CII Innovation & Entrepreneurship Summit 2015

Global Innovation Report

December 2015

Confederation of Indian Industry

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DISCOVERING INNOVATION SINCE 2002

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Introduction

At Springwise we have been discovering the latest innovation ideas from every part of the world since 2002. From India to Brazil, more and more entrepreneurs are founding new ventures that are transforming not only how we do business but also the world in which we live.

These innovations rarely emerge in isolation. The most radical and forward thinking entrepreneurs spot links between different industries, geographies and technologies, applying the best ideas regardless of where they have come from. At Springwise we take the same approach, scouring the world for novel solutions to both everyday problems and major global challenges to keep our readers up-to-date, inspired and ahead of the competition.

This exclusive report shares some of the most inspiring innovations which the Springwise editorial team have discovered this year. We've compiled 15 innovations, two interviews, and one article designed to help instill a culture of innovation within your organisation.

Each innovation showcased in this short report hints at an area of huge opportunity. Nanu and The Things Network demonstrate the move towards a more connected world for everyone, while MakerSpace illustrates the power of new technologies such as 3D printing to empower almost anyone to innovate and develop new products.

We have also observed an increasing shift towards innovation for social good, with ideas addressing some of the most pressing global issues. Initiatives from Lucid Energy and the development of Hywind Pilot Park show the potential of new technology to resolve one of the biggest global challenges: clean energy. Meanwhile, the issue of food security is being addressed by novel innovations such as SEALEAF, a device that looks beyond the traditional model of land-based agriculture by helping coastal cities turn their seafronts into local farms.

The ideas featured in this report, drawn from our database of over 6,800 real business ideas, are the tip of the innovation iceberg. We feel that they demonstrate the unprecedented scale of opportunity available to the most dynamic companies and entrepreneurs on the planet.

JAMES BIDWELL
CEO, SPRINGWISE

At a Glance

WHAT
LucidPipes harvest renewable low-cost energy from the water flowing through gravity-fed pipes.

WHO
Lucid Energy

WHERE
United States

CONTACT
www.lucidenergy.com/lucid-pipe
info@lucidenergy.com

In Portland, turbines in water pipes harvest green energy for the city

LucidPipes harvest renewable low-cost energy from the water flowing through gravity-fed pipes.

The most effective way to harvest renewable energy is to acquire it from existing sources without too much disruption to the current infrastructure. We have already seen schemes in London and New York which transform waste products — including sewer fat , organic food waste and excess heat from the London Underground — into green energy.

Working to the same principal, Lucid Energy in Portland, Oregon have developed the LucidPipe, which is able to harvest low-cost renewable energy from the water flowing through the city's pipes.

Each piece of LucidPiping contains three small turbines which spin in the flowing water. The turbines connect to a generator on top of the pipe, producing hydroelectric power, which can drastically reduce the cost for the water utilities or be filtered back into the city.

People have been harnessing the power of water for hundreds of years — most recently through dams, which produce green hydroelectricity but also have massive negative environmental effects. Lucid Energy's system is a rare coup, in that it has no environmental impact and could be integrated into cities' existing pipelines throughout the world. In Portland, one of the city's major drinking water pipelines has been upgraded to LucidPiping — the resulting electricity can now power large buildings or offset the city's energy bill.

The pipes can be installed in any system where water flows downward naturally with gravity. It is a viable, green option for any infrastructure that already has a vast amount of water flowing through its operations. These could include municipalities, industrial manufacturers and wastewater treatment plants, where benefits would also be gained from the pipe's inbuilt sensors, designed to monitor water pressure and identify potential problems.

While many companies are developing solutions for individual consumers, the most productive green energy schemes will be those which win the support of local governments and can impact the energy usage of entire cities. Where should Lucid Energy take their product next?

At a Glance

WHAT
what3words has divided the world's surface into 57 trillion geolocation addresses, which all have unique triple word identifiers.

WHO
what3words

WHERE
United Kingdom

CONTACT
www.what3words.com
www.what3words.com/contact

3-word addresses for anywhere in the world

what3words has divided the world's surface into 57 trillion geolocation addresses, which all have unique triple word identifiers.

A large proportion of the world's population don't have access to a recognized delivery address, which makes navigating deliveries problematic. Now what3words have developed an internationally recognizable delivery system for any location, by dividing the entire world's surface into 57 trillion three-by-three metre squares.

The team created an algorithm to generate a unique three-word code that identifies each grid, so that users could send an package to, for example, "teaspoon.trustful.acting". The software can integrate with existing APIs and co-ordinate based address systems. What3words suggests that their product could help post aid packages to war torn regions (for which they may offer free support), assist revelers in navigating a festival site, or simply provide accurate deliveries for those without a recognized address.

With the imminent arrival of autonomous delivery systems, could what3words's software make drone delivery available anywhere, anytime?

At a Glance

WHAT
Blitab is a tactile, braille tablet that maps out letters, graphics and geometric figures for visually impaired users.

WHO
Blitlab

WHERE
Austria

CONTACT
www.blitab.com
info@blitab.com

Braille tablet can convert text for blind users and let them read, write and chat

