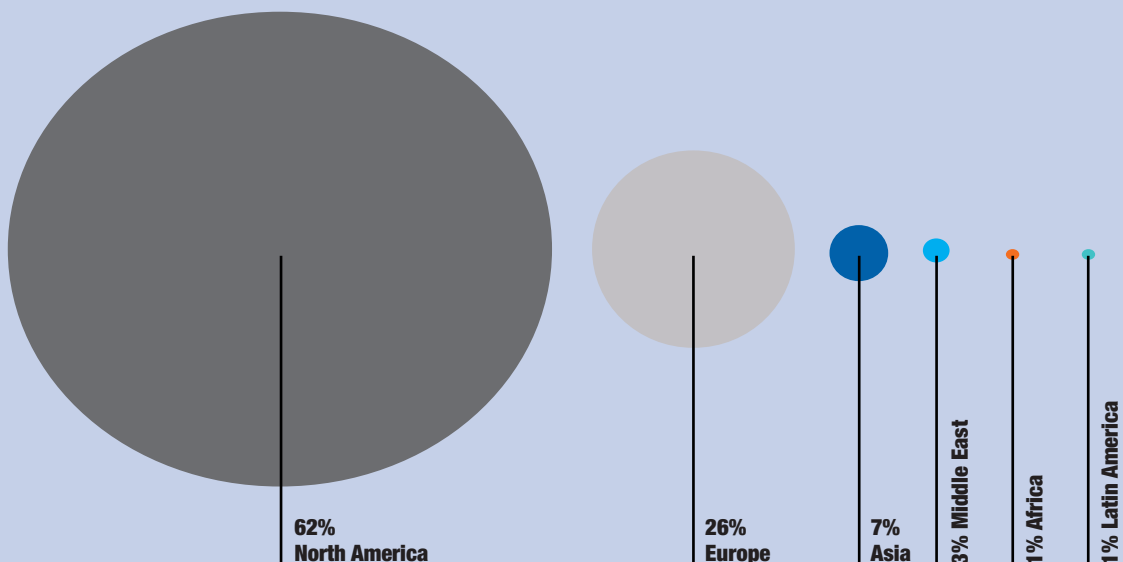
Innovation & Entrepreneurship

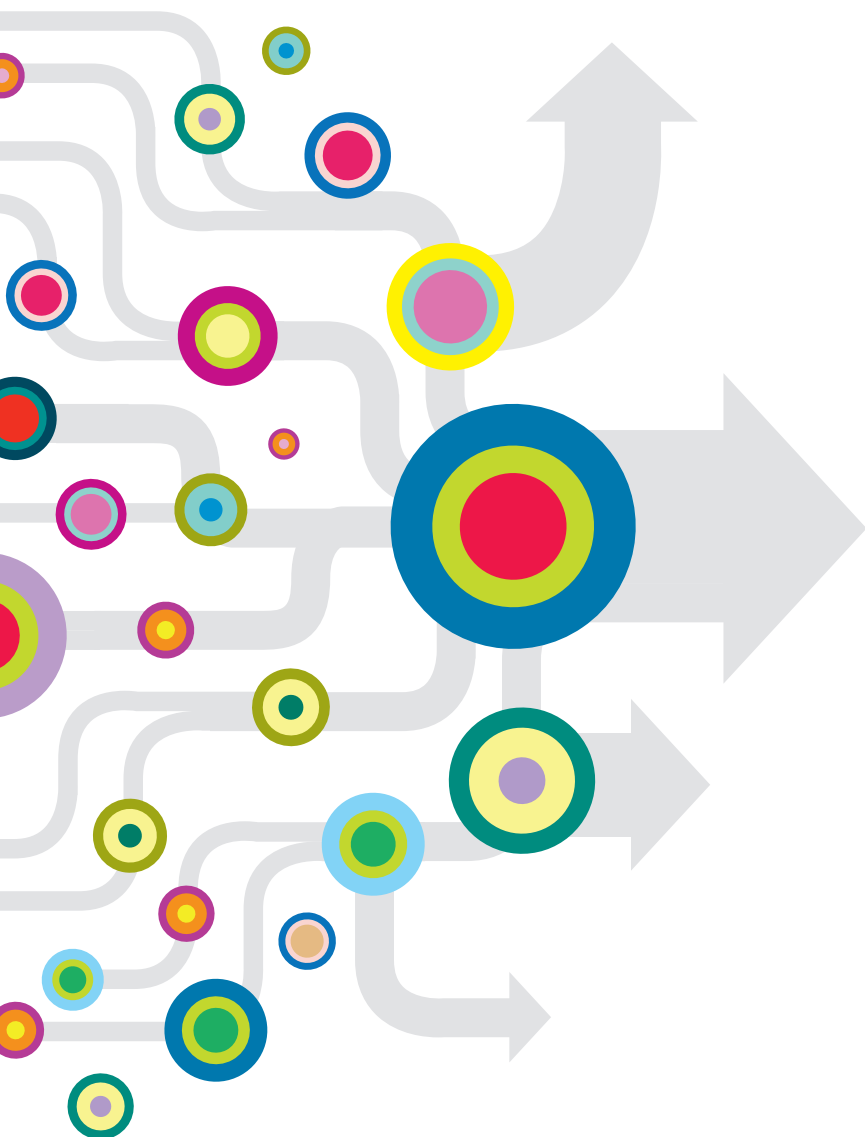
Conditions for developing and implementing innovative ideas are still more favourable in developed countries.



As a consequence, the Technology Pioneers community encompasses a majority of North American and European companies. **However, this trend will continue to change in the coming years**. For instance, within the 2009 class, two new African countries were included in the selection: Ghana and Nigeria. Technology Pioneers are becoming more evenly distributed across regions throughout the years.

- North Am.
- Middle East
- Europe
- Latin Am.
- Asia
- Africa







Technology
Pioneers
2010

Index

BIOTECHNOLOGY/HEALTH

| | |
|----------------------|----|
| Aura Biosciences | 16 |
| Corventis | 16 |
| MicroCHIPS | 17 |
| Pacific Biosciences | 17 |
| Proteon Therapeutics | 18 |

ENERGY/ENVIRONMENT

| | |
|---------------------|----|
| BioFuelBox | 18 |
| Bloom Energy | 19 |
| Boston-Power | 19 |
| CARE Electric | 20 |
| Epuramat | 20 |
| eSolar | 21 |
| Lehigh Technologies | 21 |
| Metabolix | 22 |
| Serious Materials | 22 |
| VNL | 23 |

INFORMATION TECHNOLOGY/NEW MEDIA

| | |
|--------------------|----|
| amiando | 23 |
| Amobee | 24 |
| CollabNet | 24 |
| Dilithium Networks | 25 |
| Innovid | 25 |
| Obopay | 26 |
| Playfish | 26 |
| Ring Central | 27 |
| StreamBase | 27 |
| Twitter | 28 |
| Ushahidi | 28 |

Twenty-six companies have been selected as Technology Pioneers in 2010. They come from three main categories: biotechnology and health, energy and environment and information technologies and new media. Candidate companies are nominated by Members, constituents, and collaborators of the World Economic Forum, as well as from the larger public. A Selection Committee, comprised of top technology and innovation experts from around the world, reviews all candidate companies and makes a recommendation to the Managing Board of the World Economic Forum, which then takes the final decision on the companies selected as Technology Pioneers.

Technology Pioneers are chosen on the basis of six criteria:

- 1. Innovation:** The company must be truly innovative. A new version or repackaging of an already well-accepted technological solution does not qualify as an innovation. The innovation and commercialization should be recent. The company should invest significantly in R&D.
- 2. Potential impact:** The company must possess the potential to have a substantial long-term impact on business and/or society in the future.
- 3. Growth and sustainability:** The company should demonstrate the potential to be a long-term market leader and should have well formulated plans for future development and growth.
- 4. Proof of concept:** The company must have a product on the market or have proven practical applications of the technology. Companies in "stealth" mode and with untested ideas or models do not qualify.
- 5. Leadership:** The company must have visionary leadership that plays a critical role in driving the company towards reaching its goals.

