

# INSTITUTE OF NEXT

BY INFONOMIA

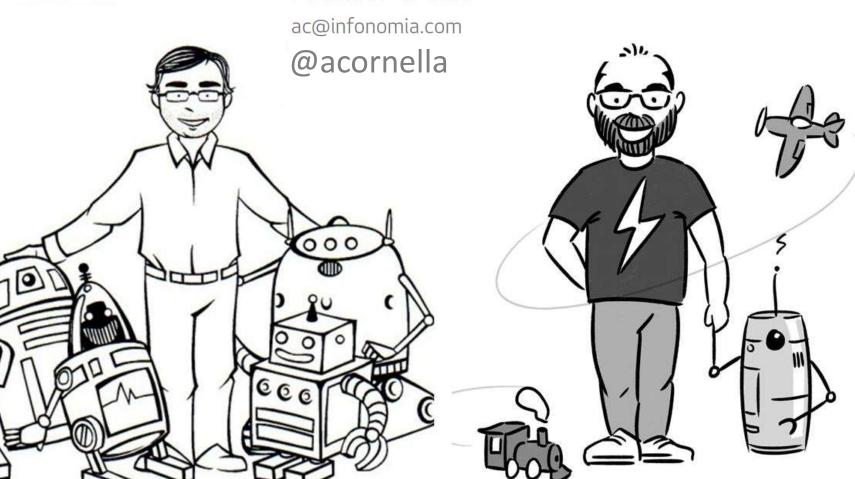
Business

Transformation Services



### Alfons Cornella

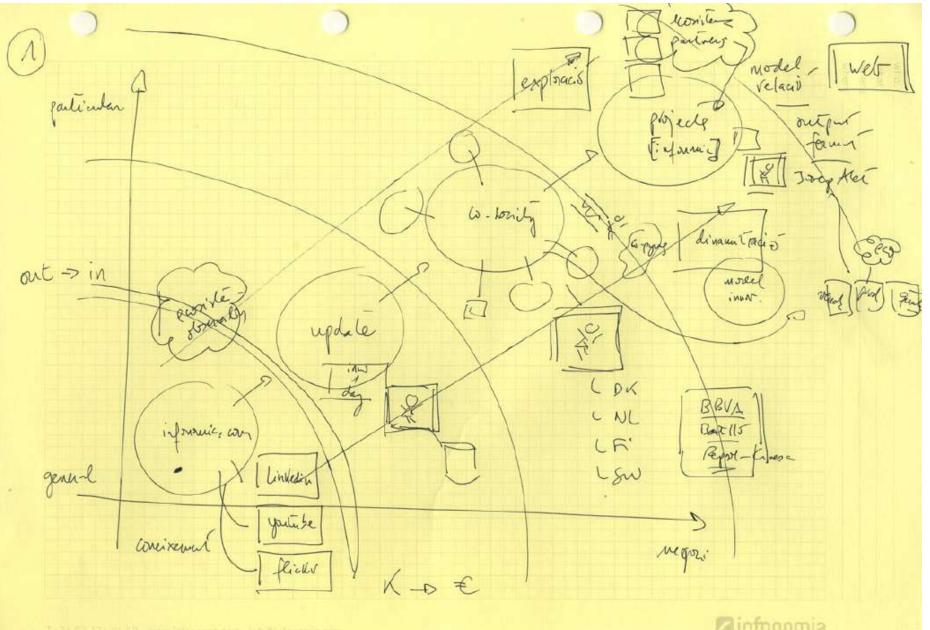
Founder & CEO



1995

2018









**FELLOW** 



### **ACTIVITIES**

HOW

WHY

**ACTIVITIES** 

WHO

WHAT

A relevant value of the co-society platform is the experience of attending co-innovation workshops. We held them on a regular basis throughout the year.



November 2017, Institute of Next, Barcelona

#30 CO-SESSION: THE **OPPORTUNITIES OF THE BLOCKCHAINS** 



July 2017, Institute of Next, Barcelona

#29 CO-SESSION: BUILD YOUR **OWN INNOVATION SPACE** 



March 2017, Barcelona

#28 CO-SESSION: SMART **FACTORIES** 



## INSTITUTE OF NEXT

BY INFONOMIA

Business
Transformation
Services

## RADICAL DIGITAL

Be responsive Al and jobs The internet of everything The trust machine Exponential technologies The elements of value pyramid

### **RADICAL The context**

### **SOCIAL CHANGES**

MAY 25 2012

Obama's New Boss / Syria McCain vs. Brzezinski / PLUS: Summer's Dest movies & more

# TIME

# MENERATION GENERATION

Millennials are lazy, entitled narcissists who still live with their parents



### **Millennials**

# How millennials became the world's most powerful consumers

They are the biggest global generation — and their choices are upending business from the US to China

© Ollanski

"We don't think of them as special or different any more. They are the core of our business,"

in 💆 G+

REPORT

### Gen Z:

A Look Inside Its Mobile-First Mindset

Millennials have captivated marketers attention for years, but here we shift the spotlight to 13- to 17-year-olds.

Today's teens had phones when they were in elementary or middle school, compared to high school or college for their older



thinkwithgoogle.com/interactive-report/gen-z-a-look-inside-its-mobile-first-mindset/



Live smarter now to live better forever By Matthias Hollwich with Bruce Mau Design





# WHEN CHINA RULES THE WORLD

THE END OF THE WESTERN WORLD
AND THE BIRTH OF A NEW GLOBAL ORDER



MARTIN JACQUES

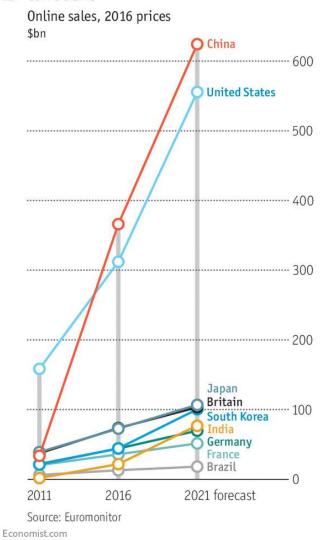
### **TECHNOLOGICAL CHANGES**







#### Whoosh!



Last year Alibaba, much the biggest of the country's ecommerce giants, rang up sales in China of \$18bn on the "Singles Day", the most ever spent in one day anywhere on Earth.



MAY 6TH-12TH 2017

Crunch time in France

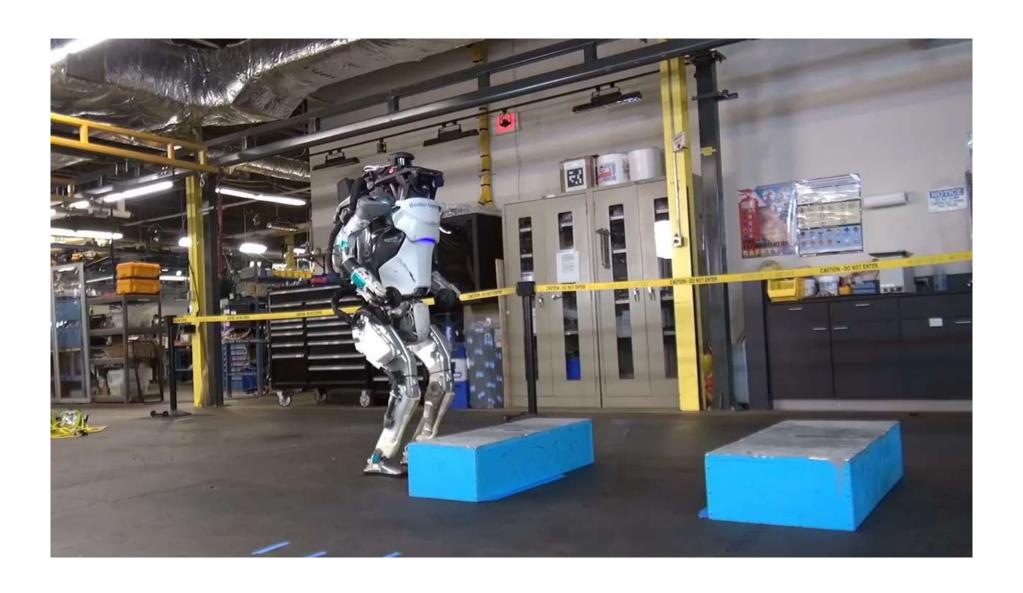
Ten years on: banking after the crisis

South Korea's unfinished revolution

Biology, but without the cells

# The world's most valuable resource











**YPERLEDGER PROJECT** 

https://www.hyperledger.org/



Taiwan and the one-China fiction

IS up against the wall in Mosul

In praise of quinoa, millet and teff

Is there a bubble in the markets?

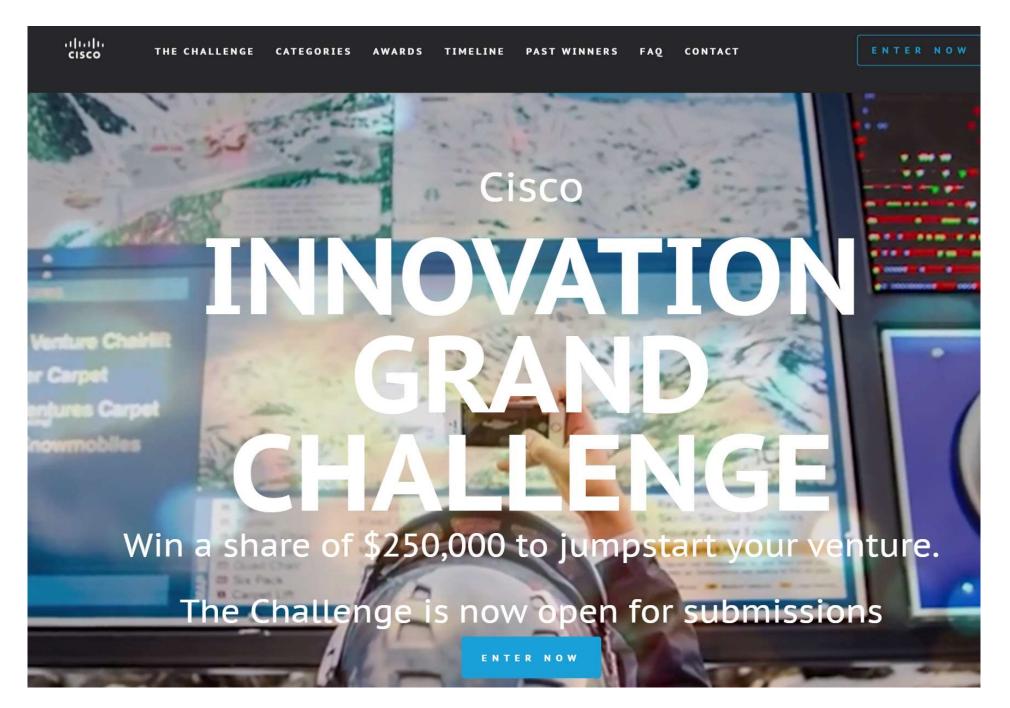
T.

MARKET SERVICE SPIRAL SERVICE

## Quantum Leaps

A mind-bending technology goes mainstream

### ORGANIZATIONAL CHANGES



innovationgrandchallenge.cisco.com

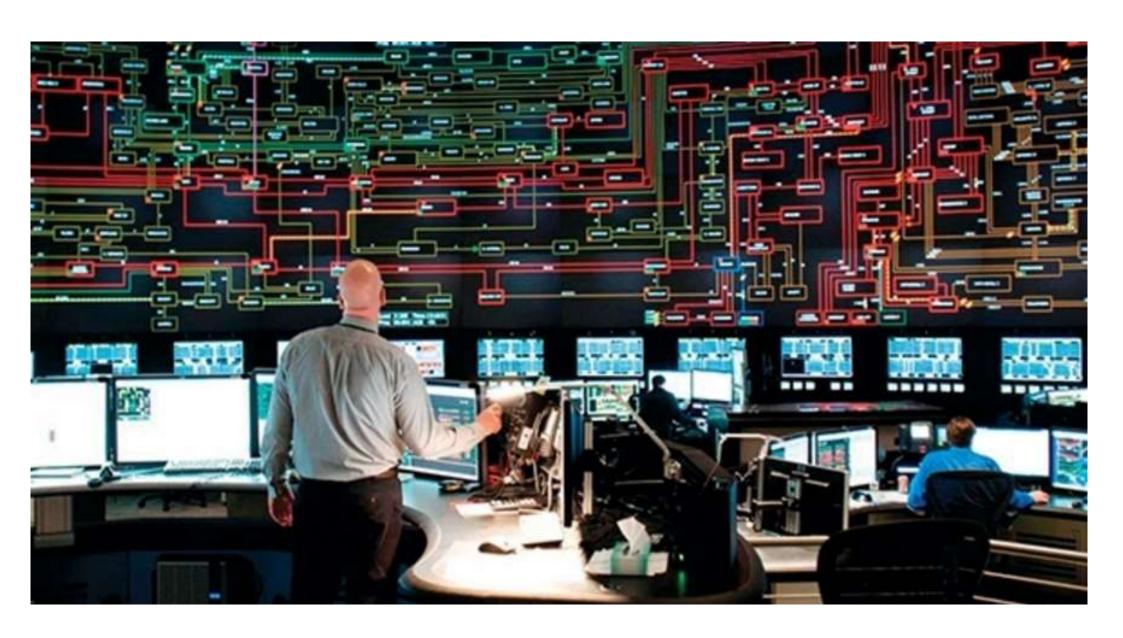
 $A \longrightarrow \mathcal{B}$ 

# complicated — complex

## Complicated



## Complex

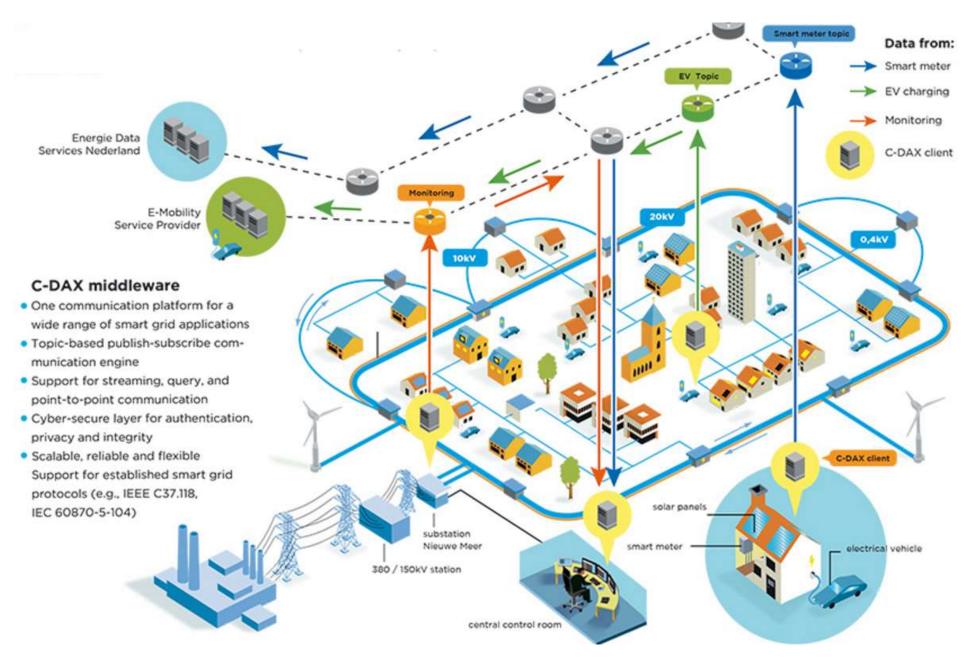




### Northeast blackout of 2003

Affected an estimated 10 million people in Ontario and 45 million people in eight U.S. states.