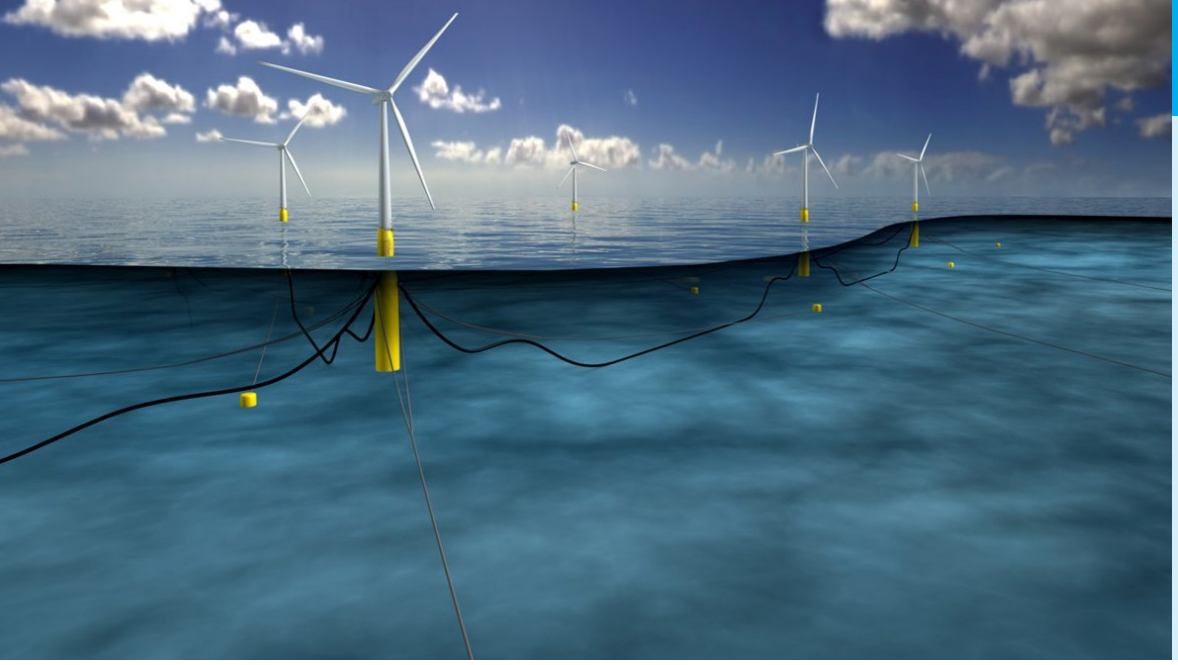
Blitab is a tactile, braille tablet that maps out letters, graphics and geometric figures for visually impaired users.

We have seen technology springing up in many forms to empower those that are visually impaired. In Madrid, Touching the Prado was an exhibition where creators printed 3D replicas of masterpieces that visually impaired visitors can touch and explore. Touch Graphics similarly make interactive, touch-sensitive maps, which give audio directions to blind users. Now, also combing the sense of touch with new tech, is Blitlab, an Austrian company planning to release a responsive Braille tablet.

Braille, the long-standing, universal language, plays an important role in the visually impaired's communication with the world. Using a liquid-based technology to create bubbles that rise and fall on demand, Bitlab is a device for blind people to read and write — using a Braille Perkins Keyboard — without any mechanical elements. It also allows for direct converting from PDF, TXT, Doc and other formats into Braille code — users can simply insert files via USB sticks or memory cards to read e-books or other materials. The Bluetooth function also enables users to chat in real time with other devices. A GPS navigation system is included so users can be guided to destinations.

Blitlab is currently welcoming contributions to the development of the product — from financial donations to developer time — with the aim of bringing the first product to market by September 2016.

What other technology can be adapted to enhance touch for visually impaired individuals?



At a Glance

WHAT
Hywind pilot park, off the coast of Scotland, is the world's first floating wind farm and will generate enough power for 20,000 homes.

WHO
Statoil

WHERE
Norway/United Kingdom

CONTACT
www.statoil.com
www.statoil.com/contact

The world's first floating wind farm

Hywind pilot park, off the coast of Scotland, is the world's first floating wind farm and will generate enough power for 20,000 homes.

In 2014, wind power generated 9.3 percent of the UK's electricity requirement, and that figure is set to grow substantially if a pilot scheme in the North Sea is successful. The Hywind pilot park, off the northeast coast of Scotland, is the world's first floating wind farm, which will generate enough power for 20,000 homes when it becomes operational in 2017.

While most appreciate the value of wind turbines and its ability to provide an excellent source of renewable energy, many have a 'not in my back yard' attitude and complain of the visual and noise pollution they create. The Hywind pilot park, created by Norwegian oil company Statoil in collaboration with the Scottish government, will bypass these complaints by operating 15 miles offshore. The wind farm will cover four square meters, at a water depth of 95-120 meters, with each turbine having a capacity of six megawatts. The farm will benefit from stronger and more consistent winds of around 19 knots.

The turbines will be moored by catenary cables to a floating cylindrical buoy, rather than being anchored to sea floor towers. This enables the farm to operate further out to sea, opening up the possibility for many other potential deep-water sites.

Where else could Statoil's floating wind farm operate?

Wise Words with Jack Ng

Sky Greens is a low-water and low-energy vertical farm that is intended for urban areas. Managing Director, Jack Ng, has over 27 years of experience in construction and engineering industry. He has developed building facades, glass curtain walls, aluminum cladding systems, skylight canopies and automated mechanical systems for the building industry. Jack invented and patented Singapore's first vertical soil-based rotating planting system using a water pulley system, and established Sky Greens with the aim of being Singapore's first commercially viable vertical farm. We put our questions to Jack to find out how his urban farming project is coming along.

1. Where did the idea for Sky Greens come from?

The idea for Sky Greens was born as Singapore become more and more urbanised. In land scarce Singapore, competition for land from industrialisation, housing, recreations will reduce the availability of farm land even further in the future, thereby increasing Singapore's dependence on imported food. I feel the need to employ the knowledge and experience that I have gathered during my 28 years of engineering life to invent a farming method that minimise use of resources (land, energy, water) and have low carbon foot print, have very high yield to create a solution for sustainable urban living.

Although the idea of vertical farming has been around for the past 50 years, it has largely remained as a concept with no commercialization until Sky Greens. I took the risk to take the first step to build this vertical farming concept, using low energy and low water usage. In 4 years Sky Greens go commercial.

2. Can you describe a typical working day?

Every day gives rise to different challenges. My day starts with a cup of Tea-O (black tea) and I will reflect on what are the challenges and prioritise the tasks to be done for the day and set my heart to find answers to the challenges.

3. How do you unwind or relax when you're not working on Sky Greens?

I relax when I learn through keen observation. Paying attention to all the small details of life and the environment. Drawing parallels from these observations to our life, for example, by looking at how ants work together to collect food, build their nest and work together with other insects. I learn more about working together, effective communication and the importance of symbiotic relationships.
I feel happy when these observations trigger my enquiring mind and link them to overcome any challenges I may face.

4. What's the secret ingredient to success as an entrepreneur?

Persevere in your tasks. Always employ a multi-angled approached in problem solving. And remember that there is always more than one choice, never be overcome by greed and continuously collaborating to achieve a win-win situation.