Finally, the company must not currently be a Member of the World Economic Forum. This criterion applies to the parent company; thus, wholly owned subsidiaries of large firms are not eligible.

Aura Biosciences

Elisabet de los Pinos, Founder and CEO

Location Cambridge, Massachusetts

Number of employees 5

Year Founded 2009

Origins European research institutions

Aura Biosciences
One Broadway, 14th Floor
Cambridge, MA 02142
USA

Telephone: +1 617 401 3360
Facsimile: +1 617 401 3762
www.aurabiosciences.com

Corventis

Edward Manicka, CEO

Location San Jose, California

Number of employees 71

Year Founded 2005

Origins US Department of Defense grant

Corventis
2033 Gateway Place, Suite 100
San Jose, CA 95110-9300
USA

Telephone: +1 408 790 9300
Facsimile: +1 408 790 9350
www.corventis.com

Aura Biosciences plans to commercialize powerful cancer drugs based on discoveries it has licensed from research institutions in France, Germany and the United Kingdom.

One discovery is based on the development advantages that viruses have created during evolution to infect cells as their way of survival. This is used to develop intelligent protein particles that mimic the way viruses penetrate tumour cells. Another leverages advances in molecular biology of tumours that have identified signals that are only expressed in malignant cells but are not present in normal cells. This enabled the discovery of a targeting peptide that can efficiently direct the protein particles to tumour cells in a highly specific way, just like a programmable ballistic missile. A third discovery, based on advanced chemistry, allows for the manufacturing of these new structures in an efficient, reproducible way.

Why the company is a pioneer

The firm's hollow particles, made of nano-sized protein shells, could radically improve delivery of approved cancer drugs, by keeping them stable as they travel through the body towards their intended target. By allowing cancer-killing drugs to go directly to tumour cells while avoiding healthy cells, the treatment could do away with the unwanted side effects of chemotherapy. The firm's technology will first be applied to pancreatic cancer.

Corventis makes a wireless cardiac monitor the size of a Band-Aid which has the potential to automate the provisioning of medical care in both developed and developing nations.

Corventis' system, which was granted US Food and Drug Administration approval in 2009, consists of a wearable, wireless sensor that transmits vital data to a patient's physician from anywhere in the world. Physicians review the data to make a remote diagnosis and intervene before hospitalization is necessary.

The device monitors the heart rate, respiratory rate and fluid status in patients and can also detect arrhythmias. The technology was developed through a Department of Defense grant to determine if military personnel in the desert could be monitored for dehydration. Once the hypothesis was proved, a private company was formed with venture capital backing.

Why the company is a pioneer

By combining patient-friendly, wearable sensors with advanced computational algorithms, global wireless capabilities and a comprehensive Web-based infrastructure, Corventis is able to provide doctors with actionable information to remotely diagnose health risks. By allowing doctors to concentrate only on those patients experiencing problems, Corventis could lower the cost of health for everyone. In emerging markets, it could make patient monitoring affordable in places where setting up expensive equipment is problematic.

MicroCHIPS

John Santini, Co-founder and CEO

Location Bedford, Massachusetts

Number of employees 20

Year Founded 1999

Origins Spin-off from Massachusetts Institute of Technology

MicroCHIPS
6B Preston Court
Bedford, MA 01730
USA

Telephone: +1 781 275 1445
Facsimile: +1 781 275 1446
www.mchips.com

Pacific BioSciences

Stephen Turner, Founder and Chief Technology Officer

Location Menlo Park, California

Number of employees 280

Year Founded 2004

Origins Spin-off from Cornell University

Pacific Biosciences
1505 Adams Drive
Menlo Park, CA 94025
USA

Telephone: +1 650 521 8000
www.pacificbiosciences.com

MicroCHIPS makes intelligent in-body devices for people who need treatments that are not orally available. The tiny chips allow drugs to be released in the right place in the body, at the right time and in the right amount.

MicroCHIPS products are based on chips containing microreservoir arrays that can store and protect potent drugs or chemical sensors within the body for extended periods. The company developed the novel, protective arrays from an initial groundbreaking concept that initiated in Dr Robert Langer's lab at MIT.

First-generation devices include one that delivers bone-building agents for osteoporosis and a long-term, continuous glucose monitor for diabetes. Products in development are in the preclinical testing stages in preparation for clinical trials and commercial introduction. Users of the implantable devices will include patients as well as medical practitioners in endocrinology, general medicine and cardiology.

MicroCHIPS expects to partner with leading pharmaceutical and medical device companies who have global reach and are seeking innovative solutions for patients. Novartis and Medtronic are both investors in the firm, along with seven different venture capital firms.

Why the company is a pioneer

MicroCHIPS' intelligent in-body devices have the potential to improve the health of millions of people with chronic conditions that require careful monitoring and precise therapy.

Pacific BioSciences brings together biotechnology, semiconductor processing and advanced photonics from the telecommunications industry to revolutionize DNA sequencing.

The country's ultra-fast system reads the individual bases of DNA as they are synthesized using a microscope that is 1000x times more sensitive than existing technology. This disruptive technology is expected to allow a far more comprehensive characterization of a greater number of sources of genetic variation involved in disease risk and progression. It also has the potential to improve biofuels and food crops.

The company has raised US\$ 200 million in venture capital backing from a group of investors that includes Intel Capital, Morgan Stanley and Kleiner Perkins Caufield & Byers. And, in 2005, the National Human Genome Research Institute of the National Institutes of Health awarded the company an Advanced Sequencing Technology Award grant of US\$ 6.6 million for development of technology leading to the US\$ 1,000 genome.

Why the company is a pioneer

Pacific BioSciences' technology aims to eventually enable sequencing of an entire human genome for a few hundred dollars in less than 15 minutes. This speed and cost reduction could enable a new era of personalized medicine and molecular diagnostics, as well as giving scientists the ability to improve disease resistance in plants and potentially improve the world's food and energy supplies.

Proteon Therapeutics

Nicholas Franano, Founder and Chief Scientific Officer

Location Waltham, Massachusetts

Number of employees 17

Year Founded 2001

Origins Spin-off of John Hopkins University

Proteon Therapeutics
200 West Street
Waltham, MA 02451
USA

Telephone: +1 781 890 0102
Facsimile: +1 781 487 6729
www.proteontherapeutics.com

BioFuelBox

Steve Perricone, Co-founder and CEO

Location San Jose, California

Number of employees 24

Year Founded 2006

Origins Entrepreneurial start-up

BioFuelBox
50 Las Colinas Lane
San Jose, CA 95119
USA

Telephone: +1 408 225 9991
Facsimile: +1 408 225 9994
www.biofuelbox.com

Proteon Therapeutics is developing PRT-201, a recombinant human protein that clips elastin fibres, leading to persistent dilation tests of blood vessels and increases in local blood flow in animal testing. PRT-201 acts like a “biological stent” in the treated vessel segment, giving the benefits of a metal stent but leaving no implant behind. If successful in clinical development, PRT-201 will improve outcomes after vascular surgery procedures and alleviate some of the problems and complications that develop during and after these procedures.

Why the company is a pioneer

Until now, persistent blood vessel dilation was accomplished only through physical methods, including stretching, stenting and scraping, which often led to scarring and thrombosis. Proteon Therapeutics' PRT-201 claims to be the first and only fully biologic method of persistent blood vessel dilation. As such, PRT-201 has the potential to become the standard of care in reducing the failure of vascular access sites in patients with chronic kidney disease, helping to lessen morbidity and suffering. It could also save healthcare systems some of the billions of dollars a year spent treating vascular site failure and result in new and more effective treatments for patients with peripheral and coronary artery disease.

BioFuelBox builds, owns and operates modular bio-refineries that recycle brown grease, trap grease and waste water sludge for companies and cities, converting it into premium clean burning fuel for local use. It eliminates the waste streams on site and shares part of the fuel profits with its customers.

The BioFuelBox team has created a patent-pending process for converting any fats, oils or greases into biodiesel without regard for their free fatty acid level and without any toxic acid or base catalysts. This gives the company the ability to target material that previously had no competitive use and to secure it at much lower costs than virgin vegetable oils, allowing it to compete with the current price of petroleum diesel.