Started at 4:10 pm. Some power was restored by 11 p.m. Many others did not get their power back until two days later. In more remote areas it took nearly a week to restore power.



### Digital transformation

### Digital enabled

### Digital company

# DIGITAL TRANSFORMATION?

# TOWARDS A NEW BUSINESS OPERATING SYSTEM

### 1. Be responsive



### Sense & Respond

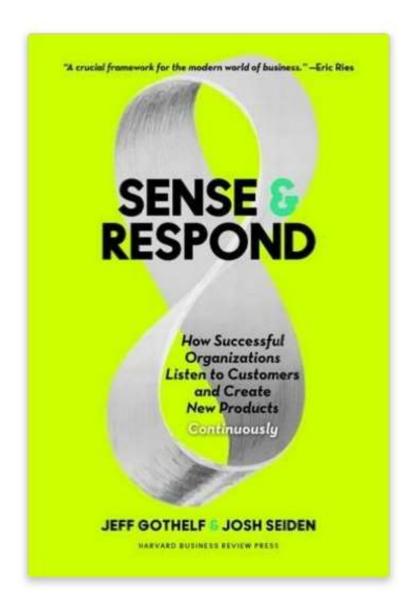
"A crucial framework for the modern world of business." -- Eric Ries



How Successful
Organizations
Listen to Customers
and Create
New Products
Continuously

JEFF GOTHELF & JOSH SEIDEN

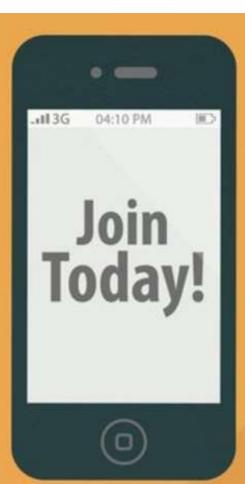
HARVARD BUSINESS REVIEW PRESS



Sense and Respond:
How Successful
Organizations
Listen to Customers
and Create New
Products Continuously



VS











50 % visitors see variation B



Variation B

11% conversion

# "Amazon releases new software to the world every 11.6 seconds"

amazon.com

fire PHONE



### "Tesla: make cars improve over time like other electronic devices"

#### Tesla releases Software 6.1 for the Model S

February 11, 2015 \_\_ Jason Cartwright \_\_ Vehicle \_\_ 0 Comments



"Xiaomi: releases phones in small batches, 100000 every Tuesday... and continuous updates based on user feedback collected on online forums"

#### Rent collective

### Pricey housing markets mean co-living buildings are on the rise

Co-living is for hipsters not hippies



Print edition | Business >

Aug 31st 2017

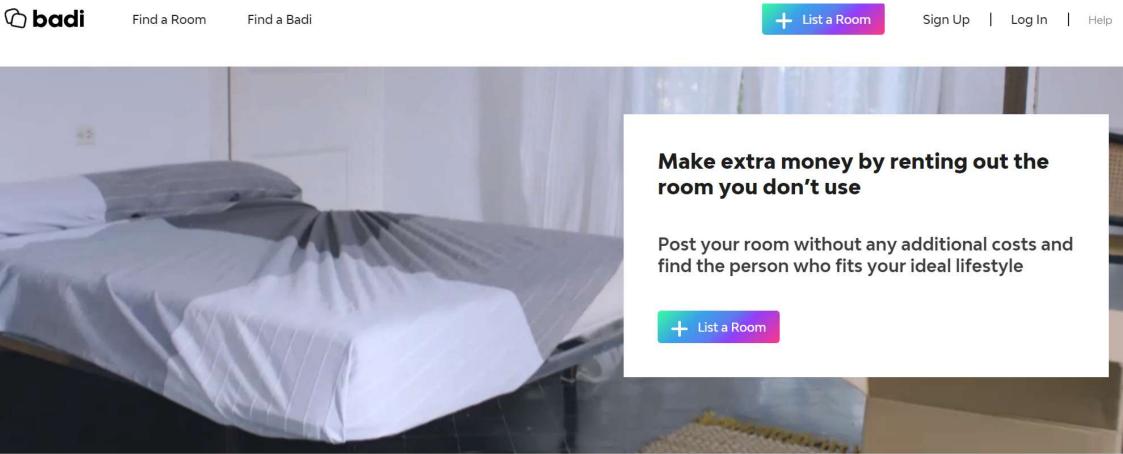












Bringing the search for your roommate to a new level



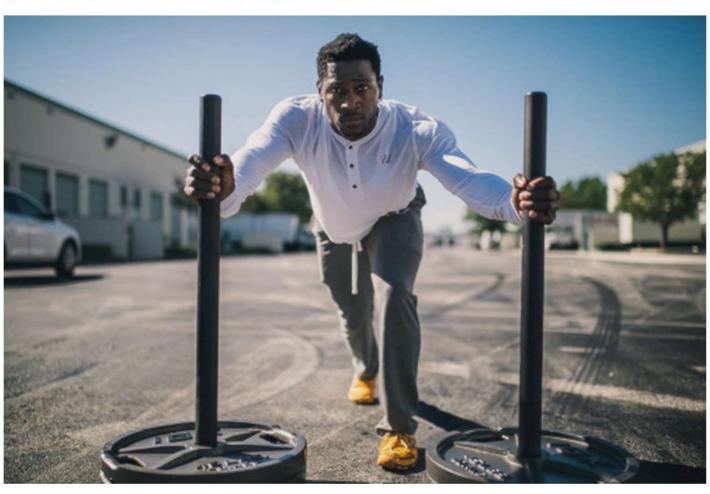
WHAT IS ECOOLTRA? HOW IT WORKS? PRICE HELP CENTER



### Evidence-based business

#### psfk

#### This Startup Helps Healthy People Get Lower Insurance Rates



#### Ahorra hasta 400€ al año.\*

Más información

\*Ahorro calculado para clientes con perfil: "Pareja con dos hijos. Edades: 44, 42, 12 y 10 años. Producto: Seguro de Salud Completo sin copago. Sujeto a normas de suscripción de la compañía.



https://www.vivaz.com/



#### iMejora tu salud y tu economía!

Cuidarse tiene muchas recompensas. Descúbrelo en nuestra App.

Descubre Vivaz Actividad

#### iFortalece tu salud y tu ánimo!

Aquí encontrarás un montón de valiosos consejos que harán que cuidarse sea mucho más fácil y sentirse feliz, también.

Elige...

Accesos rápidos

Contactar

Enlaces de interés

Productos Cond Consejos Políti Redes sociales Aviso

Condiciones generales Política de cookies

Aviso legal

Privacidad y seguridad

Sala de prensa Información previa a la contratación

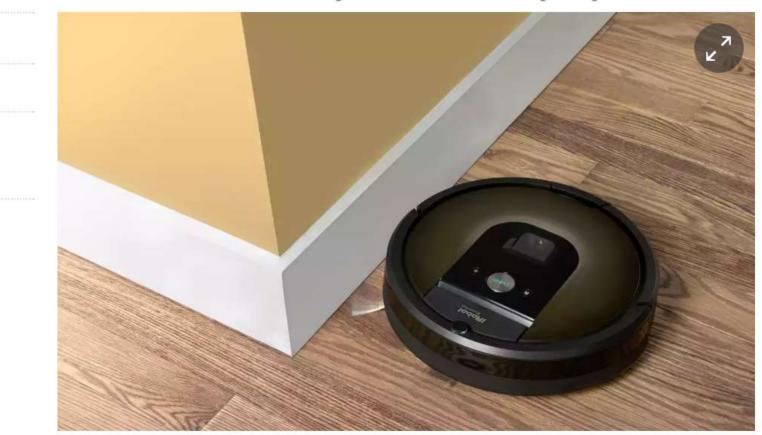
© Línea Directa Aseguradora S.A. Conforme al art. 127 del RD 1060/2015 cobertura de riesgo asumida por Línea Directa Aseguradora S.A.

### Output / Outcome

### Big data for Small Data

# Roomba maker may share maps of users' homes with Google, Amazon or Apple

iRobot's chief executive says company could share or sell maps of robot vacuum users' homes to US tech firms as part of smart home and profit push



iRobot's Roomba robotic vacuum cleaners could soon be sharing the maps of users' homes they make as they clean with Amazon, Apple or Google, among others. Photograph: Reuters

#### **Facebook**

### Facebook: is it time we all deleted our accounts?

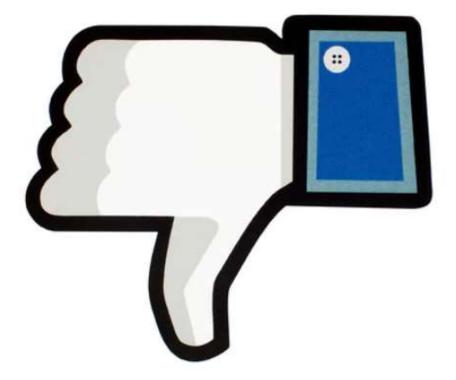
The Cambridge Analytica revelations may be the final nudge we need to turn away from the social network. And it's only the tip of the iceberg when it comes to big tech harvesting private information



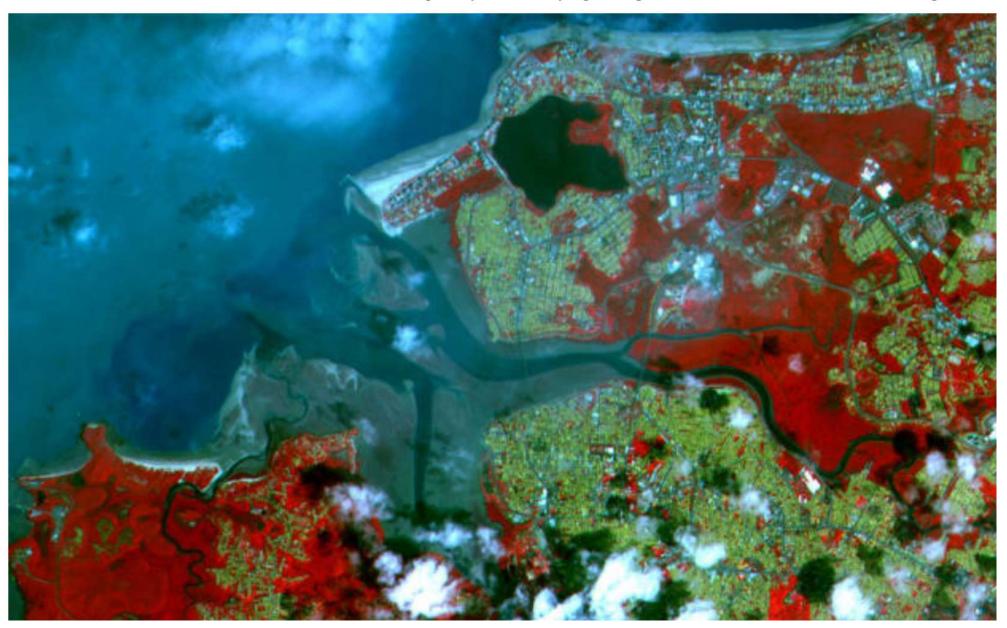
Arwa Mahdawi Tue 20 Mar 2018 14.41 GMT

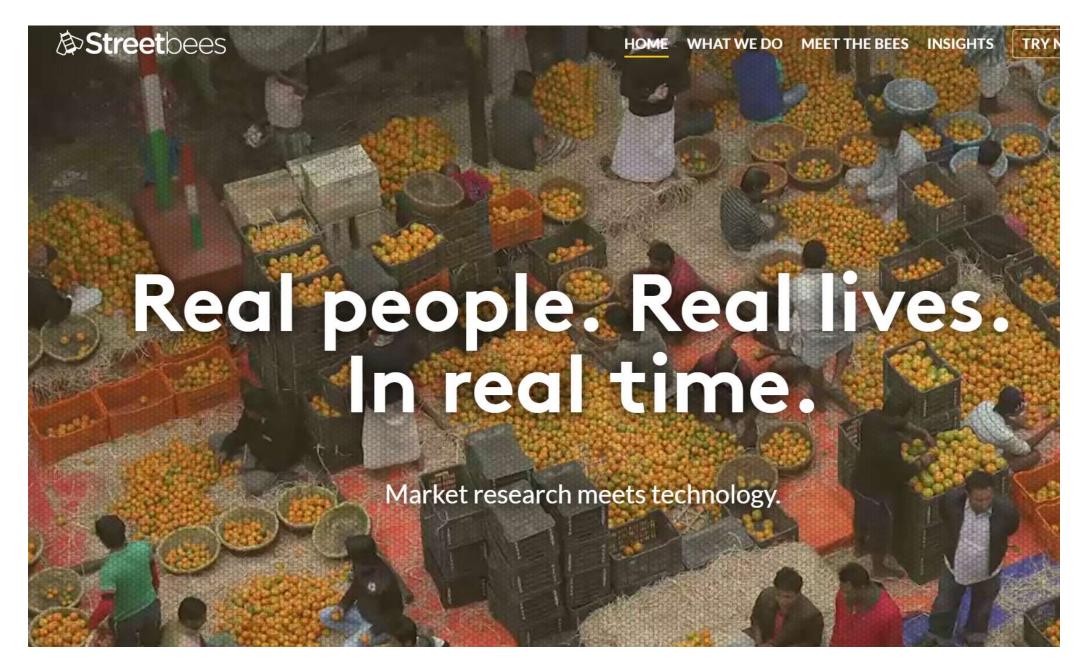






#### How satellite imagery could combat infectious diseases around the world The Los Alamos National Lab has worked with Descartes Labs to come up with systems for analyzing on-the-ground conditions in Brazil in order to forecast dengue. The ho





## Streetbees connects you with real people on the ground to gather real time insights.

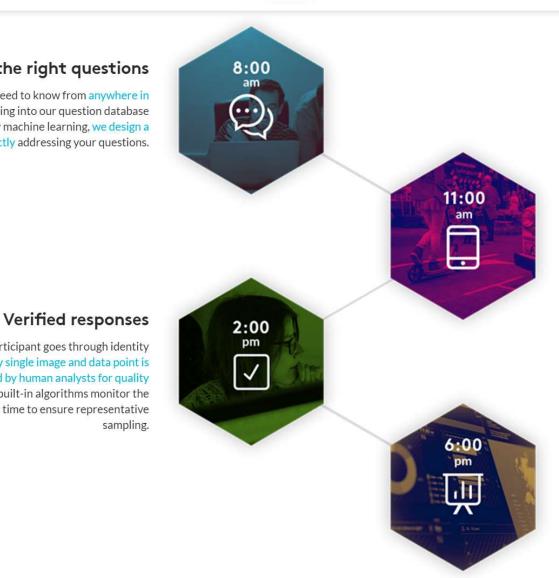
With the power of Artificial Intelligence and geolocation technology, you can now collect data from anyone, anywhere in the world in an affordable way.

streetbees.com



#### Ask the right questions

Tell us what you need to know from anywhere in the world. Tapping into our question database turbocharged by machine learning, we design a study directly addressing your questions.