5. What drove you crazy when building your business?

Difficulty in changing people's mind-set. A large amount of time and energy is needed to prove to others before any mindset change can take place. However once this is achieved, we will be able to move faster, as alignment of mind-set has taken place.

6. What motivates you to keep going?

Passionate belief in my vision.

7. If you were to start again, what would you do differently?

No, I would not do anything differently if I were to start again, because if you don't take that first step, you will never know how you can progress. What is important is we pick up ourself from our failures, accumulating valuable lesson, learnt along the way. Though we have learnt many things, there are more lessons to be learnt.

8. Where do you see your business in five years, and how will you get there?

I think Sky Greens will be a global company in five years' time. We intend to work with the right partners, with similar values and vision. I welcome all potential partners or companies who will be able to value-add to this vision of sustainable urban living.

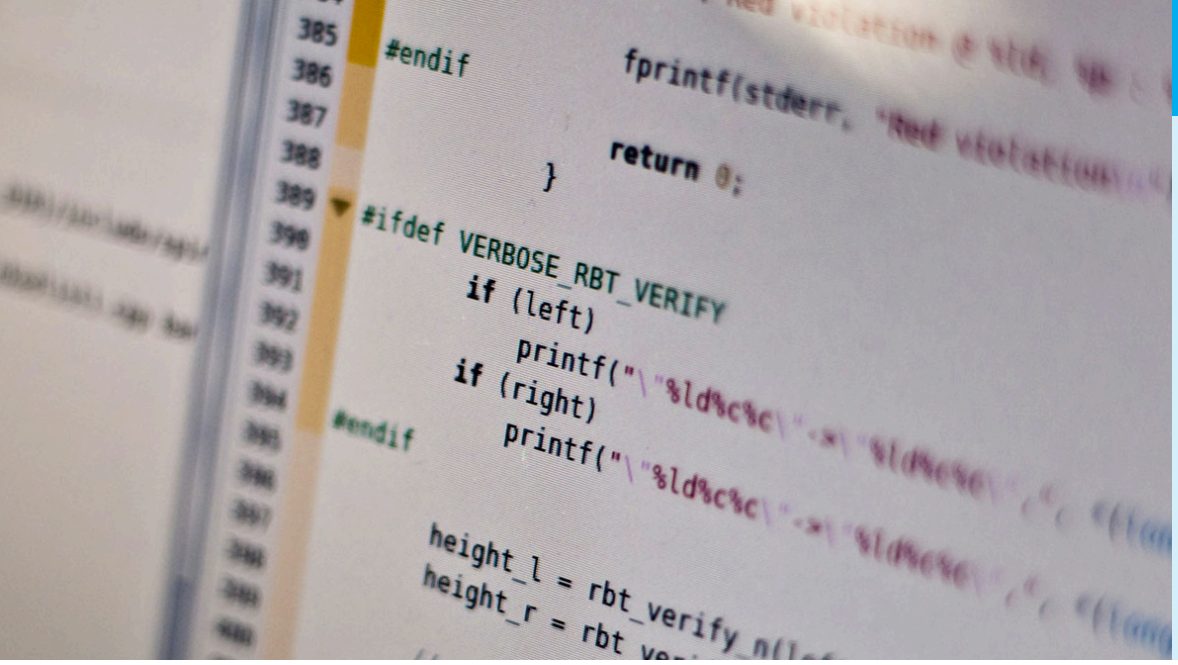
9. If you weren't working on Sky Greens, what would you be doing?

I will probably be retired and employing the knowledge and experience that I have accumulated in my 28 years of engineering life to create new solutions for a sustainable living, for the good of the environment and our earth.

10. Any final words for aspiring entrepreneurs?

Keep it simple. Just do it! And enjoy whatever you do.

Thanks Jack!



At a Glance

WHAT
Free Code Camp is an organization teaching anyone to code and enabling them to become software engineers by working on projects for nonprofits.

WHO
Free Code Camp

WHERE
United States

CONTACT
www.freecodecamp.com
www.twitter.com/freecodecamp

Anyone can learn coding for free by completing projects for nonprofits

Free Code Camp is an organization teaching anyone to code and enabling them to become software engineers by working on projects for nonprofits.

We have already seen the platform #charity enable IT professionals to donate their time and skills to nonprofits in need of their expertise. Now Free Code Camp lets learner coders help out too — it is an organization which enables anyone to learn programming languages such as JavaScript, and become a software engineer by working on projects for nonprofits.

Free Code Camp is an open source educational community with over 40,000 members. Users wanting to learn new tech skills are encouraged to code a little every day and attempt the platforms self-paced, browser-based challenges.

The challenges are tasks that nonprofits need completing, which simultaneously teach users how to work with tools such as HTML, CSS, JavaScript, Node.js, Databases, and more. Through Free Code Camp, users can gain real qualifications and skills on completion, and will be able to boast 800 hours of real world work experience after completing four extensive nonprofit projects.

Are the other skills that could be learned in a way that simultaneously benefit nonprofits?

At a Glance

WHAT
nanu is an Android app designed to deliver clear voice calls when only 2G data is available.