Why the company is a pioneer

BioFuelBox enables communities to generate their own fuel while at the same time eliminating tens of millions of pounds of waste annually. The fuel that is produced classifies as an ultra-low emission fuel, as it has 85% less emissions than petroleum-based diesel, and can run in any unmodified diesel engine. Since the fuel is made from waste and is not a food crop, the resulting product is cost competitive with diesel, allowing for the possibility of widespread adoption.

Bloom Energy

K.R. Sridhar, Founder and CEO

Location Sunnyvale, California

Number of employees 200+

Year Founded 2001

Origins Entrepreneurial start-up

Bloom Energy
1252 Orleans Drive
Sunnyvale, CA 94089
USA

Telephone: +1 408 543 1500
Facsimile: +1 408 543 1501
www.bloomenergy.com

Boston-Power

Christina Lampe-Onnerud, Founder and CEO

Location Westborough, Massachusetts

Number of employees 100

Year Founded 2005

Origins Entrepreneurial start-up

Boston-Power
2200 West Park Drive
Westborough, MA 01581-3961
USA

Telephone: +1 508 366 0885
Facsimile: +1 508 366 0998
www.boston-power.com

Bloom Energy aims to change the way the world generates and consumes energy by converting a wide range of renewable and traditional fuels into electricity through a highly efficient electrochemical reaction, rather than combustion.

Bloom's fuel cell technology is different from hydrogen fuel cells. Instead of requiring expensive materials, Bloom's systems are built from an inexpensive ceramic material, helping cut costs so that customers could generate their own electricity for less than they pay their utility. Its systems also operate at a higher temperature, providing for efficiencies in converting fuel to electricity. The higher temperature enables the systems to run on a wide range of fuels, allowing Bloom systems to be deployed anywhere and run on locally produced fuels from readily available fuels, waste or biomass.

Bloom's technology is also capable of both energy generation and storage.

Why the company is a pioneer

If it works, homes, offices and factories could generate their own electricity and fuel their own vehicles, using local resources. In the developed world, this would help meet energy needs while reducing costs and the carbon footprint. In the developing world, it would help give people access to power for the first time without huge investment in infrastructure or negative impact on the environment.

Boston-Power is pioneering the use of lithium-ion and other materials capable of powering end applications ranging from portable consumer electronic devices to electric vehicles.

Sonata, its first lithium-ion battery product, is used by Hewlett Packard in its HP Long Life Battery – available as the primary battery for some of its popular notebook PC models, and as an accessory upgrade for many others. Now the company is expanding its offerings into the transportation and energy storage markets with its second product, Swing. Designed to be used in battery electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs), Swing's high-energy density makes it as much as 50% more efficient in system weight and space savings compared to alternative solutions.

Boston-Power is also talking with partners in the energy storage area, to apply its technology to drive the adoption of smart grid technology as well as cleaner energy sources such as solar and wind.

Why the company is a pioneer

For portable power and transportation applications, such as notebook PCs and electric vehicles respectively, Boston-Power's cells promise to retain 80% or more of their capacity after thousands of charge and discharge cycles, offering reliable and sustained performance over an extended period of time. Its cells can be recharged to 80% capacity in 30 minutes – up to 50% faster than conventional lithium-ion cells; produce less waste; and use fewer raw materials during manufacturing than traditional batteries. Applying the technology to transportation and energy storage could help the world move away from its dependence on fossil fuels.

CARE Electric Energia Ltda

Johann Hoffmann, Founder
 Location Belo Horizonte, Brazil
 Number of employees 5
 Year Founded 2008
 Origins Entrepreneurial start-up

CARE Electric Telephone: +55 31 3361 7885
 Soares Nogueira 552
 Belo Horizonte; MG 30520-330
 Brazil

Epuramat

David Din, Co-founder and CEO
 Location Contern, Luxembourg
 Number of employees 17
 Year Founded 2005
 Origins Entrepreneurial start-up

Epuramat Telephone: +35 2 35 70 72-1
 Z.I. Chaux de Contern Facsimile: +35 2 35 70 72-70
 L-5324 Contern
 Luxembourg www.epuramat.com

CARE has designed a turbine system that generates energy from the natural flow of a river, without any alternation of its natural state. It provides fish passage facilities and does not dam the normal flow of materials in the river, conserving the fauna, vegetation and the ecosystem. Units can be placed close to the source of consumption and, due to their modular nature, can be located successively downstream, thus increasing the energy generated.

The turbines were designed from the start to also work well in remote areas; they can be manufactured on an assembly line, like a car, and individual sections transported to a site and assembled at the point of operation.

The cost of operation is low because the turbines are automated by software, allowing them to be remotely controlled by sensors and cameras and supervised via the Internet. The system works 24 hours a day and promises energy generation above 90% of installed capacity, compared to traditional hydrogen generating systems, which rarely exceed 60%.

Why the company is a pioneer

In developed countries, CARE turbines can be used to generate hydrogen fuel, and in underdeveloped countries, they can be used to bring electricity to areas with little or no access to power, reducing pollution from diesel fuels now in use.

Epuramat's technology promises to revolutionize waste water treatment.

Its patent-pending Extreme Separator achieves an efficiency of up to 99% in terms of solid/liquid separation of organic and inorganic particles in wastewater and liquids – and it does it in only one treatment step.

The company's Extreme Separator is gravity-fed: solids sink to the bottom and are sucked out, while lighter water rises to the top. Since it is more efficient at extracting solids, it reduces the need for additional treatment steps like membrane or biological filtration. As a result, Epuramat's plants cost 30% to 50% less to build. They also use less energy and take up less land. Its plants have a footprint that is up to 90% smaller compared to conventional plants.

Just how small can Epuramat go? Its "Box4Water" system can contain a whole sewage plant for up to 250 inhabitants in only one 20-foot container. A "Box4Water" version in a 40-foot container for up to 1,000 inhabitants is also available.

Why the company is a pioneer

By greatly reducing the cost of wastewater treatment, more water can be recycled for drinking, helping the United Nations meet its goal to give 2 billion people access to clean water and sanitary facilities in the coming years.

eSolar

Bill Gross, Founder and CEO

Location Pasadena, California

Number of employees 175

Year Founded 2007

Origins Entrepreneurial start-up

eSolar
130 West Union Street
Pasadena, CA 91103
USA

Telephone: +1 626 685 1810
Facsimile: +1 626 685 1810
www.esolar.com

Lehigh Technologies

Alan Barton, CEO

Location Tucker, Georgia

Number of employees 53

Year Founded 2003

Origins Entrepreneurial start-up

Lehigh Technologies
120 Royal Woods Court SW
Tucker, GA 30084
USA

Telephone: +1 678 495 2200
Facsimile: +1 678 495 2201
www.lehightechnologies.com

eSolar aims to become the first solar electricity company to reach parity with the cost of fossil fuel. It hopes to achieve that goal with technology that concentrates the sunlight of one-square-meter mirrors to produce steam at centralized towers.

Each plant consists of 192,000 self-tracking mirrors and 16 receiver towers that produce steam that is piped to a central steam turbine, which produces 46 MW net electrical power onto the grid. The breakthrough is software control of all the mirrors, which can be remotely controlled and monitored. This means the plants can be built cheaper and faster and use less steel.

eSolar has a deal with South Africa's Clean Energy Solutions to sell its solar thermal power plants in sub-Saharan Africa. It also has partnered with Acme Group, giving it the exclusive rights to eSolar's technology in India. In the US, it is working with NRG Energy to develop three solar thermal plants. And, eSolar recently hired engineering group Fluor to optimize designs for 46-MW solar thermal power plants, with an eye to licensing the blueprints to developers across the globe.

Why the company is a pioneer

Gross, eSolar's founder, is confident that by obtaining 5% price reductions in six different areas, the company can reach parity with fossil fuels by 2015 and some day power all of Africa and Europe.

In the US, some 300 million tires are discarded every year – that amounts to roughly one tire per individual. It not only creates an environmental mess but is also a waste of high-value materials.