#### Target the right people

We translate and localise the study within hours, and direct your questions to the right people in the right place using geolocation technology. Our community instantly shares their insights captured in the moment with the images and the data you need.

#### Every single participant goes through identity

verification. Every single image and data point is cross-verified by human analysts for quality assurance. Our built-in algorithms monitor the data in real time to ensure representative sampling.

#### How it works



Pick one of the tasks



**Answer questions** 

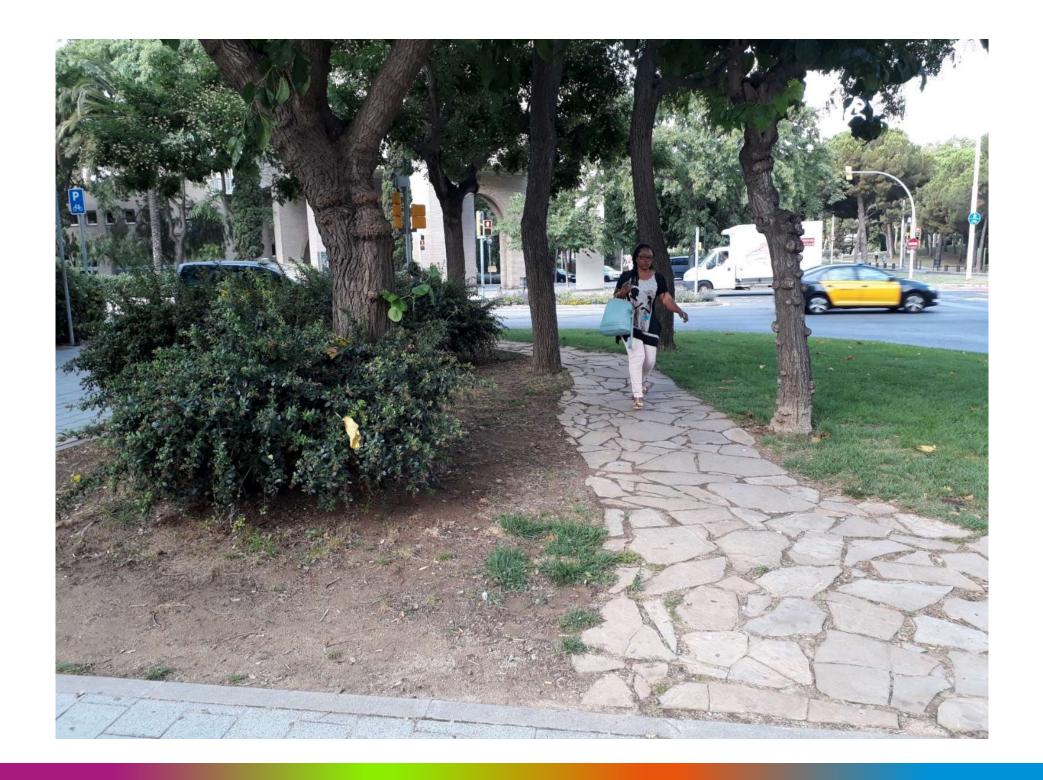


Get paid in cash

Join now

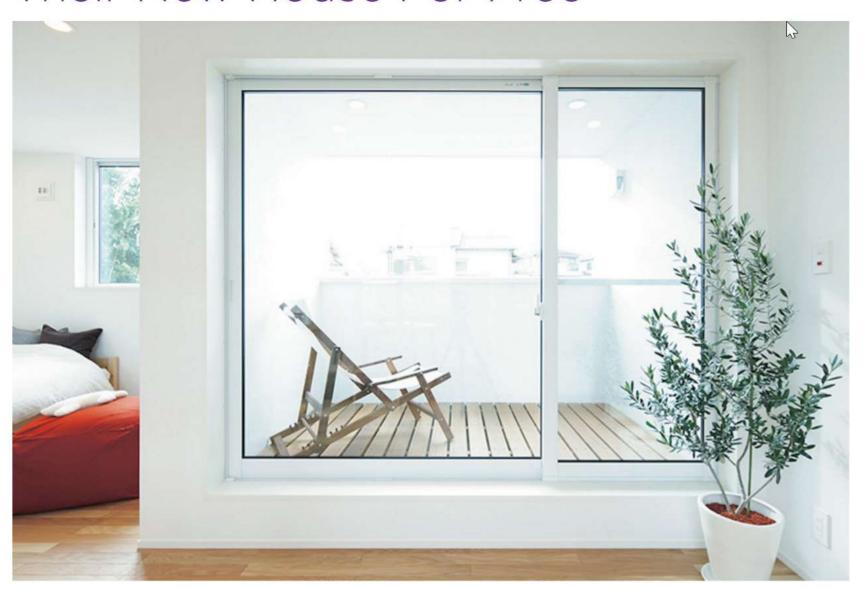
### User centric

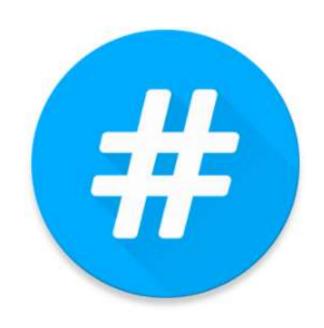






### Muji Is Seeking Volunteers To Live In Their New House For Free







jawbone.com/up











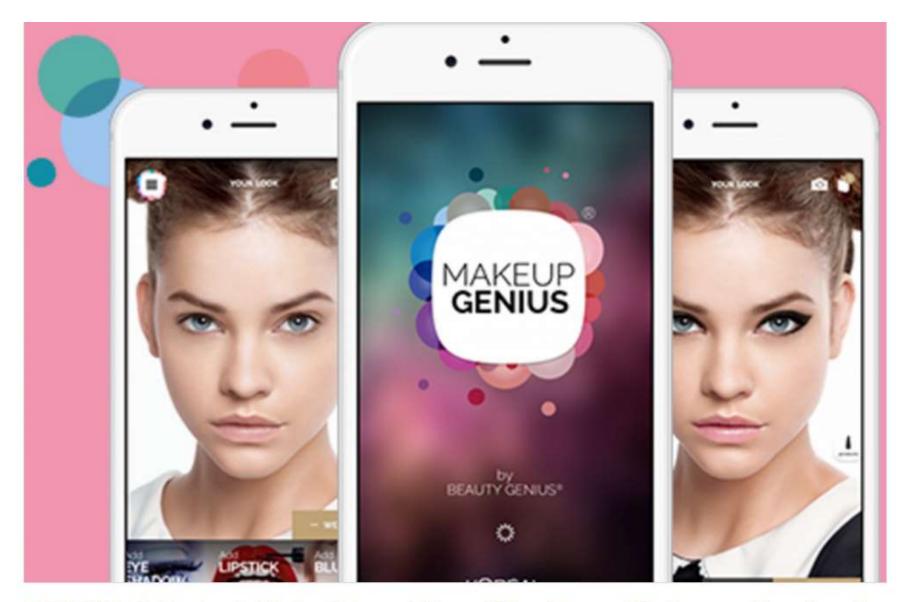
### How 3 Million Hours Of User-Testing Fixed The Jawbone Up

Pulled from store shelves after a month, the first high-profile wearable activity tracker was a humiliation for Jawbone. Now, the Up is back, and anyone vying for a stake in wearable tech should pay close attention to the product's resurrection.

### Personalization

### This Startup Is 3D Printing Glasses That Fit Perfectly To A Wearer's Face





**POPULAR: Let This Algorithm Mix Your Makeup Perfectly** 

A new scanner can analyze skin tone and prepare a one-of-a-kind blend for each person



POPULAR: How Artificial Intelligence Is Evolving Outdoor Advertisements

A new prototype billboard has been designed to respond to the emotions of passersby

### People to People

### Honda Turns Fans' Garages Into Pop-Up Dealerships



### Alfons: ¿puedes responder esta pregunta acerca de Canon PCC-CP400 - Casete...? Safata d'entrada x 14:17 (fa 9 minuts) Amazon Answers <answers@amazon.es> per a ac 🔻 amazonrespuestas Como propietario de Canon PCC-CP400 - Casete..., ¿podrías ayudar a este cliente? Cliente Amazon ha preguntado "¿Para que es esto? Es que me quiero comprar la canon selphy cp1200 y leo algo del cassete pero no se para que es. Gracias" Responder a la pregunta No lo sé Enviar comentario sobre esta función Ver respuestas de otros No revelamos tu dirección de correo electrónico a otros clientes de Amazon cuando recibes y respondes a las

preguntas de los clientes.



#### Amazon Answers <answers@amazon.es>

per a ac 💌

### amazon.es



Cliente Amazon commented on your answer to the question "¿Para que es esto? Es que me quiero comprar la canon selphy cp1200 y leo algo del cassete pero no se para que es. Gracias"

Cliente Amazon ha dicho



#### Amazon Answers <answers@amazon.es>

per a ac 💌

### amazon.es

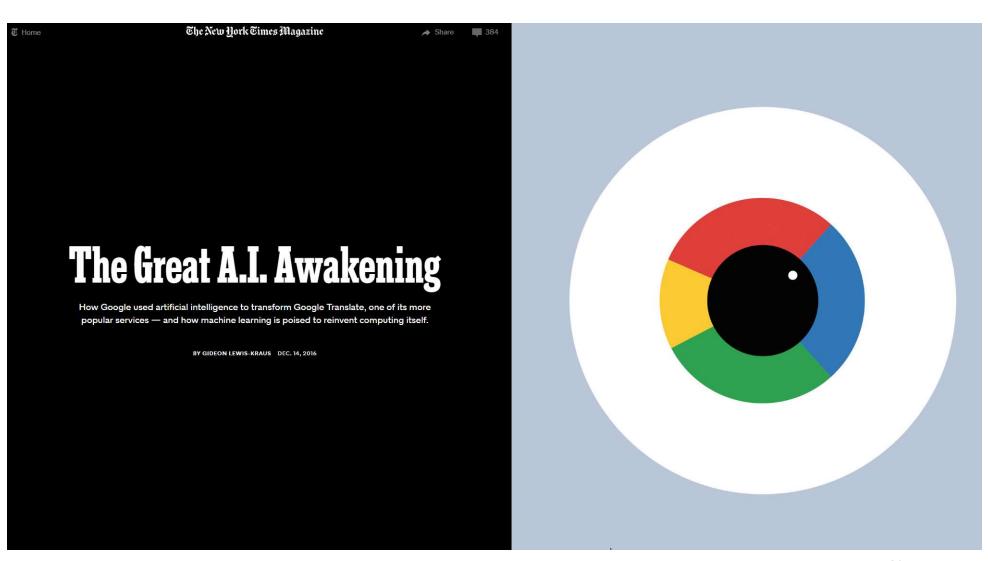


Cliente Amazon commented on your answer to the question "¿Para que es esto? Es que me quiero comprar la canon selphy cp1200 y leo algo del cassete pero no se para que es. Gracias"

#### Cliente Amazon ha dicho

"Gracias."

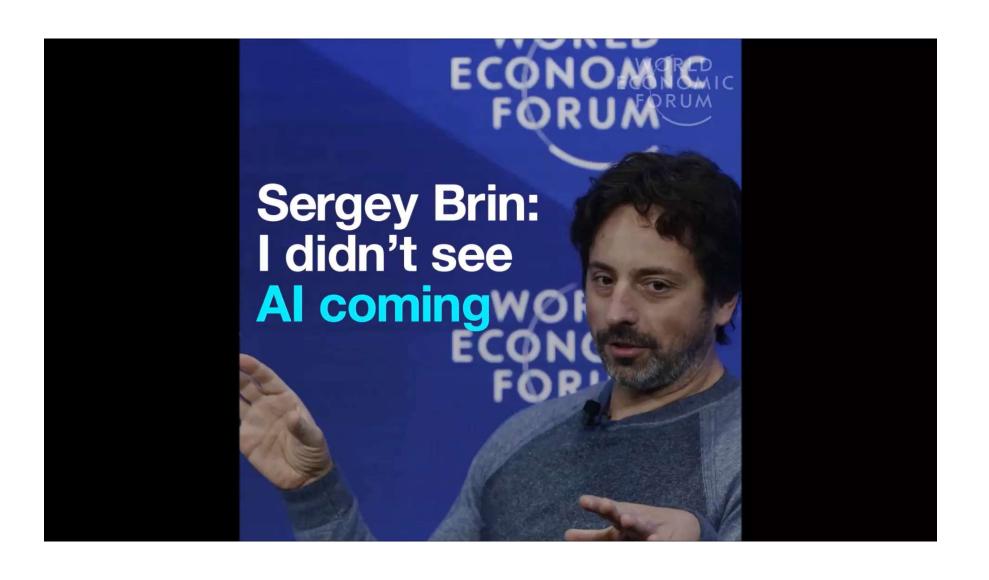
### 2. Al and jobs



Nyt.com

Google co-founder Sergey Brin says he didn't see Al coming. And can't predict where it's going. Read more: http://wef.ch/2iXGYLr