WHO
nanu

WHERE
Singapore

CONTACT
www.hellonanu.com
www.twitter.com/nanusocial

App lets users in 2G zones make free voice calls

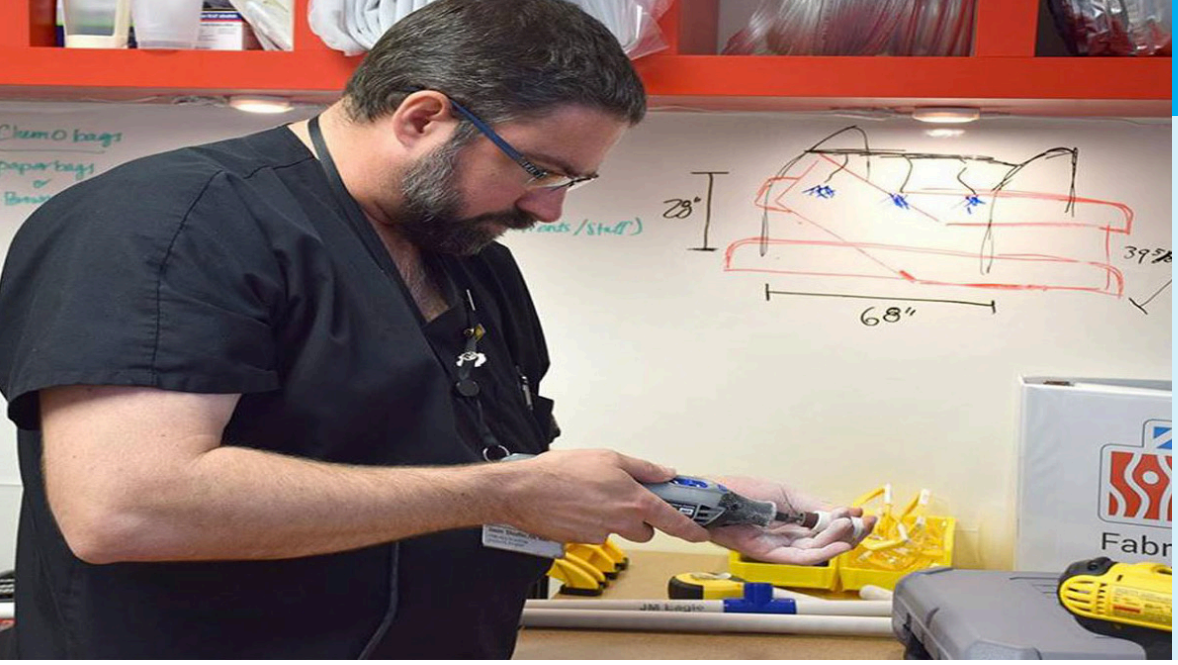
nanu is an Android app designed to deliver clear voice calls when only 2G data is available.

Mobile phones are great things, but if there's no cell or data reception they become pretty useless. We've already seen Kan Khajura Tesan enable those in media blackspots to gain access to entertainment through their cell phone, and now nanu is an Android app designed to deliver clear voice calls when only 2G data is available.

Popular apps such as Skype, FaceTime and Viber already provide the capability to make voice and video calls over the internet, rather than using up call plans. The problem is that in some countries, the 3G and 4G bandwidth required for these apps to work isn't common, and slower 2G connections are prevalent. nanu is optimized for low quality data streams, meaning voices sound clear despite less data being transmitted. Users can call others who have installed nanu on their device for free, and calls to those who don't have the app are restricted to 15 minutes. The app can also connect to landlines in up to 41 countries. The reason the calls are free is that the app is supported by ads, and audio commercials play while users are waiting to be connected.

nanu helps those without access to 3G to save money on their call plans, as the company predicts data usage charges work out cheaper than paid calls. The app is currently only available for Android, but an iOS device is on its way.

Are there other ways to develop apps for those with limited data connections who otherwise can't enjoy or afford them?



At a Glance

WHAT
MakerNurse offers workspaces, materials and support to help nurses make more effective custom hospital equipment.

WHO
MakerNurse

WHERE
United States

CONTACT
www.makernurse.org
hello@makernurse.org

Makerspace can realize inventive nurses' ideas

MakerNurse offers workspaces, materials and support to help nurses make more effective custom hospital equipment.

DIY medical kits, such as an initiative developed to 3D print medical equipment after the Haiti earthquake, are being used to solve immediate and unique medical needs. Now in the US, MakerNurse is an educational workspace that helps nurses build solutions to unique patient scenarios.

Nurses represent the interface between patient comfort and doctor treatment. This perspective often results in nurses being the first to react to unique patient needs, resorting to crudely customizing hospital equipment. Founded by the director of MIT's Little Devices Lab, and a lecturer of device design also at MIT, MakerNurse acts as an educative platform — their 'makerspaces' help hospitals utilize nurses' inventiveness by providing dedicated spaces and tools for developing and testing equipment. Their blog and website community encourage the free sharing of ideas, bypassing patent-chasing companies. They believe that daily making and urgent response is what leads to better care, not "grandiose ideas" that are incubated over decades.

By enabling nurses to safely customize equipment and share these ideas, MakerNurse is hoping to foster a culture of innovation at the frontline of medical care.

Could other industries benefit from encouraging a DIY culture?

At a Glance

WHAT
Plastic Bank enables those participating in recycling intiatives to exchange their help for training, micro-loans and access to 3D printing facilities.

WHO
Plastic Bank

WHERE
Peru

CONTACT
www.plasticbank.org
www.plasticbank.org/contact

Beach cleanup scheme helps the disadvantaged become entrepreneurs

Plastic Bank enables those participating in recycling intiatives to exchange their help for training, micro-loans and access to 3D printing facilities.

The ocean is full of waste produced by humans, and beaches often end up collecting the debris that washes ashore, which is unsightly and potentially deadly to marine animals. While cleanup initiatives have the obvious benefit of ridding trash from coastlines, the recyclable waste can also be used for creating products and opportunities. In the past we've seen schemes in the UK develop the Sea Chair — a stool made entirely of trash trawled from the ocean — and now Plastic Bank is enabling those participating in beach cleanups in Peru to exchange their help for training, micro-loans and access to 3D printing facilities.

Created by US entrepreneur David Katz, the project aims to give impoverished citizens in developing nations the opportunity to grow their skills while also giving something to the community they live in. For its trial scheme, Plastic Bank is setting up in Peru, where unemployed people can join in cleanup operations to collect the plastic waste that is abundant in the worst polluted areas of the country. Volunteers are then rewarded for their time with credits that can be exchanged at the bank for training in recycling and waste management, access to 3D printers that can turn the collected plastic into useful objects, and micro-loans that will help them set up their own business. The aim of the scheme is to encourage disempowered people to see the value in both the resources that often get thrown away, as well as themselves.

Plastic Banks tackles two important issues in one fell swoop, and if successful will be launching in other polluted areas around the world.

Are there other benefits recycling schemes can offer communities, aside from the self-evident environmental gains?

At a Glance

WHAT
SEALEAF is a device that could help coastal cities turn their seafronts into local farms.