A number of companies recycle old tires, but Lehigh is the first to generate industrial-scale, ultra fine powders from them. Lehigh Technologies manufactures very small, micron scale, engineered rubber powders from material derived from scrap tires using a proprietary, cryogenic, grinding technology. These powders are novel materials that are currently used in the manufacture of new tires and other rubber goods. Lehigh is also commercializing applications in modified plastics as well as in coatings and construction materials.

The company was founded by a team familiar with extensive tire industry experience. They developed a relationship with the inventor of the cryogenic turbo mill that led to its acquisition. In 2006, after extensive work to understand the technology, the company financed and commissioned its first manufacturing plant.

Why the company is a pioneer

Lehigh's technology enables higher-value uses for end-of-life tires than burning or landfilling. Its engineered rubber powders can be used as a sustainable formulating additive for improving the environmental profile and performance characteristics of new tires, plastics and coatings.

METABOLIX

Oliver Peoples, Co-founder and Chief Scientific Officer

Location Cambridge, Massachusetts

Number of employees 107

Year Founded 1992

Origins Spin-off from Massachusetts Institute of Technology

Metabolix
21 Erie Street
Cambridge, MA 02139
USA

Telephone: +1 617 583 1700
Facsimile: +1 617 583 1768
www.metabolix.com

Serious Materials

Kevin Surace, Founder and CEO

Location Sunnyvale, California

Number of employees 300

Year Founded 2002

Origins Entrepreneurial start-up

Serious Materials
1250 Elko Drive
Sunnyvale, CA 94089
USA

Telephone: +1 408 541 8000
www.seriousmaterials.com

Metabolix aims to create a new class of materials that can serve as an alternative to petroleum-based plastics. It has developed bio-based and biodegradable plastics using both engineered microbes and engineered bioenergy crops that grow bioplastic directly inside leaves and stems.

Its plastics, marketed under the brand Mirel, can be made from corn or other sources of sugar. Through Telles, a joint venture with Archer Daniels Midland Company, it intends to sell these bioplastics as environmentally friendly, but functionally equivalent, alternatives to petroleum-based plastics. Mirel is already being used in consumer product packaging such as cosmetic cases, and for making things like compostable bags and objects such as pens and gift cards.

Metabolix's second technology platform is a biomass biorefinery system using plant crops to co-produce both bioplastics and bioenergy. It has engineered switchgrass to produce bioplastic in the leaf and stem of the plant. This system extracts polymer from the engineered plant crop, so that the remaining plant material can be used as a biomass feedstock for the production of bioenergy products, including cellulosic ethanol and other biofuels. It is also doing the same with sugarcane and other crops.

Why the company is a pioneer

Harvesting plastic directly from crops like switch grass, sugar cane and industrial oilseeds is expected to help reduce the world's dependence on big petroleum refineries. The bioscience being developed and commercialized by Metabolix is intended to lessen the world's dependence on oil, reduce CO2 emissions relative to traditional materials and address critical solid waste issues.

The construction industry is responsible for 52% of CO2 emissions worldwide. That is more than automobiles, transportation and industry combined. Serious Materials is tackling that problem with high tech building materials that include super insulating products.

It has reinvented drywall, replacing ingredients with 80% recycled content in a product it calls EcoRock. The mixture forms a reaction that allows the ingredients to naturally cure and dry and form wallboard, eliminating the need for energy-intensive oven drying required to make gypsum drywall, and emitting 80% less CO2 per manufacturing plant. EcoRock sells for the same price as other premium drywall, but is 50% more mould resistant, generates 60% less dust, and claims to be the first and only termite-resistant drywall. Replacement of gypsum drywall by EcoRock could save 200 trillion BTUs of natural gas per year in North America alone, reducing greenhouse gas emissions by 20 billion pounds.

Other Serious Materials product lines include SeriousWindows and SeriousGlass, which are designed to save more energy than any other window or commercial glass.

Why the company is a pioneer

Serious Materials is aiming to reduce world energy consumption by 75%, or by 12 terawatts, by the year 2040. If it works, these efficiencies will help reduce the world's energy needs while also saving businesses, governments and large organizations billions of dollars.

Vihaan Networks Limited (VNL)

Rajiv Mehrotra, Founder, Chairman and CEO

Location Gurgaon, India

Number of employees 350

Year Founded 2004

Origins Entrepreneurial start-up

VNL
21-B, Sector 18, Udyog Vihar
Gurgaon, 122 015, Haryana
India

Telephone: +91 124 309 2165
Facsimile: +91 124 309 2166
www.vnl.in

amiando

Felix Haas, Co-founder and CEO

Location Munich, Germany

Number of employees 30

Year Founded 2006

Origins Entrepreneurial start-up

amiando AG
Tumblingerstrasse 23
80337 Munich
Germany

Telephone: +49 89 552 73 58 11
www.amiando.com

In 1974, as a young electronics engineer, Mehrotra pioneered the manufacture of satellite TV equipment that brought cable TV to millions of village homes in India. Inspired by this revolution, he took telecom to the masses by installing wireless village telephones in over 100,000 Indian villages. Now, he is working on the next wave: bringing mobile phone service to the more than one billion people who live in the world's poorest and remotest areas.

VNL has developed a solar-powered GSM system specifically for remote and rural areas where people have less than US\$ 2 a month to spend on their phone bills. Its base stations, which cost one quarter of traditional equipment, only require as much energy as a 50-watt light bulb, while traditional base stations powered by alternative energy require 3,000 W.

VNL's units can easily be transported over rough terrain and come with IKEA-style instructions that use pictures and colour codes instead of text so that illiterate people can take charge of the assembly. And, thanks to software, the base stations can be managed remotely, reducing maintenance costs by 90%. The equipment is currently being tested in India and by some of the world's largest mobile operators.

Why the company is a pioneer

VNL's WorldGSM technology can help bring the reach of the current mobile infrastructure to billions more people.

amiando's technology tools enable organizers of small and mid-size events to handle everything from invitation management, online-promotion and attendee-registration to integrated billing on-line.

The company offers a variety of services in exchange for transactional fees. amiandoTICKETS is an on-demand service for event ticketing, which enables event organizers to instantly create their own online ticket shops, including a fully automated payment system. amiandoEVENTS allows event organizers to instantly create their own online event registration forms, which can be accessed either on amiando's site or integrated into the users' own websites.

amiando ViralTickets combine word-of-mouth marketing and event recommendation management on the Internet with the power of social networks. Ticket buyers receive a unique code which they can distribute to their friends and colleagues. In return for successful referrals, they get refunds on their original ticket purchase and their friends receive discounted tickets. The company already has partnerships with MySpace, Ning and XING and is expected to soon announce an agreement with another big social network.

Why the company is a pioneer

amiando is democratizing event planning, ticketing and promotion, disrupting traditional business models worldwide by providing professional, efficient online processes for the hundreds of thousands of small and mid-size events organized in Europe every year. It plans to expand beyond Europe beginning next year.

Amobee

Zohar Levkovitz, Founder and CEO

Location USA/Israel

Number of employees 90

Year Founded 2005

Origins Entrepreneurial start-up

Amobee Inc.

3 twin Dolphin Drive, Suite 260

Redwood City, CA 94065

USA

Telephone: +1 650 802 8871

Facsimile: +1 650 802 8951

www.amobee.com

CollabNet

Bill Portelli, Co-founder and CEO

Location Brisbane, California

Number of employees 200

Year Founded 1999

Origins Entrepreneurial start-up

CollabNet

8000 Marina Boulevard, Suite 600

Brisbane, CA 94005-1865

USA

Telephone: +1 650 228 2500

Facsimile: +1 650 228 2501

www.collab.net

Amobee is reinventing the advertising model to make it work on mobile phones. Its technology allows communication companies to insert relevant, interactive advertisements into all types of mobile entertainment and communication channels, including videos, music, messaging and games.

The company offers operators a campaign management system, an ad-serving solution, mediation and exchange services, and a business intelligence tool. Together, these tools deploy, monitor and bill for both branding and direct marketing campaigns across all possible inventory types.

Users are incentivized to accept the ads with subsidized services, such as downloads of a mobile game at no charge. Information culled about the consumer by the mobile operators is used, with the customer's permission, to make the advertising relevant.