# Artificial intelligence is intelligent, indeed

## An artificial intelligence system that correctly predicted the last 3 elections says Trump will win





businessinsider.com



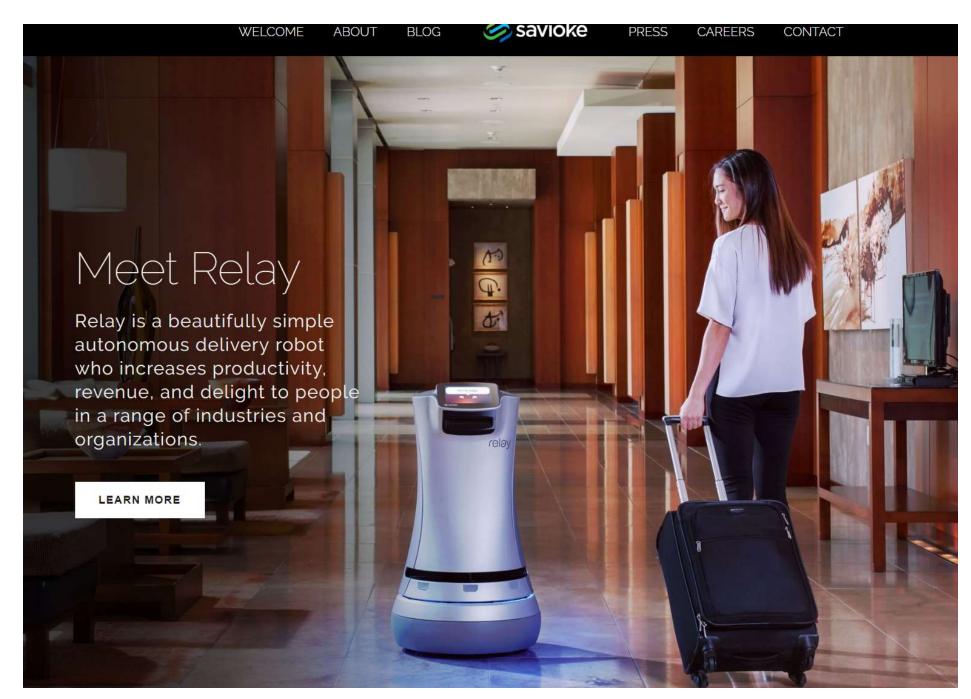
**Robotics** 

## Mining 24 Hours a Day with Robots

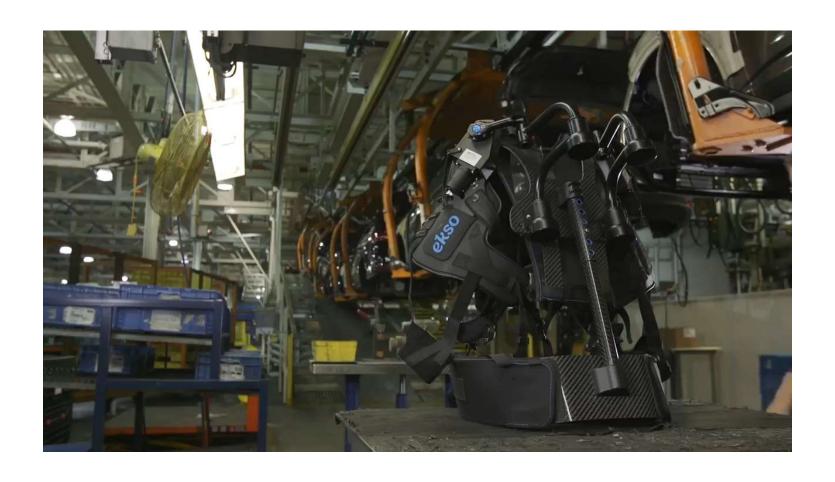
Techreview.com

### CAT MINESTAR SYSTEM

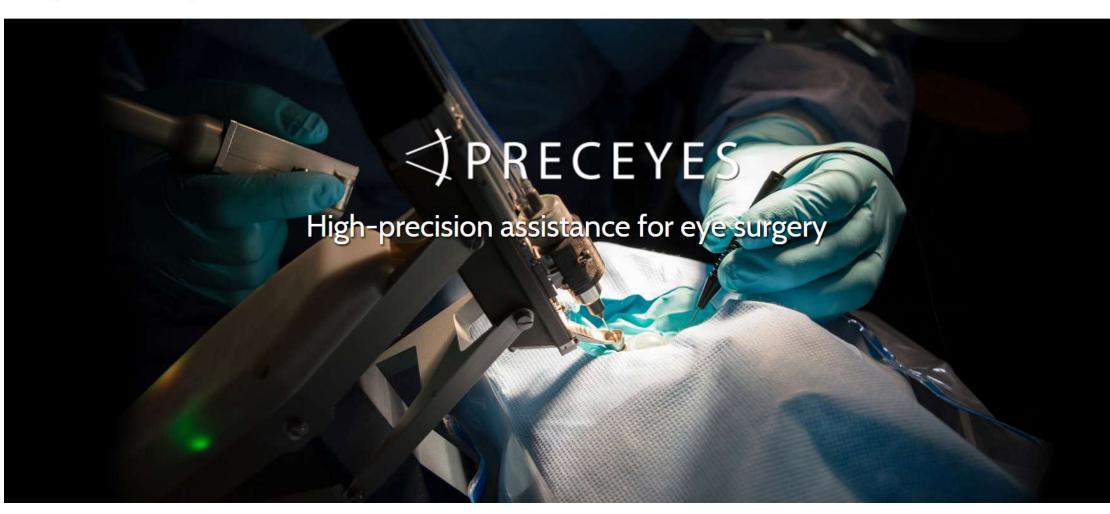




## Make the world "robot-readable"



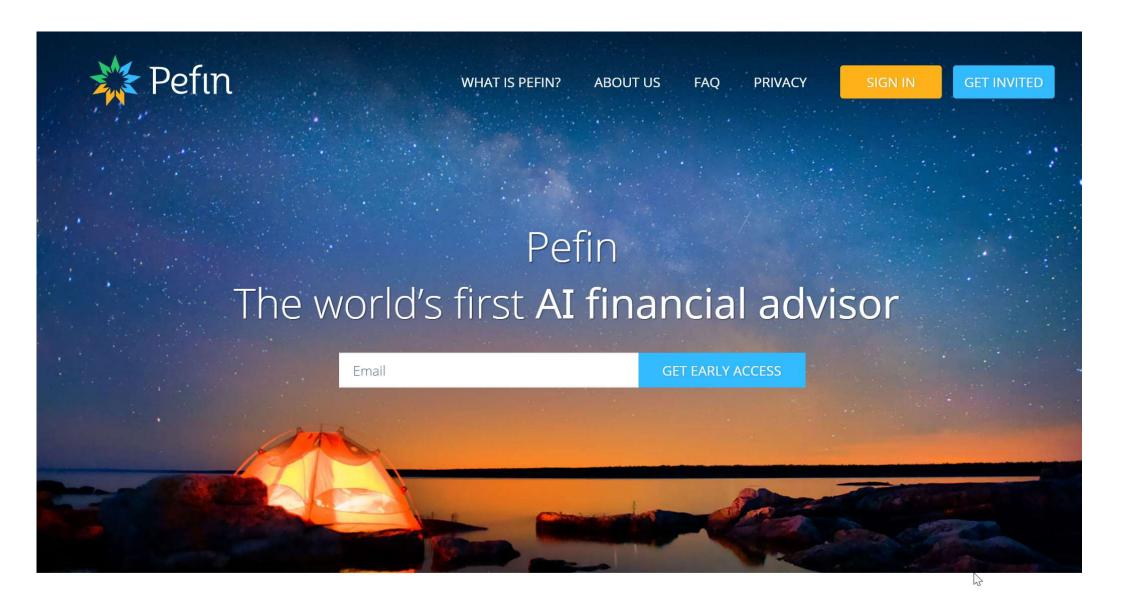




## Automate Augmentate

## Clara, can you find a time for us to meet next week?

Clara is your partner in doing great work — a virtual employee that schedules your meetings.



Artificial Intelligence that guides smart financial decisions

at 1/20th the cost of a human advisor



secondspectrum.com

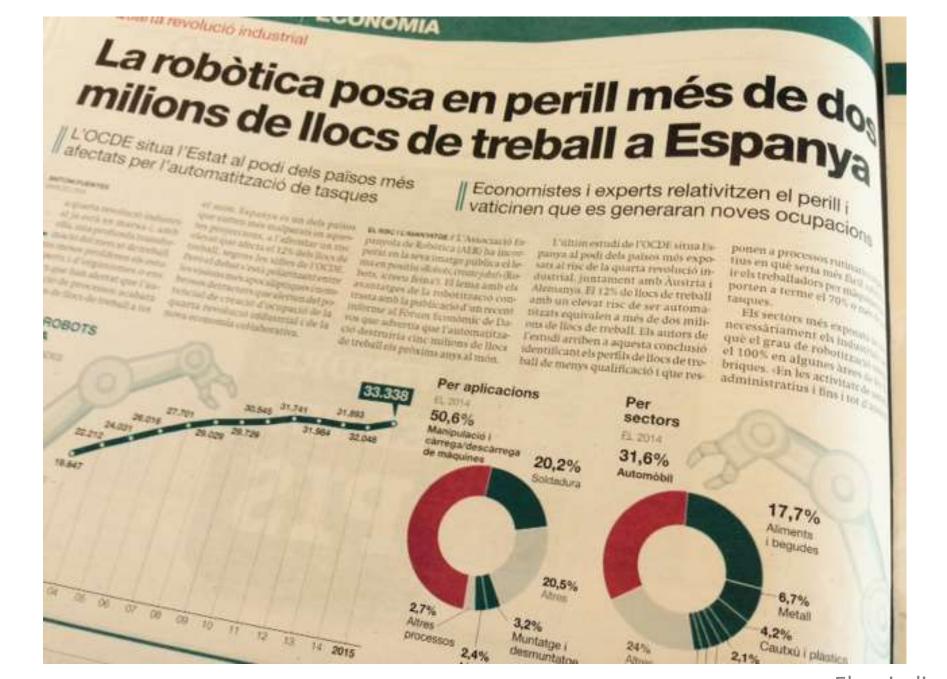
#### Robotics

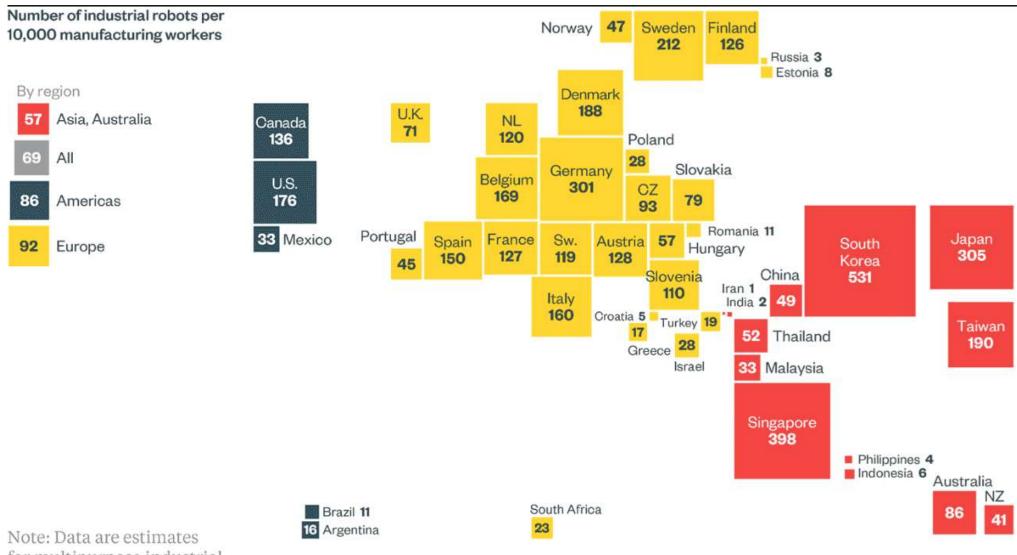
## Al Software Learns to Make Al Software

Google and others think software that learns to learn could take over some work done by Al experts.

by Tom Simonite January 18, 2017

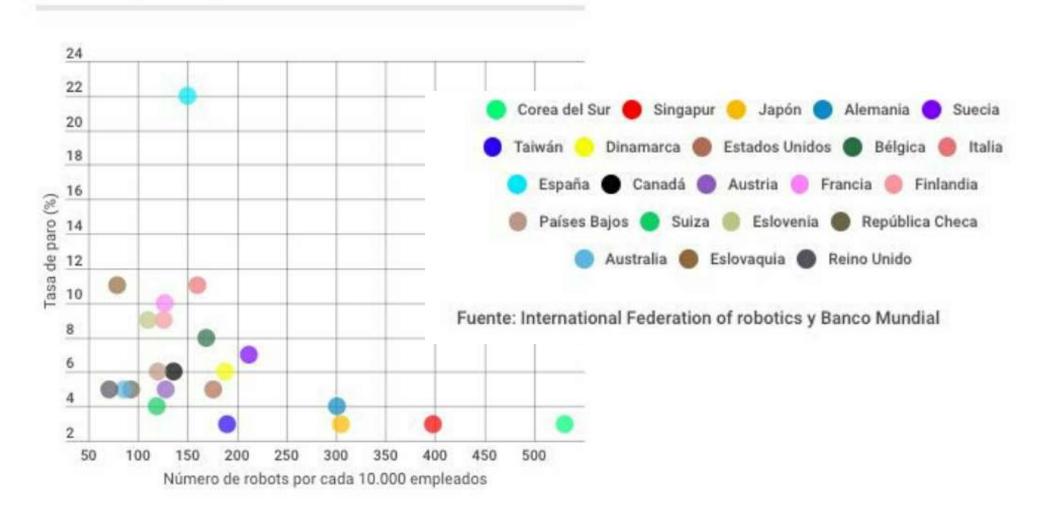
## Will a robot steal my job?





for multipurpose industrial robots for 2015

### Densidad robótica y tasa de paro por países



# Growth requires more productivity, which now means robots

### Humans × Machines

"A richly detailed guidebook leaders need to capture the opportunities of AI and the fourth industrial revolution."

-KLAUS SCHWAB

Founder and Executive Chairman, World Economic Forum.