WHO
SEALEAF

WHERE
United Kingdom

CONTACT
www.swolzak.wix.com/sealeaf
www.swolzak.wix.com/sealeaf#!contact/c1jo7

Floating hydroponic unit enables coastal veg farming

SEALEAF is a device that could help coastal cities turn their seafronts into local farms.

Rapid growth of the world's population has made food security much more of a serious issue in recent years, prompting food producers to look beyond the traditional model of land-based agriculture. While urban farming has in the past seen locations such as city rooftops harnessed for growing plants, now SEALEAF is a device that could help coastal cities turn their seafronts into local farms.

Out of the world's megacities — urban areas with more than ten million inhabitants — the UK-based project's Idrees Rasouli, Roshan Sirohia, Jason Cheah and Sebastiaan Wolzak have identified 18 that lie on the coast. Due to the lack of arable land in these locations, some — such as Singapore — import more than 90 percent of all of their food from various sources around the globe.

The SEALEAF solution to this problem relies on the one resource that is abundant in these coastal cities and is cheaper to rent than land — the water surrounding them. The project's hydroponic units work much like those currently used on land, except that they're powered by the sun and use natural rainwater to irrigate the plants inside. The devices can be placed in modular clusters in areas outside of shipping lanes and can be easily accessed by boat.

The idea is that cities can grow plant produce in a low-maintenance way close to the city, significantly cutting the carbon footprint and costs associated with imported goods.

Could this idea be implemented in your city?

At a Glance

WHAT
The Life Saving Dot is a free iodine supplement that is worn on the forehead like a bindi to prevent complications from iodine deficiencies.

WHO
Neelvasant Medical Foundation

WHERE
India

CONTACT
www.neelvasantfoundation.org
neelvasant@gmail.com

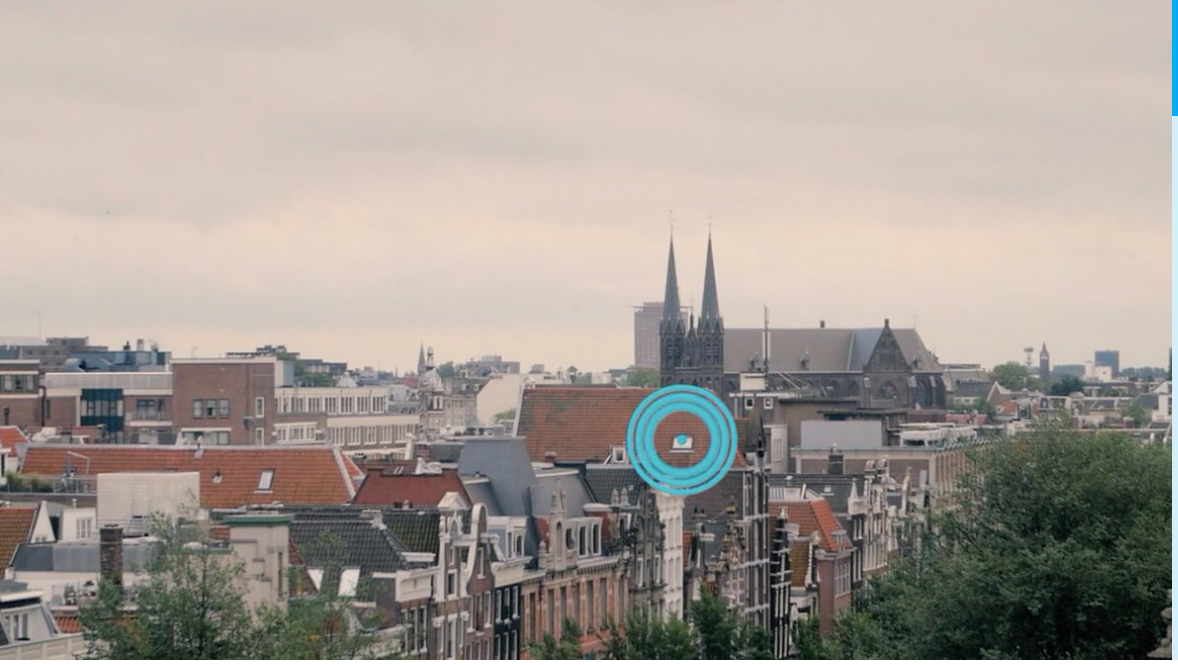
Lifesaving bindi is a wearable iodine supplement

The Life Saving Dot is a free iodine supplement that is worn on the forehead like a bindi to prevent complications from iodine deficiencies.

In rural India, iodine deficiency contributes to the medical problems of millions of women each year. Despite the country supplementing its salt with the vital nutrient, there are still an estimated 350 million Indians who don't get enough in their diet. That deficiency can cause complications during pregnancy, preventable brain damage and more. Now, an initiative called Life Saving Dot is helping underprivileged women to get their required iodine dosage, via enhanced, nutritious bindis.

The program was created by Grey For Good — the philanthropic arm of Grey Group Singapore — and Neelvasant Medical Foundation and Research Center. It transforms the bindi from a symbol of beauty, traditionally worn by Indian women on the forehead, into a lifesaving accessory. Grey for Good have distributed their Life Saving Dots — iodine patches worn as bindis — to five villages since March via medical camps. The wearer can choose from a variety of colored bindis which, once applied, dispense the necessary iodine during the course of the day.

The campaign is an excellent way to not only provide a life-saving service, but also to raise awareness of the importance of iodine supplements both inside and outside India. We have seen tradition and technology combined in other decorative accessories such as Khushi Baby — how else could medical necessities be transformed into visual reminders?



At a Glance

WHAT
The Things Network is helping to build free city-wide internet in Amsterdam, without the use of wifi or 3G.

WHO
The Things Network

WHERE
Netherlands

CONTACT
www.thethingsnetwork.org
wienke@thethingsnetwork.com

Free, open, crowdsourced city-wide IoT network

The Things Network is helping to build free city-wide internet in Amsterdam, without the use of wifi or 3G.

A world where internet access is free for all, where an Internet of Things is networked by the users, for the users. Is it possible? In Amsterdam, it's already happened. The Things Network (TTN) is planning to build a global open crowdsourced Internet of Things data network, and work is well underway.