The operator sells roughly one quarter of the ads directly, big advertising agencies sell about 25% of the ads, local brands sell an additional 25% and the rest is sold by mobile adnetworks. Amobee makes money by taking a cut of the advertising revenues. It is already working with some 30 operators around the world and has impressive backing: investors include Vodafone, Telefonica, Motorola, Amdocs and Cisco.

Why the company is a pioneer

With Amobee, today's mobile operators can become tomorrow's media companies, earning revenues by offering information and entertainment to consumers everywhere.

Brian Behlendorf, who led the Apache Foundation, and Bill Portelli and Tim O'Reilly, two other well-known open source pioneers, envisioned a tool that would enable companies everywhere to leverage the best practices of open source software communities to develop better software faster. Enter CollabNet, a company they founded that is transforming software development at companies around the world.

CollabNet is leading an industry in transition as sophisticated software development moves away from a traditional silo approach towards a more distributed model. By centralizing management of users, projects, processes, and assets, CollabNet's application lifestyle management platform enables a culture of collaboration, delivering an improvement in productivity of anywhere from 10% to 50% and reducing the cost of software development by up to 80%.

CollabNet is also enabling a new paradigm in next-generation software development: software development in the cloud. Future software applications will need to run easily in private or public clouds. Through a series of partnerships, CollabNet provides an end-to-end environment for developing and deploying cloud-ready software projects.

The company generates subscription revenue through software licensing, as well as fees earned for support, services and add-ons for its software.

Why the company is a pioneer

CollabNet is transforming the way in which leading organizations build software. Millions of users in more than 800 organizations, including Deutsche Bank and the US Department of Defense, use CollabNet, which enables geographically distributed software development teams to develop better software faster.

Dilithium Networks

Paul Zuber, Co-Founder and CEO

Location Petaluma, California

Number of employees 140

Year Founded 2001

Origins Entrepreneurial start-up

Dilithium Networks

5401 Old Redwood Highway, Suite 100

Petaluma, CA 94954

USA

Telephone: +1 707 792 3900

Facsimile: +1 707 792 3900

www.dilithiumnetworks.com

Innovid

Tal Chalozin, Co-founder and Chief Technology Officer

Location USA/Israel

Number of employees 14

Year Founded 2007

Origins Entrepreneurial start-up

Innovid

520 Broadway, 10th Floor

New York, NY 10012

USA

Telephone: +1 646 205 0405

Facsimile: +1 212 918 9240

www.innovid.com

Dilithium's mobile video infrastructure solutions enable delivery of multimedia content over any mobile or broadband network and to any device, helping pave the way for mass market adoption of mobile video. Prior to this innovation, wireless and broadband providers were unable to cost-effectively deliver high-quality, live and pre-recorded multimedia content to multiple devices. Content had to be stored in up to 250 formats, and required large amounts of storage and much manual intervention and administration.

Dilithium solved this problem and also provided key interoperability across a large matrix of infrastructure, devices and networks, enabling high-quality and cost-effective video solutions across three screens.

The company's technology supports all 2.5G and 3G smart phones for both on-demand and live content delivery, including iPhone, Blackberry and Android devices, as well as PCs and set top boxes. The technology allows services intended for a specific device such as a PC to be made available to other devices, such as mobile handsets and DVB set top boxes, by performing real-time transcoding and transport adaptation. Its real-time encoding solution promises to reduce carriers' capital expenditure and operating expenses by up to 75%, with a return on investment within the first year of service launch.

Why the company is a pioneer

Dilithium's technology is already being used by operators in 60 countries, who collectively serve some 1.5 billion customers.

Innovid enables advertisers to embed their brands in the heart of video content and create a two-way communication between the viewers and the brand.

Live, interactive pictures of products can be embedded inside videos during post-production. When viewers scroll their mouse over an item they can find out how to buy it. What's more, Innovid can change the embedded object depending on the viewer's profile and geographical location.

The Innovid platform includes deep analytics to track everything that the viewer does within the video player, on a frame-by-frame basis, allowing advertisers to know precisely what moment of a video resonates the most with viewers.

Its technology also allows for interaction with social networks. A new service lets viewers share the moment they liked best in a video, not just the whole clip. Each share generates a link back to the exact point in the video timeline, leading to dramatic increases in ad viewing, thanks to user interaction, linked-back traffic and social video distribution.

The young company recently struck a deal with online video platform provider Brightcove, allowing it to integrate with all of the publishers who use Brightcove's platform, significantly multiplying its customer base.

Why the company is a pioneer

Advertisers and the tech industry have been searching for a way to make money from the massive amounts of Internet video traffic. Innovid can help them to do it.

Obopay

Carol Realini, Founder and CEO

Location USA/India

Number of employees 200

Year Founded 2005

Origins Entrepreneurial start-up

Obopay
275 Shoreline Drive, Suite 400
Redwood City, CA 94065
USA
Telephone: +1 650 264 2000
www.obopay.com

Playfish*

Kristian Segerstrale, Co-founder and CEO

Location London, England

Number of employees 200+

Year Founded 2007

Origins Entrepreneurial start-up

Playfish
60 Sloane Avenue
London SW3 3XB
United Kingdom
Telephone: +44 20 3239 9980
Facsimile: +44 20 7681 1828
www.playfish.com

Obopay is a mobile payment service that allows users to instantly get, send and spend money, top up their mobile, buy online, buy via mobile, pay bills and pay small businesses anywhere, any time, via text messaging and the Web.

Its affordable financial services are available through every model mobile phone, promising broad global appeal for millions of banked, under-banked and previously unbanked people. Users do not have to have a credit history or a bank account to use the service. Merchants need only their own mobile phone to start taking electronic payments. The low transaction fees are designed to dramatically lower consumer fees for money transfer and small deposit services.

Obopay's impressive investors include Nokia, Qualcomm and Citibank. The company's technology powers the mobile payment systems of MasterCard MoneySend in North America and Nokia Money globally. Realini sees the biggest potential in the developing world, where the approach of converting tangible money into digitized value in the form of minutes has profitably served billions of people, without the traditional obstacles of credit and long-term relationships with a mobile service provider.

Why the company is a pioneer

Half the world, 2.5 billion adults, has no access to banking. Obopay's service, which looks set to transform the global banking industry, is currently available in the US and India, and will expand to additional markets in the near future.

Playfish, one of the world's largest and fastest growing social game companies, allows friends to play together over social and mobile platforms.

Playfish has disrupted the traditional video game marketplace by introducing social gaming, permitting people to play with their real-life friends through social networks such as Facebook and MySpace, and the iPhone and Android mobile platforms. Each of the company's 10 games has been a hit on Facebook, including Pet Society, which boasts 20.5 million users per month, and Restaurant City, which has 17 million. Both games have surpassed World of Warcraft, one of the most popular online games to date.

Playfish games are run as a service and are continually updated with new features to keep play fresh and challenging. Development of Playfish games is done on a weekly basis in the company's four studios, which are located in London, San Francisco, Beijing and Tromsø, Norway, using player feedback and behaviour metrics. The company earns revenue via micro-transactions and in-game advertising.

Why the company is a pioneer

Playfish is changing the way the world plays games by creating more social and connected experiences. The traditional video game industry is currently worth US\$ 50 billion. Playfish intends to expand the game-playing audience beyond traditional video games to the 1.5 billion Web users and to the 3.5 billion mobile phone users, by focusing the entertainment experience on interaction between friends.

* Playfish was acquired by Electronic Arts in November 2009, one month after the Technology Pioneers selection process was finalized.

RingCentral

Vlad Shmunis, Founder and CEO

Location San Mateo, California

Number of employees 210

Year Founded 2003

Origins Entrepreneurial start-up

Ring Central
999 Baker Way, 5th Floor
San Mateo, CA 94404
USA

Telephone: +1 650 472 4100
Facsimile: +1 650 620 1153
www.ringcentral.com

StreamBase

Mark Palmer, CEO

Location Lexington, Massachusetts

Number of employees 50

Year Founded 2003

Origins University spin-off from Massachusetts
Institute of Technology, Brown and Brandeis

StreamBase
181 Spring Street
Lexington, MA 02421
USA

Telephone: +1 781 761 0800
Facsimile: +1 781 761 0801
www.streambase.com

Traditional business phone systems were designed for the age of centralized organizations, not the information age of mobile, distributed organizations. RingCentral brings phone systems up to date by providing customers with a cloud computing-based business phone system.