## HUMAN+

Reimagining Work in the Age of AI

### MACHINE

PAUL R. DAUGHERTY H. JAMES WILSON

HARVARD BUSINESS REVIEW PRESS

#### Making it in America

## American factories could prosper if they find enough skilled workers

A widening skills gap means that over half of new manufacturing jobs in the decade to 2025 may go unfilled



■□ Print edition | Business >
Oct 12th 2017 | OAK CREEK, WISCONSIN



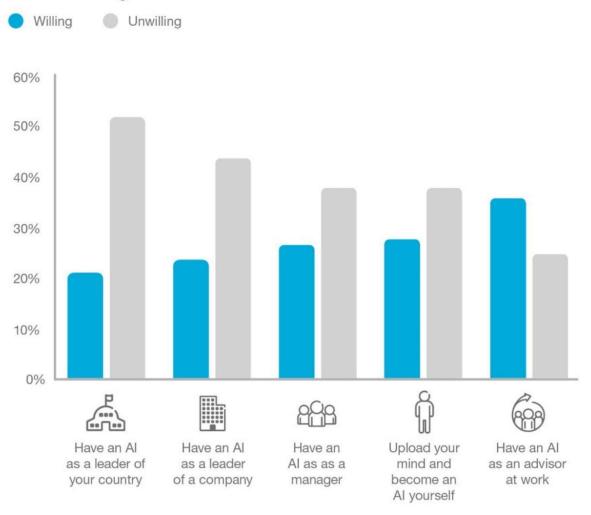






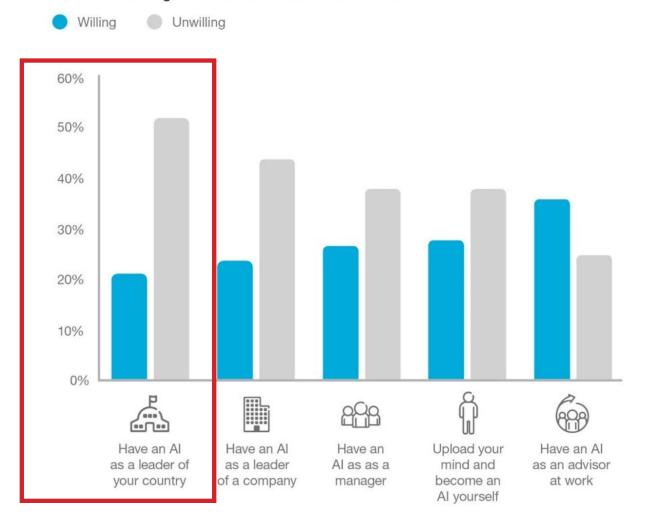


#### Consumer willingness to interact with AI in different contexts



ericsson.com

#### Consumer willingness to interact with AI in different contexts

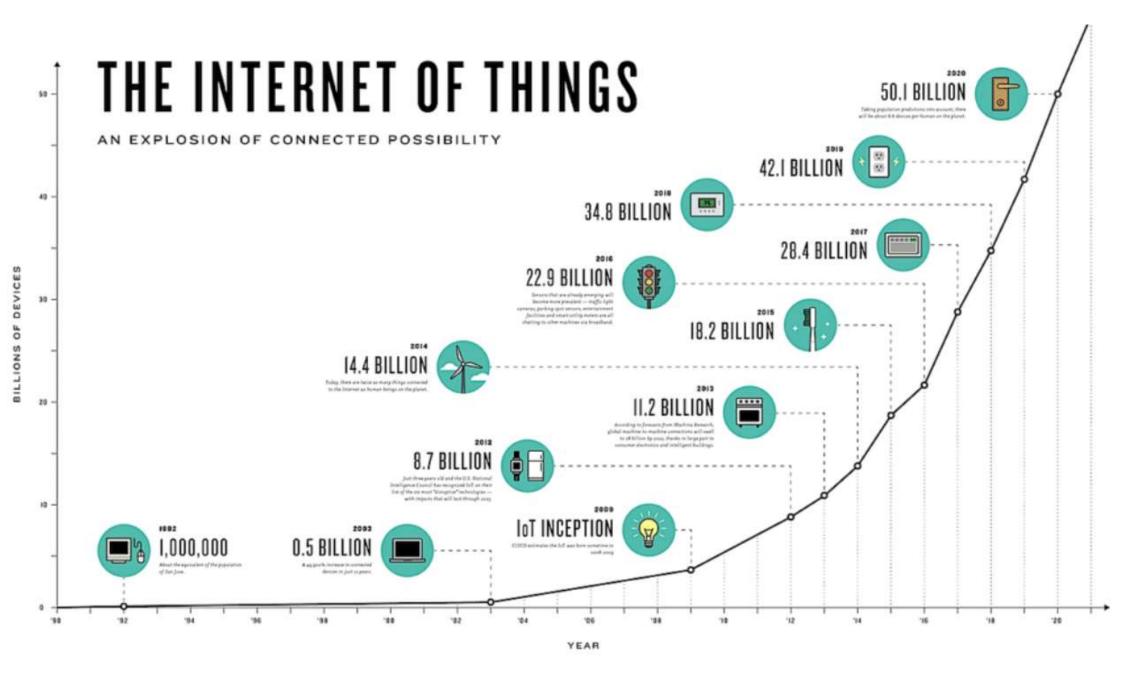


ericsson.com



## 3. Internet of everything





### How Many Sensors are in a Smartphone?



- Light
- Proximity
- 2 cameras
- 3 microphones (ultrasound)
- Touch
- Position
  - GPS
  - WiFi (fingerprint)
  - Cellular (tri-lateration)
  - NFC, Bluetooth (beacons)
- Accelerometer
- Magnetometer
- Gyroscope
- Pressure
- Temperature
- Humidity



### **Babolat Play Pure Drive**

Sensors integrated into the handle allow players to have access to a lot of information: power, impact locator, type and number of strokes (forehand, backhand, serve, overhead smash),...



babolat.us



ralphlauren.com







### Harvard Business Review



47 The Big Idea The HBR List of Best-Performing CEOs 2014 edition

100 Spotlight The New Deal on Data An interview with Alex "Sandy" Pentland

133 Case Study Do Business and Politics Mix? Brian K. Richter





ARTWORK: CHRIS LABROOY, BR

COMPETITION

## How Smart, Connected Products Are Transforming Competition

by Michael E. Porter and James E. Heppelmann

FROM THE NOVEMBER 2014 ISSUE

## smart connected products

# New value creation through **smart** use of data and connections



### **MONITORING**

### MONITORING CONTROL

# MONITORING CONTROL OPTIMIZATION

# MONITORING CONTROL OPTIMIZATION AUTONOMY

"MACHINES THAT TALK. MACHINES THAT REACT. MACHINES THAT CONSTANTLY UPDATE THEIR STATUS--IT SOUNDS A BIT LIKE A SOCIAL NETWORK... OF MACHINES."

COMPANY

A.U.R.A

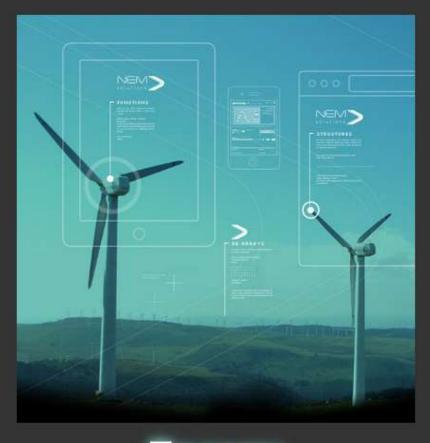
**RAILWAY** 

**ENERGY** 

CLIENTS METHODOLOGY

NEWS CONTACT





Energy

# FROM PRODUCTS TO SYSTEMS TO SYSTEMS

### **REDEFINING INDUSTRY BOUNDARIES**

The increasing capabilities of smart, connected products not only reshape competition within industries but expand industry boundaries. This occurs as the basis of competition shifts from discrete products, to product systems consisting of closely related products, to systems of systems that link an array of product systems together. A tractor company, for example, may find itself competing in a broader farm automation industry.

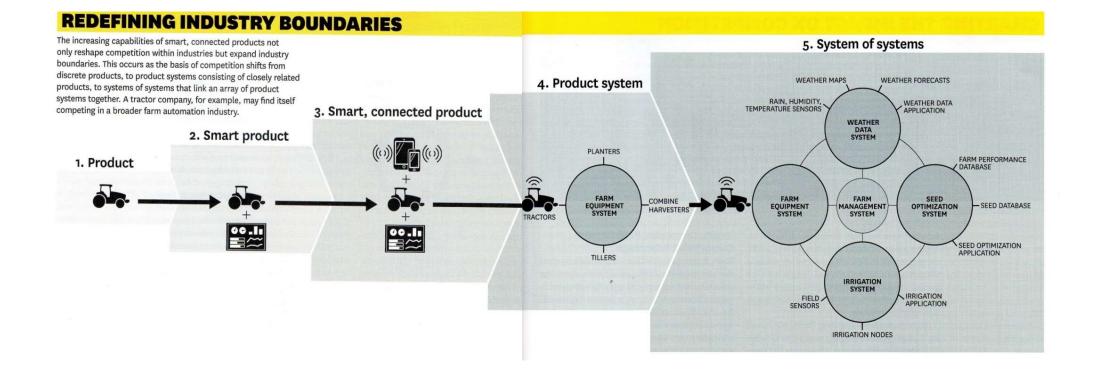
2. Smart product





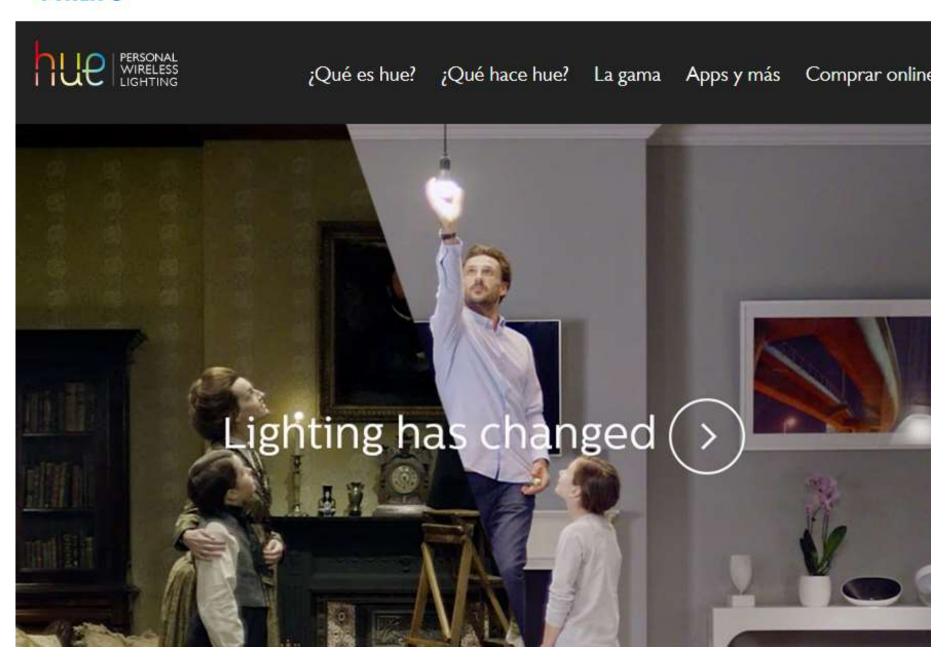
3. Smart, connected product

Hbr.org

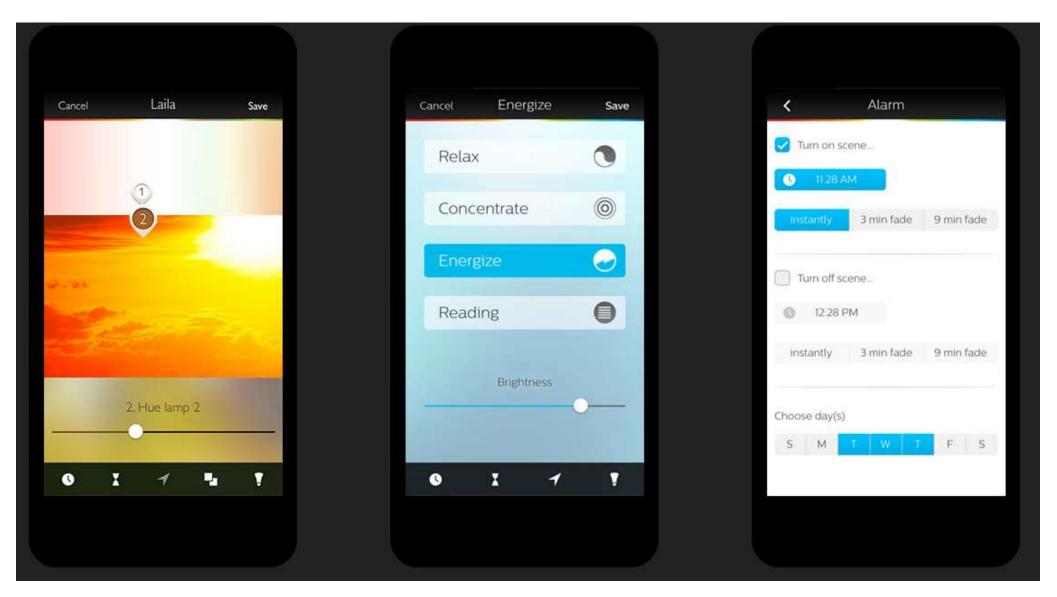


### **SMART HOME**

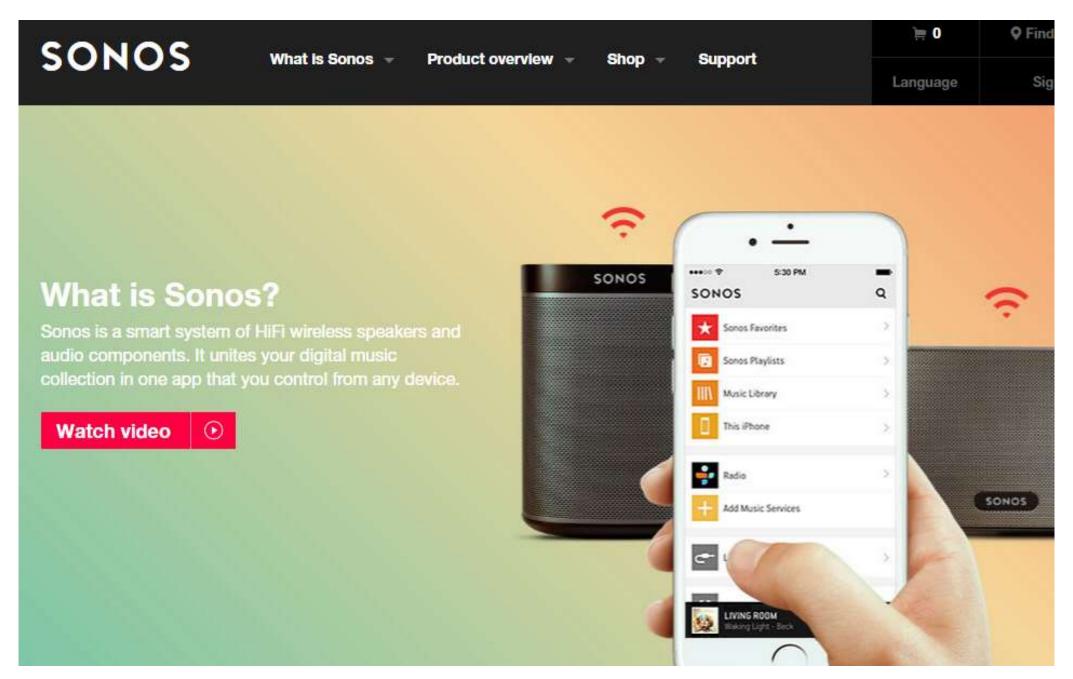
### **PHILIPS**



meethue.com



meethue.com



sonos.com

#### fliwer Sensor

#### What happens to your plants?

Fliwer Sensor captures all the vital information for the optimal growth and maintenance of your plants.



### Inventan la maleta inteligente, que se pesa y se localiza a sí misma



El prototipo de Pluggage ya está disponible en la web de Delsey.