In a period of just 6 weeks, Amsterdam was transformed into a city-wide accessible network, without the help of any big business or telecoms companies — it has been entirely crowdsourced. TTN initiator Wienke Giezeman saw the potential in a new technology called LoraWAN (Long-range Wide Area Network) to create gateways for connecting municipal geographic zones. The devices allow things to connect to the internet without the use of wifi, 3G, or Bluetooth. It has a wide range and cheap development and installation costs — EUR 1500 for 7 mile radius devices — and the team will soon launch a Kickstarter campaign to develop a cheaper EUR 200 unit.

Pilot projects already underway in Amsterdam include devices that alert boat owners to potential flooding of their moored vessels, and a device to monitor users' bikes. The port of Amsterdam, which struggles to support the cost involved in setting up wireless networks across the whole port area, has also been contributing to the project. After the rapid success of Amsterdam's crowdsourced city-wide activation, TTN is hoping other cities will be queuing up to create their own citizens' network.

LoraWAN technology will allow the IoT to change the way cities function — with crowdsourcing from those who can afford to install gateways, all the inhabitants will benefit from having their city connected.

What other projects are possible with a Things network?

Wise Words with Linden Tibbets

Linden Tibbets is a former software engineer based in San Francisco. Short for "if this then that", Linden's ifttt is an application that allows users to automate online activities. The project was inspired by the everyday creativity people demonstrate when interacting with their environment; re-purposing everyday objects to perform new tasks. ifttt aims to enable a similar flexibility by building a logical structure that links online tools, eventually facilitating "event-driven programming for the masses".

1. Where did the idea for ifttt come from?

The initial concept of applying "if this then that" to a wide range of situations struck me one evening out of nowhere. At the time I was doing a lot of event driven Flash programming for a personal art project. I was also interested in our ability to make small modifications to a physical environment to better suit our needs. My best guess is that it stemmed from a potent mix of seemingly unrelated ideas at the right time.

2. Do you think there's really enough demand for "programming for the masses"?

Yes indeed! A huge slice of what modern programmers are doing today is about re-purposing, combining and connecting existing software to form something greater than the sum of those parts. At an abstract level it's really no different than rearranging the furniture and appliances in your apartment, choosing an outfit, or using a combination of tools to spruce up the lawn. I believe everyone will want that same flexibility of choice and control in our digital environments, especially as the digital and physical environments converge.

ifttt is not so much about what we traditionally

think of as programming, but about enabling creative combinations of existing services, devices and information.

3. Can you describe a typical working day?

We are in the middle of a pretty intense design/ coding stretch, so embarrassingly enough it goes a little like this:
Set the alarm for 9am, wake up at 10
Tan myself in front of a couple of monitors for 3-4 hours. Then lunch.
Then I design new stuff with my partner Jesse Tane. Alternating focus between little bitty details and the big picture. Followed by another 3 hour monitor tanning session.
A quick dinner at 9pm. Code up new features while the Internet sleeps (well at least some of the Internet, Europe is just waking up!).
I read a bit and then hop into bed around 2-3am.

Despite how it may sound, I am having an absolute blast.

4. How do you unwind or relax when you're not working on ifttt?

Exercise, time with friends and long aimless walks.

5. What's the secret ingredient to success as an entrepreneur?

A passion for both defining a problem and finding an answer.

6. What drove you crazy when building your business?

We are still very much in the process of building our business. If there is something that I've struggled with thus far, it would be the tension between the desire to develop my own unique opinions and the lack of experiences on which to base them. I've quickly realized that this is the natural state of being for the entrepreneur. You have to embrace the journey into the unknown, constantly seeking new experiences and ways of thinking.

7. What motivates you to keep going?

When someone can be creative in a way that they weren't able to before really gets me going. That and Dr. Pepper.

8. If you were to start again, what would you do differently?

More experimentation. Prototype early and often. There were long stretches of time spent heads-down, building something that in my bubble seemed to make perfect sense, but just didn't hold up in the real world.

9. Where do you see your business in five years, and how will you get there?

If you can verbally describe an event along with anything you want to happen when that event takes place, we want to help you make that connection. We will get there by building an organization that encourages experimentation and develops processes to refine those experiments into products.

10. If you weren't working on ifttt, what would you be doing?

Designing video games that don't require a couch and a TV.

11. Any final words for aspiring entrepreneurs?

Take lots of small steps towards one big idea.

Thanks Linden!

At a Glance

WHAT
CropX is an irrigation optimization system which enables farmers to keep their water usage to a minimum by prescribing irrigation zones.

WHO
CropX

WHERE
United States

CONTACT
www.cropx.com
info@cropx.com

Irrigation optimization system helps farmers save precious water

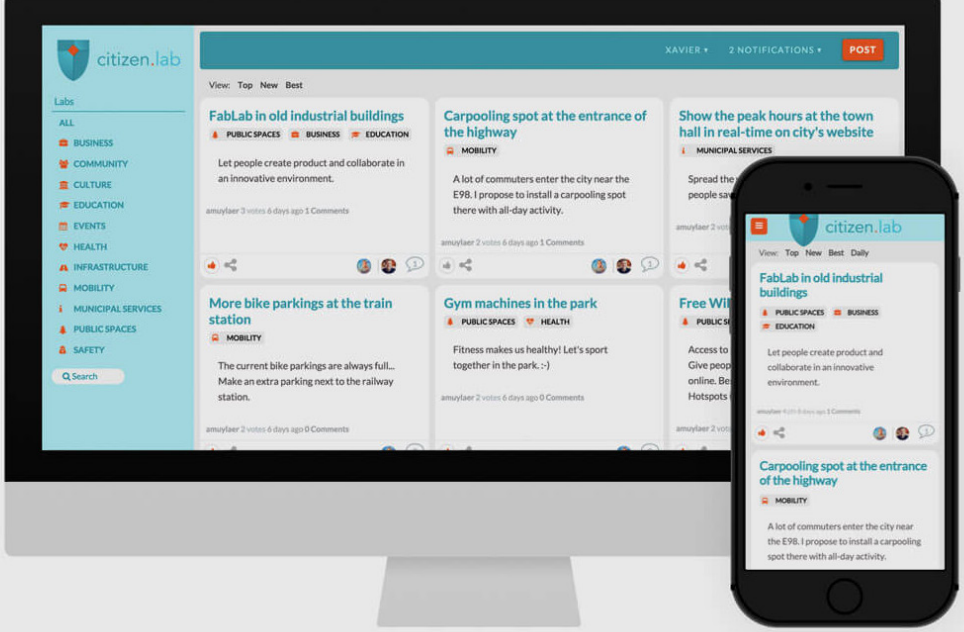
CropX is an irrigation optimization system which enables farmers to keep their water usage to a minimum by prescribing irrigation zones.