RingCentral uses cloud computing to deliver capabilities normally found only in the most expensive business phone systems to any company, regardless of its size or location. For as low as US\$ 10 a month, customers can buy and start using their systems, eliminating the need for investment in expensive on-premise equipment and maintenance. RingCentral services include multi-extension business phone systems with an auto-receptionist that professionally answers, greets and directs callers to the right department or person.

Each employee can define how they want to automatically route calls, for example to their home office or mobile phones, based on time of day and availability. Users can even make calls from their iPhone at the beach and make it look like a call placed from the office. And, Internet fax capabilities convert incoming faxes to PDFs, making them immediately available to team members to view, forward and file electronically.

Why the company is a pioneer

RingCentral has radically changed the cost structure for business phone systems from tens of thousands of dollars to as low as US\$ 10 a month and is delivering these services in the US, Canada and the United Kingdom.

Traditional database systems cannot keep pace with the continuous data streams produced by global electronic transactions and sensor networks. So, in 2001, StreamBase's future founders at MIT started work on the "Aurora" project to investigate the underlying principles required to design a new systems architecture for continuous real-time event data.

Before event processing, data had to be imported into a database, against which business intelligence queries were run to find patterns and answer questions. However, this approach did not offer actionable business intelligence due to the historical nature of databases, which produce answers long after data has been received.

Today, the deluge of continuous data streams from sensor networks and electronic transactions require immediate response. CEOs need real-time business information, governments need real-time intelligence, doctors need to track disease outbreaks in real time and traders in capital markets need to immediately identify trading opportunities. In these instances, each lost second costs money, lives or both.

Why the company is a pioneer

StreamBase's customers span government, e-commerce and capital markets. Competitors include substantial players such as IBM, Oracle, Microsoft and Sybase; however, StreamBase has already raised US\$ 37 million in venture capital and is attracting marquee customers such as the Chicago Mercantile Exchange, the Royal Bank of Canada, the online travel agency Orbitz.com and the National Security Agency.

Twitter

Evan Williams and Biz Stone, Co-founders

Location San Francisco, California

Number of employees 90

Year Founded 2006

Origins Entrepreneurial start-up

Twitter

539 Bryant Street, Suite 402

San Francisco, CA 94107

USA

www.twitter.com

Ushahidi

Ory Okolloh, Co-founder and Executive Director

Location South Africa/Kenya

Number of employees 5

Year Founded 2008

Origins Entrepreneurial start-up

Ushahidi

22 Cypress Walk

Rivonia 2128

South Africa

Telephone: +27 83 387 7365

www.ushahidi.com

Twitter is a free social networking and microblogging service that enables its users to send and read others' updates, known as "tweets". Tweets are text-based posts of up to 140 characters displayed on the author's profile page and delivered to followers who have subscribed to them. Users send and receive tweets via the Twitter site or via SMS. No longer just for early adopters, movie actors, sports stars, celebrity authors and top executives at Fortune 500 companies are all tweeting.

The service, which is popular in the US and Japan, is now spreading internationally, with four new languages planned in the coming months. With almost 4 billion mobile users, compared to only one billion PC users, Twitter sees mobile tweets as a real growth engine going forward. To that end, Twitter signed a deal in India with Bharti Airtel in October, allowing subscribers to receive tweets via SMS for free and send them for the standard text message rate.

Twitter has also reached deals with Google and Bing, which will allow the search engines to trawl public tweets. Tweets are valuable to Google and Bing because the most recent information is often the most relevant.

Why the company is a pioneer

Twitter has helped foster a unique form of information dissemination, changing the way individuals and companies share and get their information.

Ushahidi, which means "testimony" in Kiswahili, is a technology tool that facilitates the crowd sourcing of information during times of crisis, helping in disaster recovery or to draw attention to problems such as election fraud.

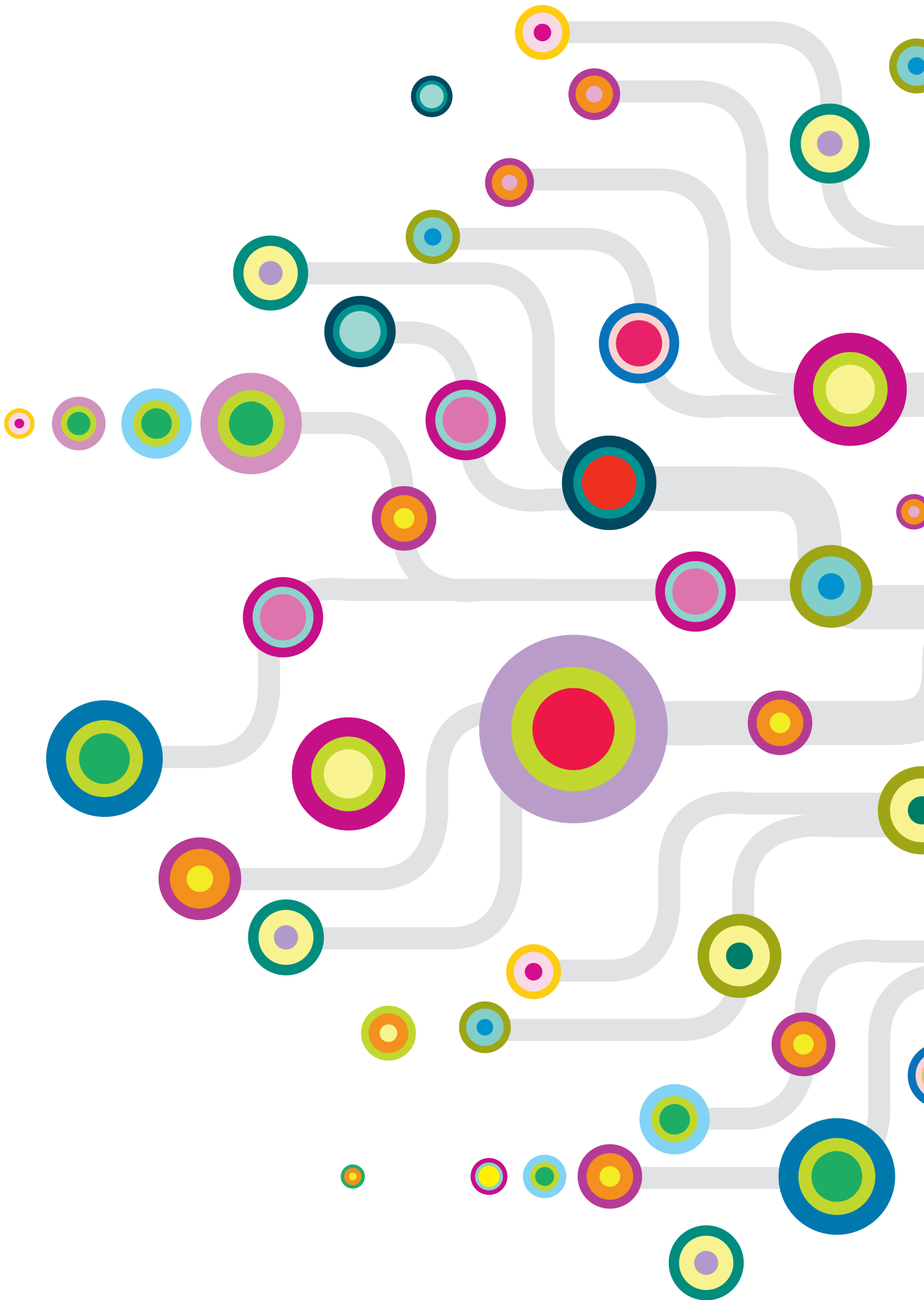
The group's technology engine, which was developed by Africans, allows for any group, individual or organization to create a way to gather distributed information, aggregate it, and then visualize it on a map, timeline or chart. It also creates an archive of citizen-generated data that can be accessible for future study.