#### —₽ FAST TRACK

La marca francesa de equipajes Delsey ultima la maleta inteligente. La firma prepara una pieza geolocalizable, que se pesa a sí misma, recarga el móvil y es capaz de predecir el tiempo.



### Introducing

### Haiku with SenseME Technology



SenseME knows when you enter or leave a room, turning Haiku on and off automatically.



SenseME monitors the room's temperature and humidity, adjusting fan speed when conditions change.



SenseME learns your comfort preferences, tailoring fan speed adjustments to what you find comfortable.

bigassfans.com/senseme

### **WeAR** Technologies

# Physical rehabilitation made easy.

Help patients and therapists to impro accelerate the physical rehabilitation Our advanced rehabilitation system h and wearable technologies for a faste recovery, both at the centre and at ho

Contact us



#### Wear TECHNOLOGIES

### Non-invasive assistive system with automatic corrections

WeAR has created a wearable kit able to measure rehabilitation exercises movements with high precision. The WeAR's wearables are easy to use and provide automatic corrections through the whole execution of the exercise plan.

### **SMART CITIES**







Learn - Co

Connect - Press Room -

Search Q

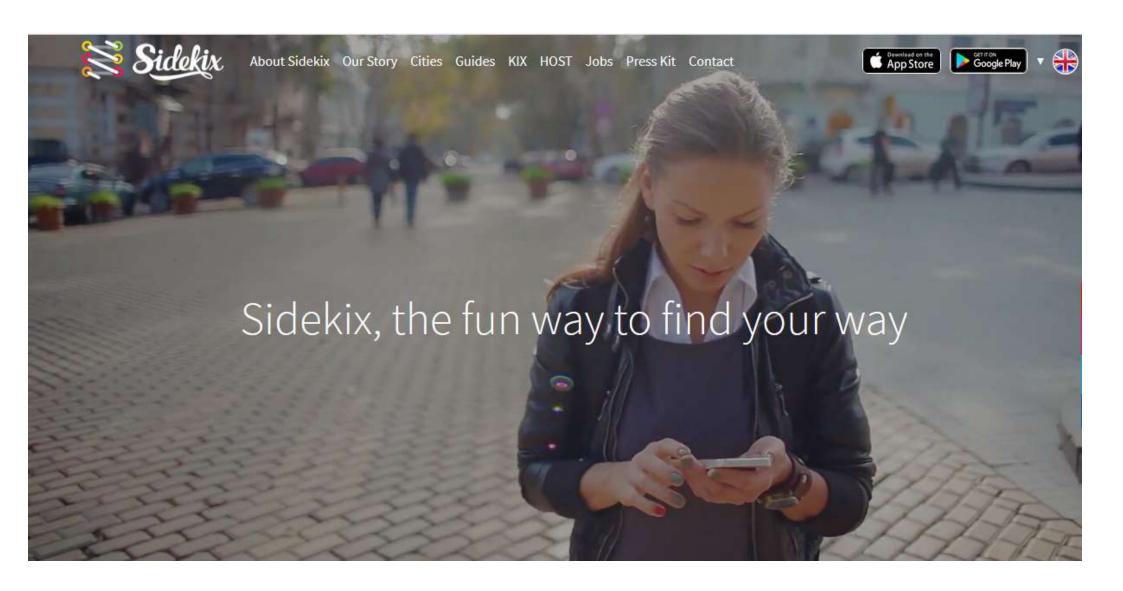
Sign me up!



Graphic from the OReGO Azuga option. Watch the Enroll with Azuga video:

\*The ODOT Account Manager (emovis) does not collect location information, only miles driven and fuel consumed. The commercial account managers (Azuga and emovis) offer a GPS-based system.

OReGO means roadways will be there for Oregon drivers.

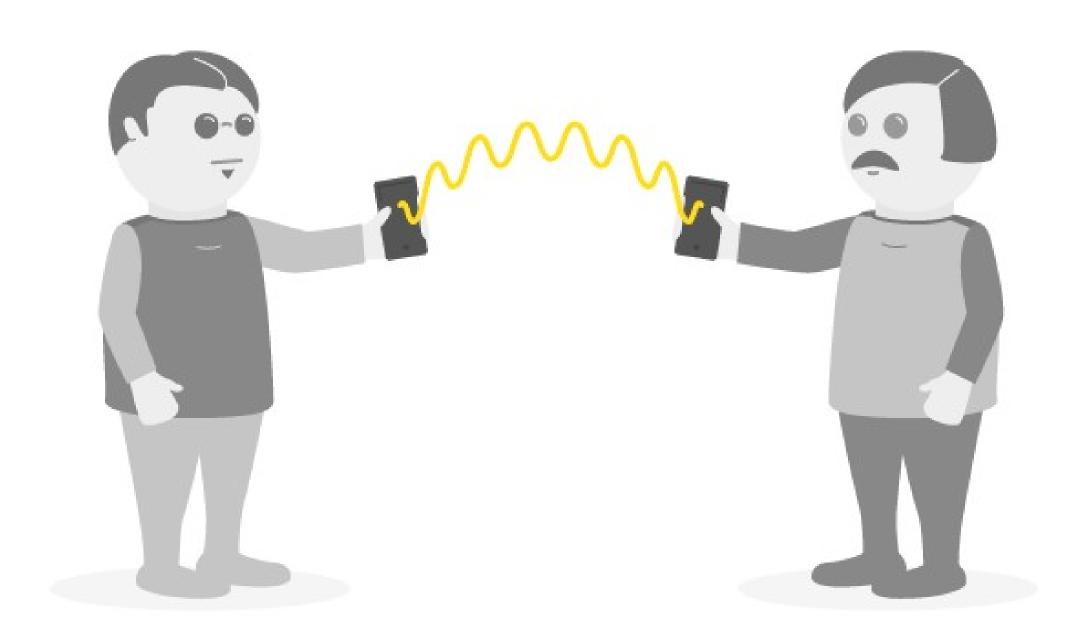


### 4. The trust machine

### Bitcoins









# What is the basis of any business?

### **Trust**







AT CAMBRIDGE IN THE COMMONWEALTH OF MASSACHUSETTS

THE PRESIDENT AND FELLOWS OF HARVARD
COLLEGE, acting on the recommendation of the

and with the consent of the Honorable and Reverend the Board of Overseers, have conferred on

#### Jordan Thompson

In witness whereof, by authority duly committed to us, we have hereunder placed our names and the

University seal on this fifth day of June in the Year of Our Lord

nineteen hundred and ninety-seven and of Harvard College the three hundred and sixty-first.

Neil C. Ruden Tine



DEAN OF THE FACULTY OF BUSINESS ADMINISTRATION

# TRUST NOBOLY



Ok, trust.
But verify.

# Can I Trust You?

# We have to demonstrate that people can trust us

## Many isolated records In different registers

### My house

### My vehicle

### My medical records

# My intellectual property

# The (human) world is made of transactions

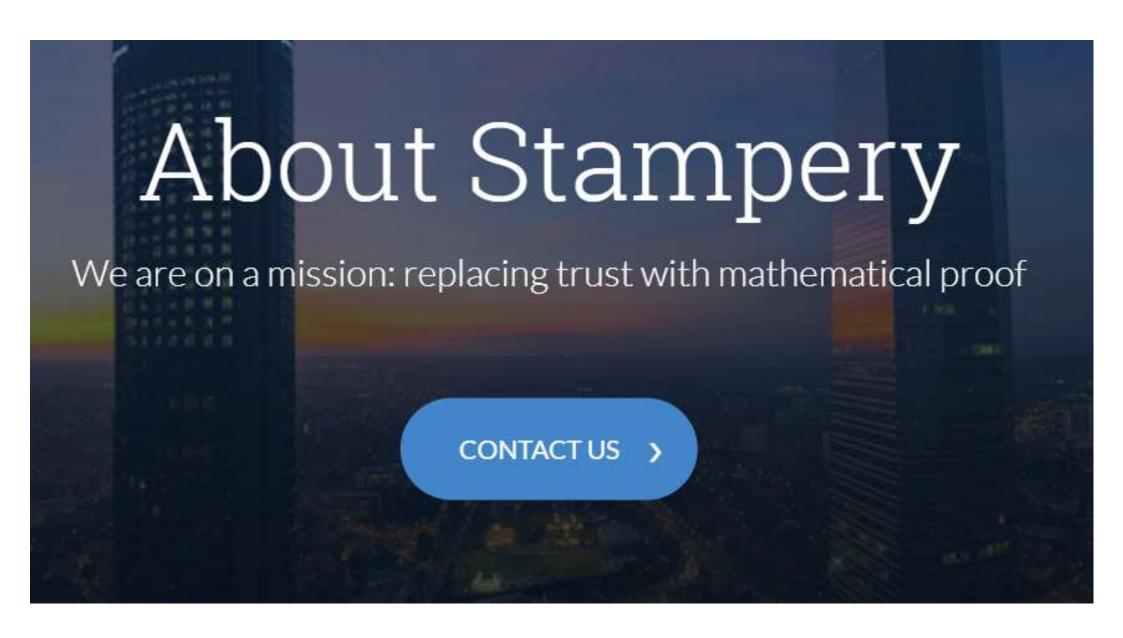
### 100 T\$/year

### Trusted transactions

# Through trusted third parties (intermediaries)



### Why blockchains?



### Let's buy a house



800	Electrical Fire	2001
007	50K Investment	1993
006	Sold to Owner 3	1992
005	Failed Inspection	1992
004	Sold to Owner 2	1989
003	Approved Extension	1980
002	20K Improvement	1980
001	Sold to Owner 1	1976

#### Ledger

800	Electrical Fire	2001
007	50K Investment	1993
006	Sold to Owner 3	1992

004	Sold to Owner 2	1989
003	Approved Extension	1980
002	20K Improvement	1980
001	Sold to Owner 1	1976

#### Ledger

800	Electrical Fire	2001
007	50K Investment	1993
006	Sold to Owner 3	1992
005	New Chimney	1992
004	Sold to Owner 2	1989
003	Approved Extension	1980
002	20K Improvement	1980
001	Sold to Owner 1	1976

#### Ledger

## Many isolated ledgers, and tamperable

## Let's buy a house, more securely

Builder

001

Sold to Owner 1

1976



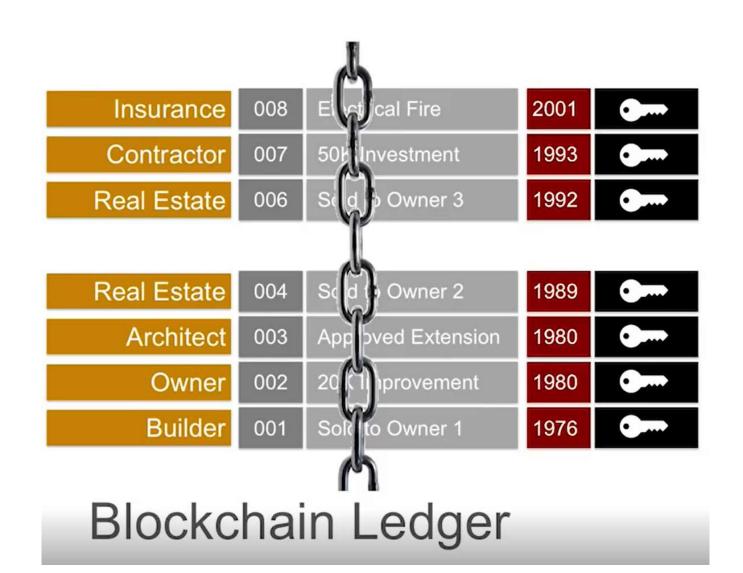
#### Blockchain Ledger

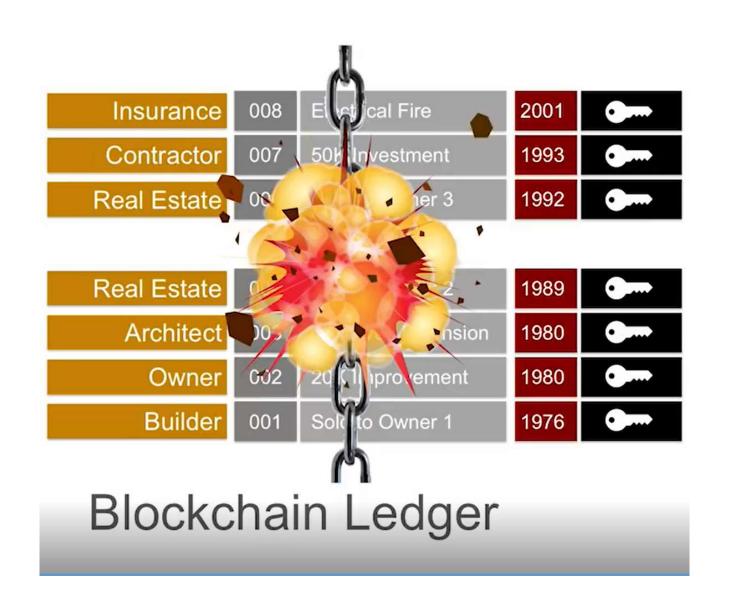
Owner 002 20K Improvement 1980 ••••
Builder 001 Sold to Owner 1 1976 ••••

#### Blockchain Ledger

Architect	003	Approved Extension	1980	<b>3</b>
Owner	002	20K Improvement	1980	<b>••••</b>
Builder	001	Sold to Owner 1	1976	<b>••••</b>