According to projections, the world will need to produce 70 percent more food by 2050 to feed its growing population. But with water shortages expected to affect two-thirds of the world within twelve years, that will be no mean feat. We have already seen the Swiim System encourage more efficient uses of resources by enabling farmers to 'lease' out surplus water to others, and now CropX is a smart irrigation optimization system which enables farmers to keep their water usage as low as possible.

Soil quality can vary widely within a field, but most farmers treat all land uniformly. CropX enables farmers to minimize water use and augment yield by dividing land into irrigation zones, informed by soil type, land topography and current moisture. CropX is comprised of wireless, battery-powered sensors which are placed in the ground and continuously send soil readings to the cloud. The system then uses pattern-recognition analysis and algorithms to determine how to efficiently water different parts of the field. Farmers interact with the system using a simple smartphone app.

CropX is currently in farms in Missouri, Colorado and Kansas, and the farmers using the system have reported water and energy savings of up to 25 percent. The company recently gained USD 9 million in Series A funding which will enable it to expand its operation and develop new product tools, including controls in nutrition, plant protection, and planting and harvesting prediction.

How else could data be used to streamline resources in vast operations like farming?



At a Glance

WHAT
CitizenLab provides a space for citizens to communicate about ideas for their city, with their local government and each other.

WHO
CitizenLab

WHERE
Belgium

CONTACT
www.citizenlab.co
hello@citizenlab.co

Civic engagement platform brings the town meeting online

CitizenLab provides a space for citizens to communicate about ideas for their city, with their local government and each other.

Citizens may have the ability to express enthusiasm or disgust for government policies online, but these opinions are only as valuable as the ears they reach. We recently saw Balancing Act offer citizens the ability to view and play around with their city's budget, providing governments with a better understanding of the wants and needs of their constituents. Now, CitizenLab is another civic engagement platform, which is bringing the town meeting into the digital age — providing a space for citizens to communicate with their government, and for governments to 'citizensource' opinions on their policies.

To begin, participants visit the platform and enter their city. This will take them to a collection of 'labs' — categories such as education, health and public spaces. They can then post new ideas, join existing conversations and upvote interesting topics. Local governments can then use the platform as a resource to discover the priorities of its citizens. They can respond directly to discussions and consult the public opinion on important issues. Governments can also acknowledge the most vital issues raised by taking them to city council for discussion. The platform is designed to host positive ideas, rather than raise issues.

CitizenLab is currently in Beta and welcoming participants from around the world to engage with and trial the platform.

Could a similar system be implemented on a smaller scale in other institutions such as universities?

At a Glance

WHAT
French publishing company Short Edition prints out receipt-like short stories to encourage commuters to kill time by reading.

WHO
Short Edition

WHERE
France

CONTACT
www.short-edition.com
manon@short-edition.com

Short story vending machines encourage reading

French publishing company Short Edition prints out receipt-like short stories to encourage commuters to kill time by reading.

We recently saw commuters in Romania given free tickets for reading instead of using their smartphones. Residents of the French town of Grenoble are also being encouraged to make time for reading in their daily schedules.

Short Edition, a French publishing company, has installed several vending machines around Grenoble stocked with short stories penned by authors from the company. Users choose how much time they want to kill: 1, 3 or 5 minutes, and receive a short story printed on a long, receipt-like piece of paper. The literary company believes that reading the short stories will be more inspiring for residents than playing smartphone games, and better for health than the usual sweet snacks found in vending machines.

Commutes and public spaces are increasingly being used to encourage the public to look up from their smartphones. What other analogue schemes could encourage people to not be so dependent on their digital devices?

At a Glance

WHAT
iCorrect is an add-on for iMessage, which highlights mistakes in text messages and forces the user to correct them before they can be sent.

WHO
iCorrect

WHERE
United States

CONTACT
www.michaelweisburd.com/icorrect
mikeweisburd@gmail.com

Messaging add-on uses kids' own text mistakes to improve their literacy

iCorrect is an add-on for iMessage, which highlights mistakes in text messages and forces the user to correct them before they can be sent.

There is great concern that text communication is destroying the brains of young people — it removes the need for understanding and the utilization of correct spelling and grammar. While there is a certain hyperbole to such sentiments, it is true that tools such as predictive text are pretty unhelpful — enabling youngsters and grown ups alike to continue making the same mistakes over and over without ever learning why, or how to correct them. Now, iCorrect is an independently created, educational add-on for Apple's iMessage, which highlights writing mistakes and forces the composer to correct them before the message can be sent.

Parents can engage the tool via iOS's parental controls. Once activated, whenever the user composes a message, iCorrect will automatically highlight any spelling or grammar errors with a red dotted underline. The author must then return to the error and correct it before they will be able to send the text. If they are unsure they can summon up an explanatory box, which offers tips about how to fix their mistake. In this way, iCorrect turns every text message into a lesson for the user.

How else could educational tools be integrated seamlessly into young ones' tech?

The Innovation Culture Bulletin: The Thinking Hand

The Innovation Culture Bulletin — a series of articles designed to cultivate a culture of innovation in your office. Last time we looked the untapped creativity in half consciousness, this time we explore how expressing through your hands can lead to more innovative thinking.

The Thinking Hand: How working by hand can improve cognitive thinking

"The hand often takes the lead in probing for a vision of the vague inkling that it eventually turns into a sketch, a materialization of an idea." — Juhani Pallasmaa.

With technology now offering faster, more efficient ways of creating, the need for writing and drawing by hand is quickly diminishing — when was the last time you wrote something longer than a grocery list?