Okolloh, a Harvard Law School graduate, came up with the idea for Ushahidi while crowd sourcing information for her popular blog about post-election violence in Kenya in early 2008.

Since then, Ushahidi's platform has been used to alert authorities to shortages of medical supplies in Kenya, Uganda, Malawi and Zambia, monitor elections in Mexico and India, track the spread of swine flu and to map xenophobic attacks against foreigners in South Africa. The engine works as a free and open source platform. The code is available for anyone to download and run on their own servers.

Why the company is a pioneer

In a crisis, there is rarely a centralized point for reporting and searching for data. Ushahidi can help fill this gap by using Web 2.0 tools to gather reports from citizen journalists, governments, concerned outsiders and local organizations, and present it at a single location that is easily accessible to all.





Technology
Pioneers
2010

Technology Pioneers Selection Committee 2010

| | | | |
|----------------------------|--|---|----------------|
| Justin Adams | Founder and Head of the Venturing Business - BP Alternative Energy | BP Plc | United Kingdom |
| Ola Ahlvarsson | Chairman and Founder | Result | Sweden |
| Pramod Bhasin | Chairman | NASSCOM | India |
| Adam Bly | Founder and Chief Executive Officer | Seed Media Group | USA |
| Roberto Bocca | Senior Director, Head of Energy Industries | World Economic Forum | |
| Tom Byers | Professor and Faculty Director, Stanford Technology Ventures Programme | Stanford University | USA |
| Timothy Chen | Chairman of Dopod; Vice-President of Business Development, VIA Technologies | HTC-VIA | Taiwan, China |
| George F. Colony | Chairman of the Board and Chief Executive Officer | Forrester Research Inc. | USA |
| Kevin E. Comolli | Partner | Accel Partners | United Kingdom |
| Adrienne Corboud-Fumagalli | Vice-President for Innovation and Technology Transfer | Ecole Polytechnique Fédérale de Lausanne (EPFL) | Switzerland |
| Thomas Crampton | Asia-Pacific Director, 360 Digital Influence | Ogilvy Public Relations Worldwide | Hong Kong SAR |
| Paulette DeFalco | Life Science Leader | KPMG LLP | USA |
| Andreas Diggelmann | Vice-President, Research and Development, Planning, Operations and Strategy | SAS Institute Inc. | USA |
| Soumitra Dutta | Dean, External Relations, and Roland Berger Chaired Professor in Business and Technology | INSEAD | France |
| Esther Dyson | Chairman | EDventure Holdings Inc. | USA |
| Cristiana Falcone | Director, Head of Media, Entertainment and Information Industries | World Economic Forum USA | |
| Jean-Marc Frangos | Managing Director, External Innovation | BT Group | USA |
| Christoph W. Frei | Secretary-General | World Energy Council (WEC) | United Kingdom |
| Friedrich Froeschl | Chief Executive Officer and General Partner | HI TEC INVEST | Germany |
| James R. Fruchterman | President and Chief Executive Officer | The Benetech Initiative | USA |
| Bruce Golden | Partner | Accel Partners | United Kingdom |
| Brian B. Hashemi | President | European Tech Tour Association | Switzerland |
| Lutz Heuser | Vice-President, SAP Research | SAP AG | Germany |

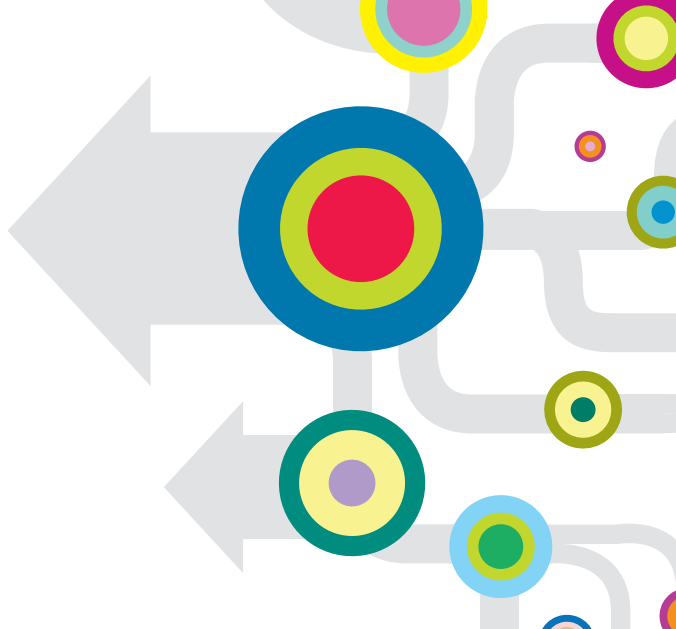
Technology Pioneers Selection Committee 2010

| | | | |
|---------------------|--|---|----------------------------|
| Ken Hu | Board Member and Executive Vice-President | Huawei Technologies Co. Ltd | People's Republic of China |
| Netanel Jacobsson | Member of the Board | P1.CN | People's Republic of China |
| Calestous Juma | Director, Science Technology and Globalization | Belfer Center for Science and International Affairs, Harvard University | USA |
| Emiliano Kargieman | Co-Founder and Managing Director | Aconcagua Ventures | Argentina |
| Jeong Kim | President, Bell Labs, Executive Vice-President, Alcatel-Lucent | Alcatel-Lucent Bell Laboratories | USA |
| David Kirkpatrick | Senior Editor, Internet and Technology | Fortune Magazine | USA |
| Li Zheng | Director, Tsinghua BP Clean Energy Research and Education Centre | Tsinghua University | People's Republic of China |
| Michael Liebreich | Chairman and Chief Executive Officer | New Energy Finance Limited | United Kingdom |
| Sven Lingjaerde | General Partner | Endeavour Vision | Switzerland |
| Patricio Lopez | President, Virtual University | Monterrey Institute of Technology and Higher Education (ITESM) | Mexico |
| Alan Marcus | Senior Director, Head of IT and Telecommunications Industries | World Economic Forum | USA |
| Alejandro K. Mashad | Executive Director | Endeavor Argentina | Argentina |
| Yoichiro Matsumoto | Professor, Department of Mechanical Engineering | The University of Tokyo | Japan |
| Gary Matuszak | Global Chairman, Information, Communications and Entertainment | KPMG LLP | USA |
| Dave Miller | Head of Clean Tech | KPMG LLP | USA |
| John Moavenzadeh | Senior Director, Head of Mobility Industries | World Economic Forum | USA |
| Geoffrey Moore | Managing Partner | TCG Advisors LLC | USA |
| Harry Nelis | Partner | Accel Partners | United Kingdom |
| Christophe Nicolas | Senior Vice-President and Chief Technology Officer | Kudelski Group | Switzerland |
| Kalendu Patel | Executive Vice-President, Emerging Business | Best Buy Co. Inc. | USA |

Technology Pioneers Selection Committee 2010

| | | | |
|----------------------|--|--|----------------|
| Yves Pitton | Senior Vice-President; Director, Corporate Development | Kudelski Group | Switzerland |
| G. Ary Plonski | President, Brazilian Association of Science Parks and Business Incubators | University of Sao Paulo | Brazil |
| JP Rangaswami | Chief Scientist | BT Group Plc | United Kingdom |
| Olivier Raynaud | Senior Director, Global Health and Healthcare Sector | World Economic Forum | |
| James Rosenfield | Co-Founder and Senior Advisor | IHS CERA (Cambridge Energy Research Associates) | USA |
| Paul L. Saffo | Author and Forecaster | Saffo.com | USA |
| Alan E. Salzman | Chief Executive Officer and Managing Partner | VantagePoint Venture Partners | USA |
| Jennifer L. Schenker | Founder and Editor-in-Chief | Informilo | France |
| Ulrich Schriek | Global Vice-President Corporate Business Development | QIAGEN NV | Germany |
| Helmut M. Schühlsler | Managing Partner | TVM Capital GmbH | Germany |
| Gary Shainberg | Vice-President, Technology and Innovation Support | BT Group Plc | United Kingdom |
| Phillip Sharp | Institute Professor | Massachusetts Institute of Technology | USA |
| David Spreng | Founder and Managing Partner | Crescendo Ventures | USA |
| Rory Stear | Executive Chairman | Flambard Holdings Limited | United Kingdom |
| Yossi Vardi | Chairman | International Technologies Ventures | Israel |

The positions stated above reflect the responsibility of the selection committee members at the time the Selection Process 2010 was finalized.