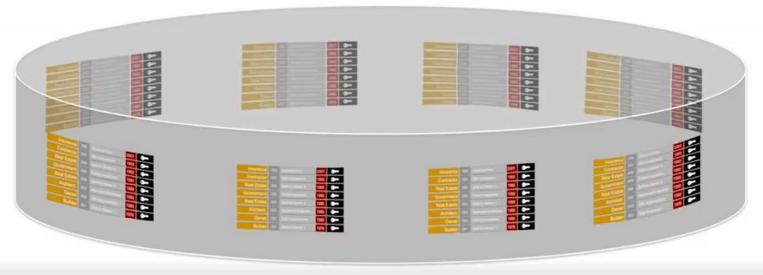
#### Blockchain Ledger



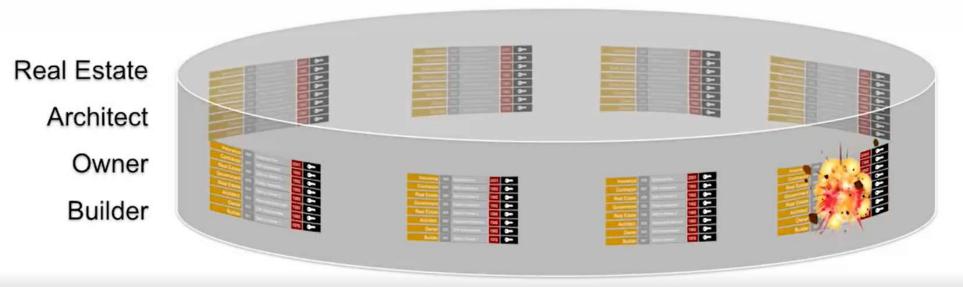


## Blockchain of the industry (community)

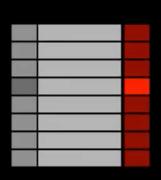




Insurance
Contractor
Real Estate
Government



Insurance
Contractor
Real Estate
Government

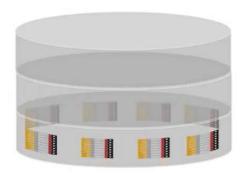


Tamper-able + Centralized

Trust but verify, requiring slow

VS

intermediaries



Immutable + Distributed

Trusted, immediately recorded and easily available

#### The **Economist**

OCTOBER 31ST-HOVEMBER 6TH 2015

Economist.com

Our guide to America's best colleges

Myanmar's free-ish election

Those ever-creative accountants

America takes the fight to IS

Coywolves: the new superpredator

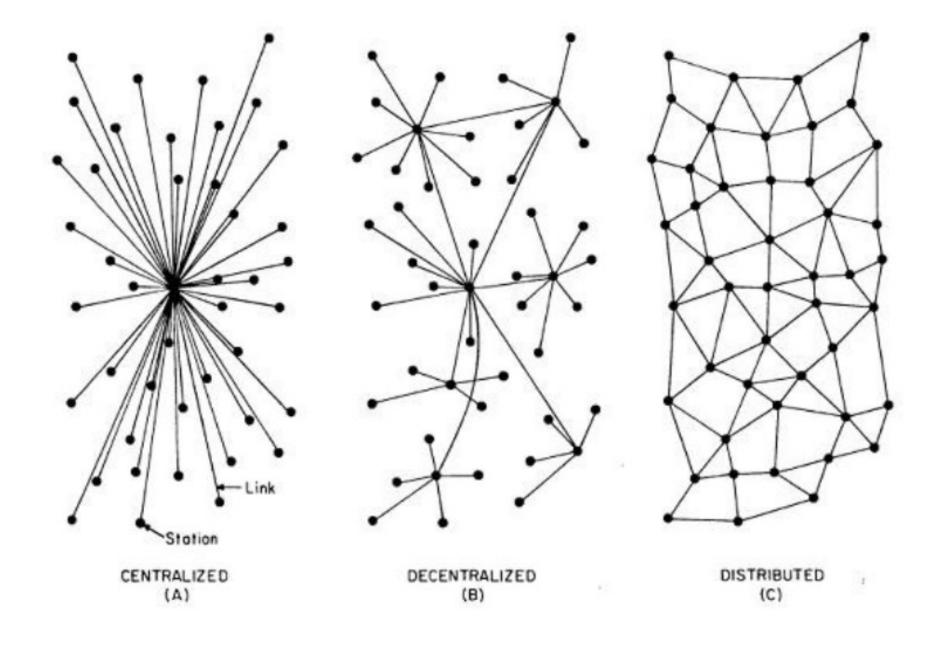
#### The trust machine

How the technology behind bitcoin could change the world



The blockchain helps to record any sort of transaction between parties, in an inviolable way.

## Blockchain = One unique distributed ledger



## Make transactions more trustable



#### How blockchain is changing the future of retail

Published on July 4, 2017



It's almost ten years since you first heard the word 'blockchain'. Conceived in 2008, the blockchain is among those much talked about new developments, but one that you may not have felt the effects of. Yet.

#### **RETAIL**

Logistics

Transparency

Autenticity

Proof of ownership

Warranties

Loyalty

Payments and e-commerce

Services

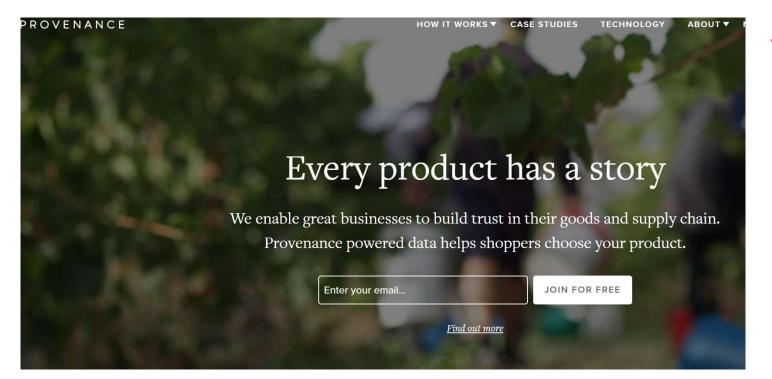




#### **LOGISTICS**

wavebl.com

WAVE is one company tackling the supply chain challenge through blockchain. All members of the supply chain are connected through a decentralised database enabling them to directly exchange documents. This also helps manage and resolve disputes as the blockchain offers irrefutable evidence of what has happened at each point in the chain.



#### **TRANSPARENCY**

provenance.org

It can help customers see where their food was grown and if it's local or not. They could even check what the individual ingredients are (useful for those with allergies) and the supply chain of those ingredients in turn.





#### **AUTENTICITY**

blockverify.io

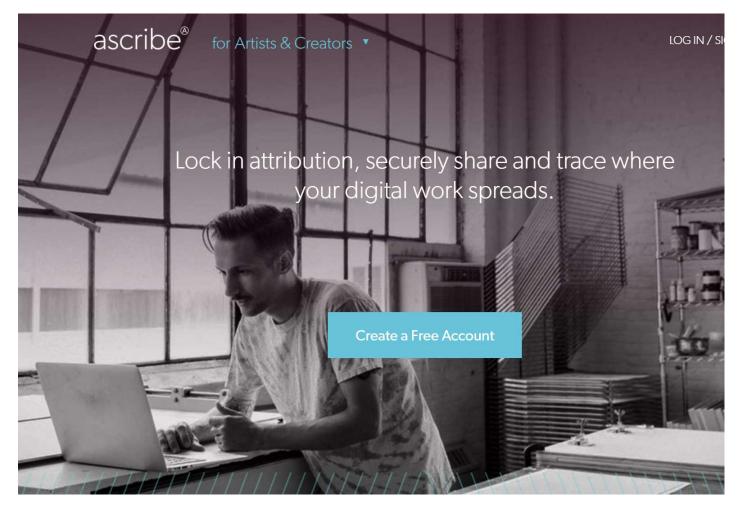
To confirm the authenticity of products by enabling customers to look back through the records for an item. This is particularly useful in the case of luxury goods where counterfeiting is a big problem. Being able to track a product back to its source gives customers the confidence to part with large sums of money as they know it's the real deal.

# Welcome to the digital vault of the future. Everledger is a global startup that uses the best of emerging technology including blockchain, smart contracts and machine vision to assist in the reduction of risk and fraud for banks, insurers and open marketplaces. FIND OUT MORE

#### PROOF OF OWNERSHIP

everledger.io

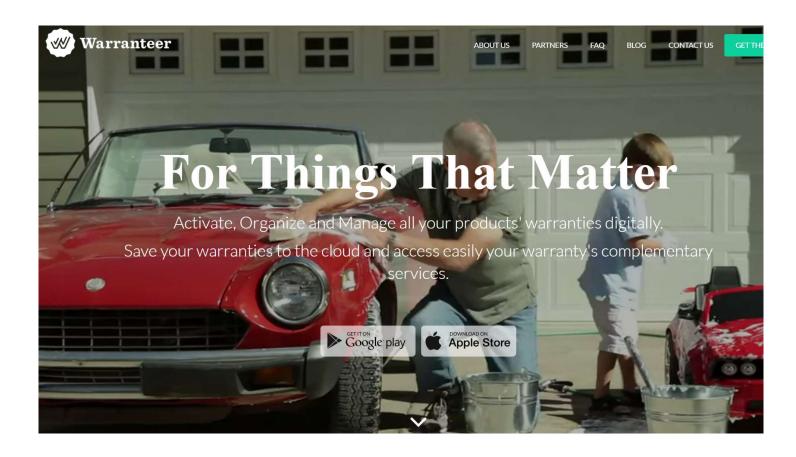
Uses the blockchain to track diamonds, from the mine to the end customer. This permanent ledger ensures that diamonds are certified and reduces the risk of forgery of documents.



#### PROOF OF OWNERSHIP

ascribe.io

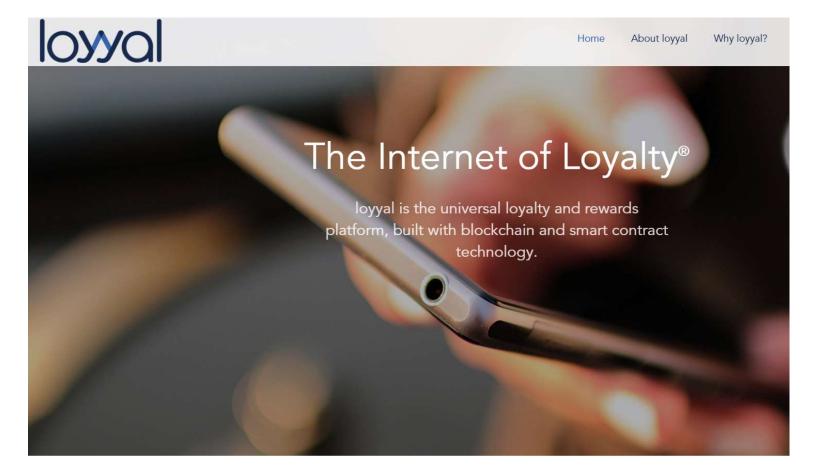
Artists can use the system to issue digital artworks and to register themselves as the creators. It can also track sales of the artwork, meaning that both creator and owner are permanently recorded.



#### **WARRANTIES**

warranteer.com

Help retail with ambitions to go paperless by helping manage product warranties digitally. Warranteer offers customers a digital warranty wallet. They can store all of their warranties in the blockchain.



#### LOYALTY

loyyal.com

A loyalty warranty on the blockchain could also let customers view all of their loyalty information in one place, from all retailers. Loyyal is leading the blockchain loyalty charge. Its system can even deal with multibrand loyalty schemes, such as airline and bank co-rewards.



Smart contracts are self-executing and automatically implement agreed terms – these could be temperature restrictions, timeframe for delivery, date of picking etc.

The terms can be ticked off as being met at each stage of the supply chain. This ensures that the contract is being fully complied with.

These contracts could help retail's supply chains gets smarter, saving time and money.

### Trust the 50B IOT devices in 2020

# Trust the 50B IOT devices in 2020 (trust between us and them And trust between them alone)

## Google: All/any information

## Blockchain: All/any transaction

# Blockchain: All/any event

**OUR VISION** 

Civil is building a newsroom platform using blockchain technology and cryptoeconomics to create an open marketplace for journalists and citizens.

**HOW CIVIL WORKS** 

**SHAREABLE** 

#### Blockchain for education in South Africa: Q&A with Joyce **Zhang from ixo and Amply**



Share on Facebook



**Share on Twitter** 



# 5. Exponential technologies



# What is Singularity University?

Our mission is to educate, inspire and empower leaders to apply exponential technologies to address humanity's grand challenges.

A technology that doubles in capability or performance in each period. Or perhaps on the flip side, it halves in cost in each period. Computers are the example of an Exponential Technology we're all familiar with – doubling every 18 months or so (Moore's Law).

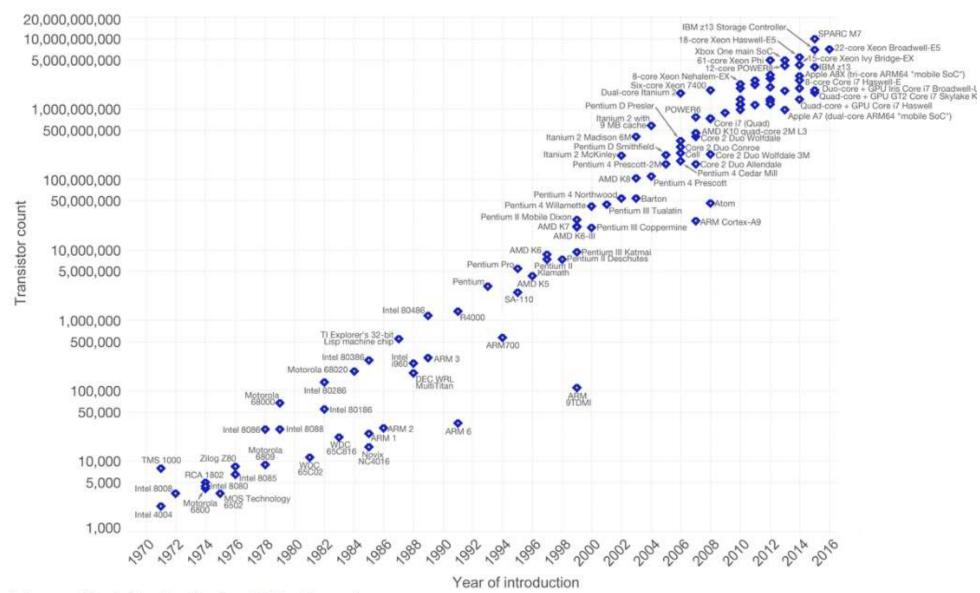
There are many other exponential technologies, like 3D printing, drones, robotics, artificial intelligence, synthetic biology, etc.

The second attribute of an "Exponential Technology": it is a technology that is now at the point where its price-performance makes it possible to be incorporated into solving today's business problems in ways that were not previously possible.