But what of it? Many of us believe that typing allows us more time to think. However, psychologists and neuroscientists are discovering that writing by hand can actually increase our cognitive thinking. "Handwriting is a complex task which requires various skills — feeling the pen and paper, moving the writing implement, and directing movement by thought," says a professor of developmental psychology.

What's more, the paper offers greater freedom — one can invent different fonts, insert bespoke sketches and come up with formats that are not programmed in a computer. There is also a visual record of your creative process: where you crossed out words, changed around sentences, or developed an idea from A to B.

Forming the sequential strokes of a letter activates massive regions involved in thinking, language and memory. It's true that adults and children alike learn a language faster through writing by hand, as it allows for better recognition — our brain has to understand that any iteration of a letter 'a' means the same. It is the reason why stroke patients are told to trace letters to help them remember the alphabet.

Of course, writing and drawing everything by hand can be time consuming, but there are still efficient ways we can implement a thinking hand in our modern office. Here are this month's Innovation Culture Five for you to try.

1. No laptop/mobile/tablet meetings.
Students who take notes by hand proved to have better understanding of a class — writing down words required the processing of information, which, unlike transcribing, improved long term memory. Of course, the advantage of typing up notes during a meeting is that it saves time typing them up later. However, by designating one person to take minutes, using something like the Springwise-featured Mod Notebook (a physical book that syncs to the cloud), you'll immediately free up everyone else's hands for writing down any other ideas.

2. Try implementing a 1-hour a week "no tech rule".
By removing access to computers, phones and emails, space is created for staff to think more strategically and creatively about long-term goals. What's more, they'll be forced to work by hand, using pen and paper. When doing this yourself, we'd encourage you to create different fonts for distinctive topics, or to fill up the margins with sidetracked notes. Most of all, take note of your creative process, and try to learn from the way you developed your ideas. A study of 2,000 Britons showed that in the past six months, two thirds had not written anything properly by hand, so you may be surprised by the dormant creativity lying in your hands...

3. Handwritten notes for press releases, new business pitches, or sending physical mail to say thank you to a client.
Embedded in our handwriting is our individual personality and emotion — there's a sincerity that its digital counterpart lacks. Spring, the hugely successful mobile shopping app, sends customers a handwritten note with every purchase to make up for the absence of personal interaction when shopping online.

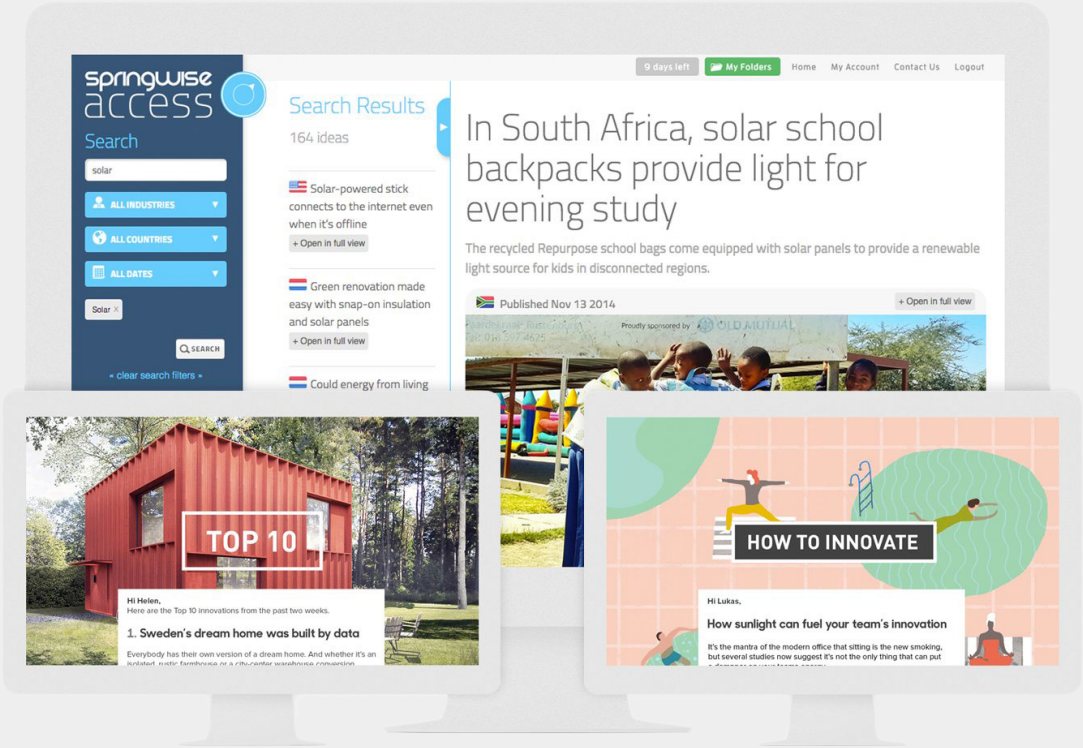
4. Present with tools that allow for writing and drawing.
Something like Smartkapp, a whiteboard that automatically syncs meeting notes with colleagues' devices could be useful — it combines the creative advantages of working by hand with the efficiency of working digitally.

5. Try printing off documents to analyze and work from.
Physically marking important phrases and keywords, as well as penning your own notes may lead to more efficient understanding of the information. We know that this raises sustainability concerns, so perhaps try printing with recycled paper, or have a look at Springwise-featured Print A Forest — a free application which, for every 100 pages printed, donates money towards the planting of a tree.

Following on from last month's Innovation Culture playlist, we're once again sharing some music from the Springwise office via Spotify. If you have any thoughts, ideas — or groundbreaking fonts — please feel free to get in touch.

Spotify

https://play.spotify.com/user/springwise/playlist/15aIFsStPU0yF9IxeJ9gno



Need more ideas?

The Confederation of Indian Industry have partnered with Springwise to give all delegates an exclusive offer on Springwise services for 2016.

Whether it's inspiration for new product development, stimulus for a planning meeting, ideas to inspire internal innovation - or just ensuring your organisation has competitive edge globally - Springwise can help.

Contact rebecca@springwise.com quoting '**CIISUMMIT**' to find out more, and get instant access to over 6,800 of the most creative ideas and disruptive innovations from across the globe.

Interested?
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Tailored industry reports are available.
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