Acknowledgements

This report was prepared by the World Economic Forum with the invaluable collaboration of Jennifer L. Schenker, Editor-in-Chief of Informilo. The Technology Pioneers Programme is run by the World Economic Forum with guidance from Accel Partners, Alcatel-Lucent, BT, KPMG and Kudelski Group.

The Technology Pioneers Programme of the World Economic Forum is managed by Rodolfo Lara. Special thanks to Tessema Tesfachew and Marjorie Buchser for all their support during the Selection Process 2010.

ACCEL®

Accel Partners

For over 25 years, Accel Partners has sought out entrepreneurs with the rare combination of insight, determination and ambition to create the next generation of category-defining companies in various technology markets. As a long-standing partner of the World Economic Forum, Accel is thrilled to support the Technology Pioneers Programme. The Forum's Technology Pioneers Programme is ideally situated to help identify and nurture innovative companies in many different fields, which individually and collectively can have substantial business and social impact. Each year, Accel looks forward to evaluating the full list of candidates for the Technology Pioneers Programme, as the selection process is a humbling reminder of the brilliant international talent pool focused on addressing important global problems.

*Kevin E. Comolli, Bruce Golden and Harry Nelis,
Accel Partners*

Alcatel-Lucent

Alcatel-Lucent

As a Strategic Partner of the World Economic Forum and a strong supporter of innovations in information and communication technologies, Alcatel-Lucent is honoured to participate as a Technology Pioneer Partner and serve on the Selection Committee. Alcatel-Lucent's Bell Labs, which employs an open innovations approach to research, continuously seeks out exemplary collaborators with whom the company can form a foundation for meeting the market's ever-evolving needs for information networking. Alcatel-Lucent believes that such enterprises, when combined with strong leadership and a commitment to improving the economic and social well-being of the global community, benefit all in the industry. This was the lens through which the company viewed its participation in the Technology Pioneers Programme.

Jeong Kim, Alcatel-Lucent Bell Laboratories



BT Group

BT has long been involved with the World Economic Forum's Technology Pioneers Programme. In these challenging times for the global economy and the world environment, we think it is more important than ever to focus on applying technology in new and innovative ways to drive progress and sustainable growth for the benefit of business and society. We see the Technology Pioneers programme as a chance to showcase brilliant innovation and new insights and share learning and best practice models and behaviours, and are proud to continue to support it.

JP Rangaswami, BT Group



KPMG

KPMG is proud to recognize the Technology Pioneers 2010 through its unique partnership with the World Economic Forum. As the global economy recovers, the spirit of optimism and innovation remains strong. The exciting advances highlighted through these awards continue to transform the world by connecting communities and fostering innovations that unite and transform societies.

This year's Technology Pioneer Award recipients have created an impressive array of technological and entrepreneurial initiatives that offer profound improvements to the collective health, energy efficiency, the environment and the ways individuals work and communicate with each other.

KPMG congratulates this year's Technology Pioneers.

Gary Matuszak, KPMG



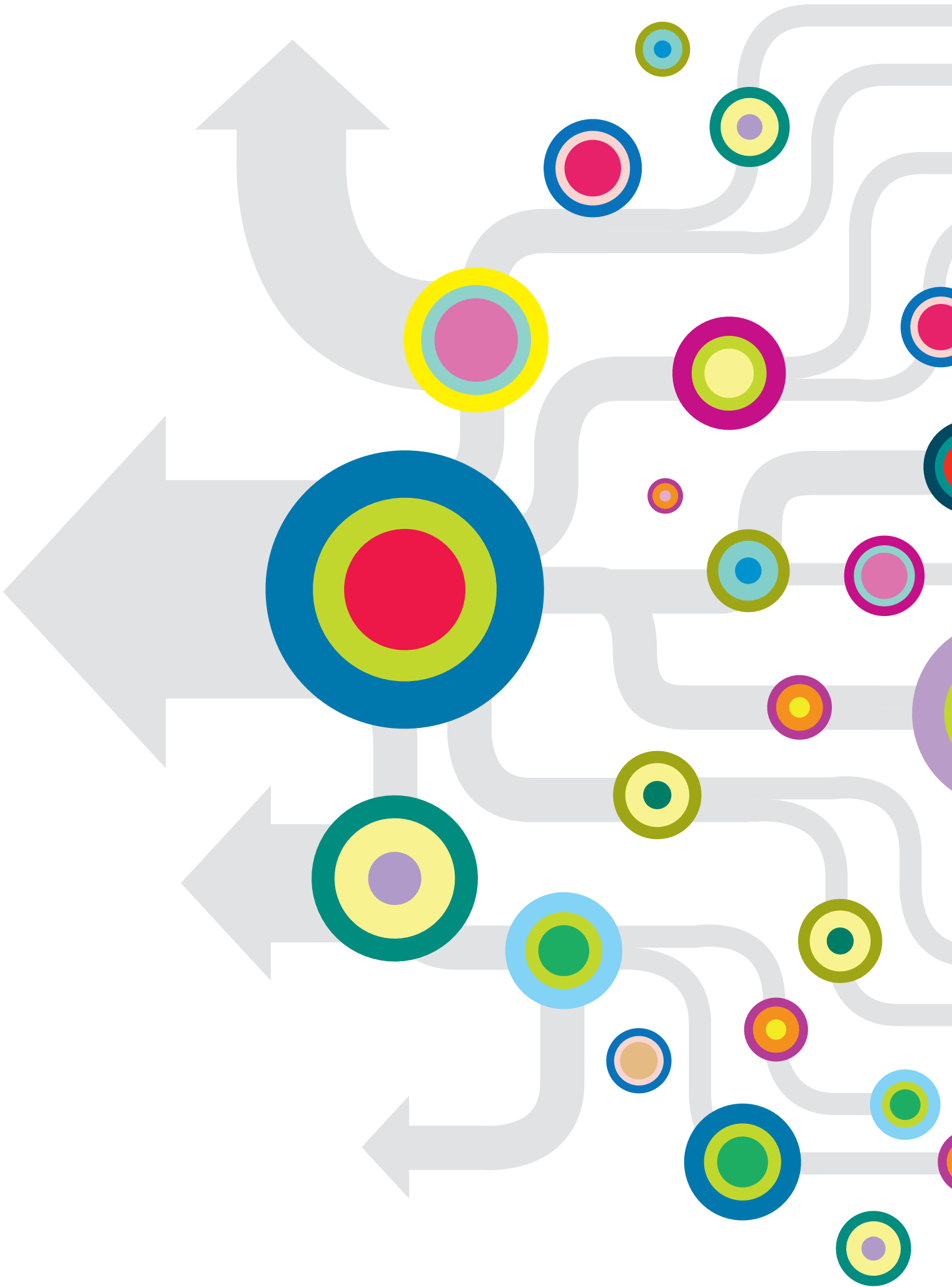
Kudelski Group

Through its global presence over the five continents, the Swiss-based Kudelski Group has become a world leader in digital security and convergent media solutions for the delivery of digital and interactive content. The group is also a world technology leader in the area of access control and management of people or vehicles to sites and events.

Thanks to its long-term commitment to the World Economic Forum, the Kudelski Group has demonstrated every year its passion for technology and innovation. We are convinced that the Technology Pioneers Programme will seriously help the most creative companies, Members of the World Economic Forum, in rethinking and reshaping today's economy.

We warmly welcome the class of 2010 Technology Pioneers to the family and look forward to meeting with them in Davos.

Christophe Nicolas, Kudelski Group





COMMITTED TO
IMPROVING THE STATE
OF THE WORLD

The World Economic Forum is an independent international organization committed to improving the state of the world by engaging leaders in partnerships to shape global, regional and industry agendas.

Incorporated as a foundation in 1971, and based in Geneva, Switzerland, the World Economic Forum is impartial and not-for-profit; it is tied to no political, partisan or national interests. (www.weforum.org)