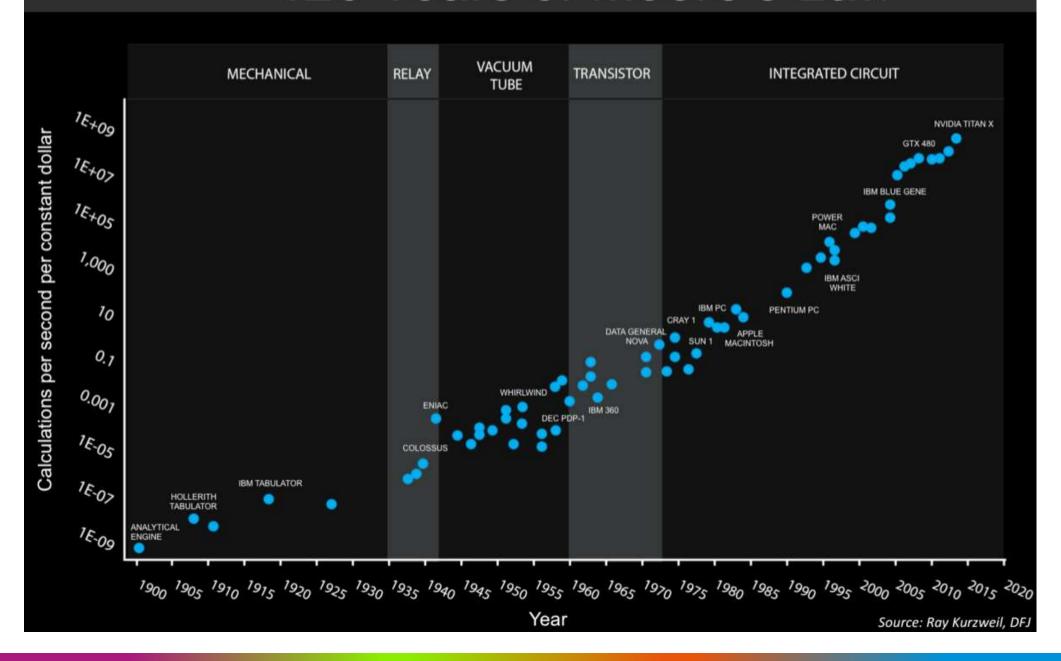
#### Moore's Law – The number of transistors on integrated circuit chips (1971-2016)



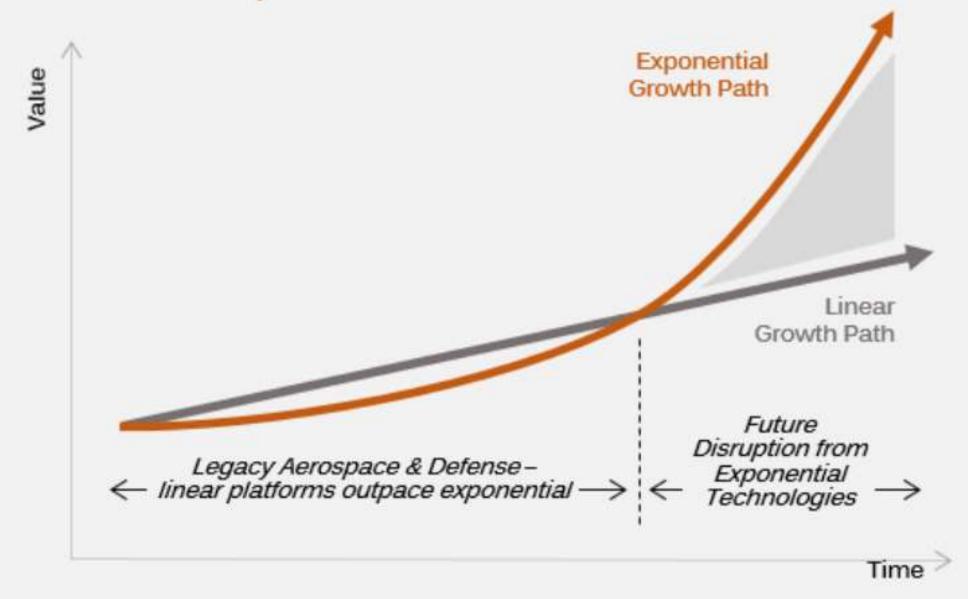
Moore's law describes the empirical regularity that the number of transistors on integrated circuits doubles approximately every two years. This advancement is important as other aspects of technological progress – such as processing speed or the price of electronic products – are strongly linked to Moore's law.

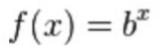


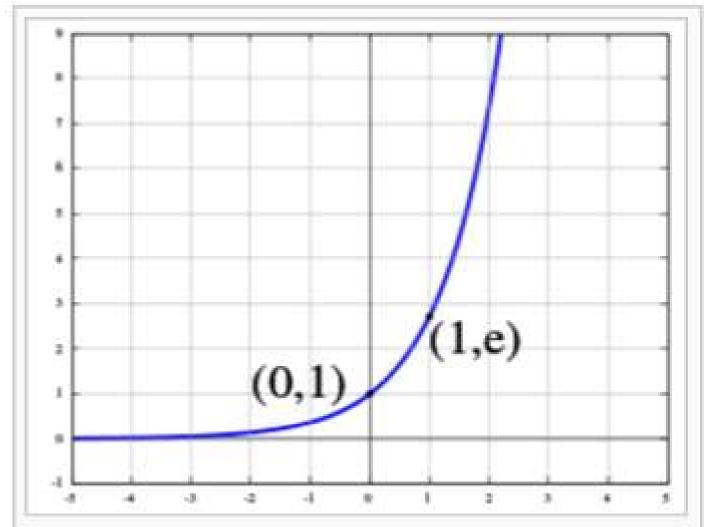
### 120 Years of Moore's Law



#### Linear versus Exponential Growth







 $f(x) = b^x$ 

The natural exponential function  $\Box$   $v = o^{x}$ 

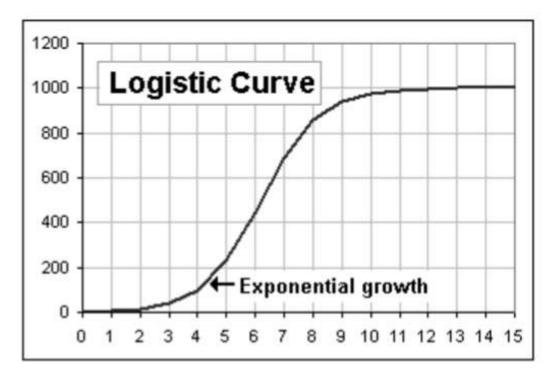




But there are logistic ones. These logistic technologies grow insane amounts YOY (3/5/10) times) until they hit a wall and flat line. Different tech then takes the mantle.



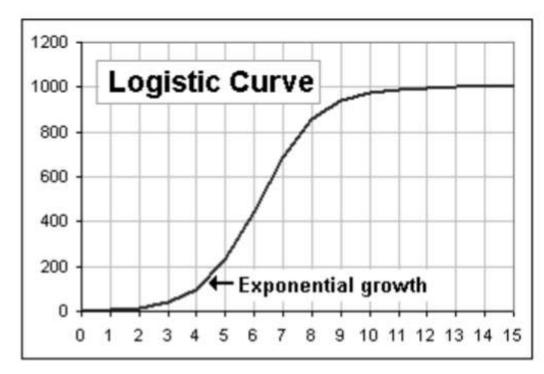
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Written 9 Aug 2013 • View Upvotes



But there are logistic ones. These logistic technologies grow insane amounts YOY (3/5/10) times) until they hit a wall and flat line. Different tech then takes the mantle.

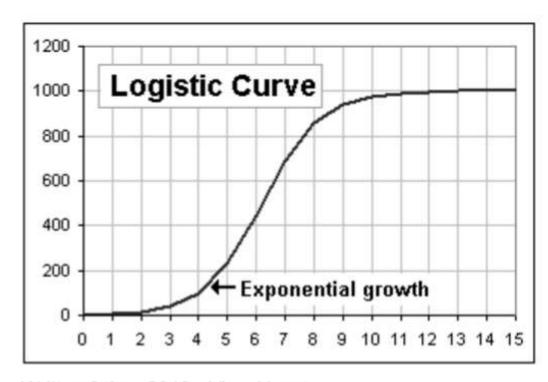


$$f(x) = \frac{L}{1 + e^{-k(x - x_0)}}$$

Written 9 Aug 2013 • View Upvotes

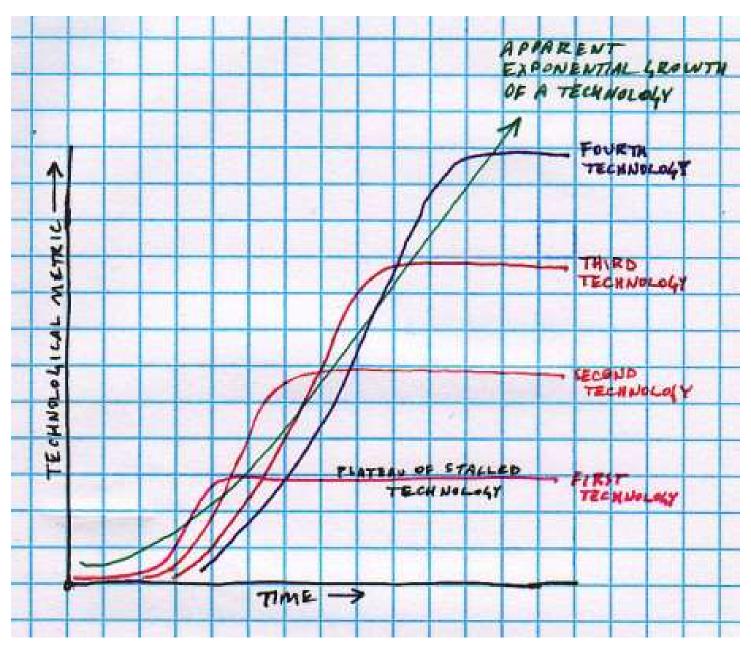


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$$f(x) = \frac{L}{1 + e^{-k(x - x_0)}}$$

The initial stage of growth is approximately exponential; then, as saturation begins, the growth slows, and at maturity, growth stops.



geopolicraticus.wordpress.com

# Examples of "exponential" technologies

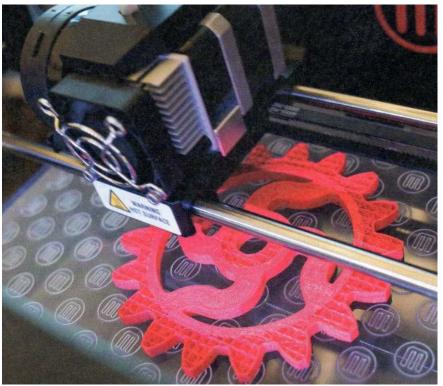
## ROBOTS

# The Guardian

## 3D-PRINTING









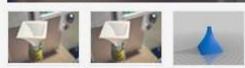
### Misc - Minimal Funnel by Aliceffekt, published Jan 1, 2012



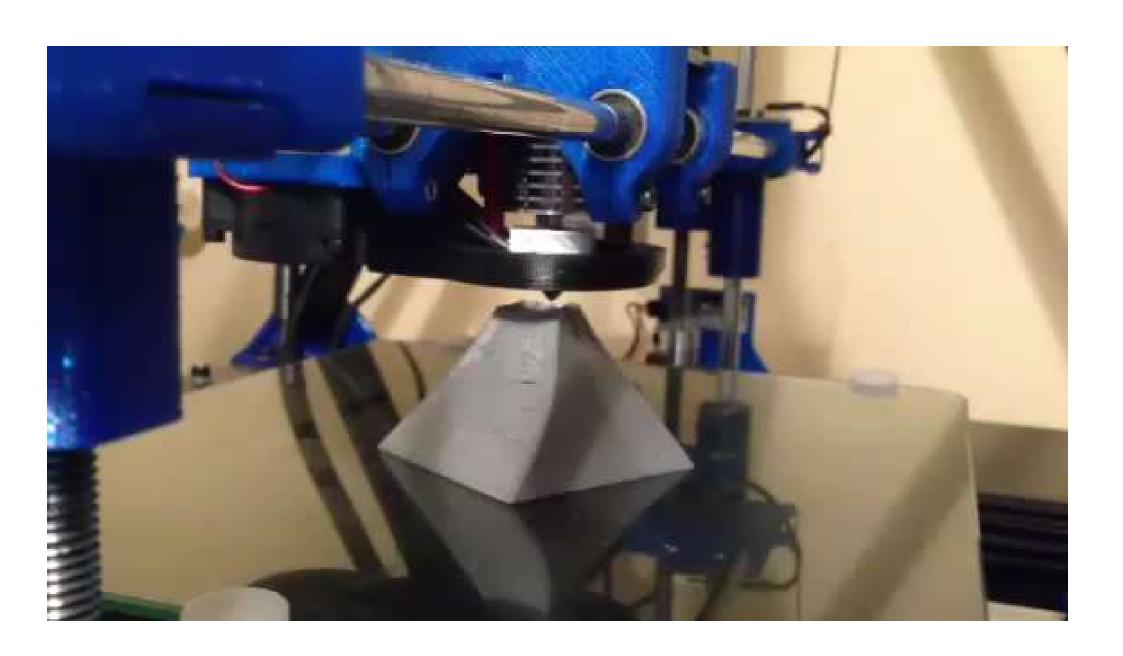
<b>♥</b> Like	66
♠ Collect	82
Comment	4
☑ I Made One	4
ℷℷℷ Remix It	0
	lbs.

**L** Download This Thing!















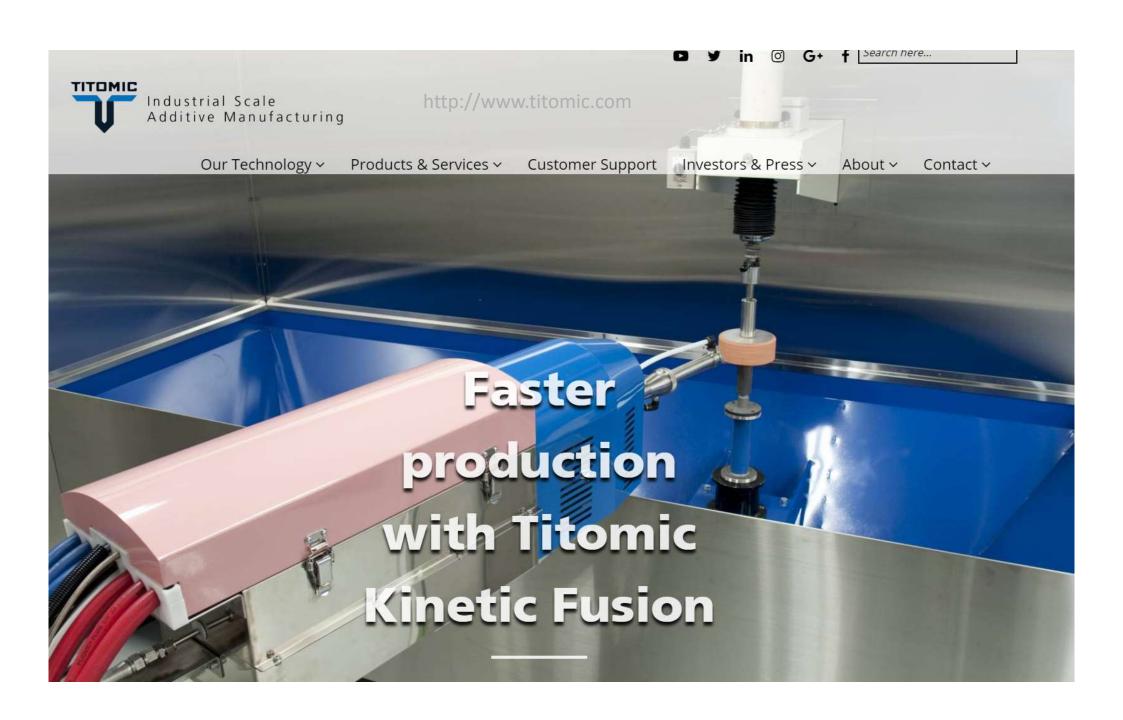
An Australian company says it has developed the world's largest and fastest metal 3D printer — which can print metal bike frames in around 25 minutes



#### Australian company develops world's largest 3D printer

Titomic's bus-sized device adds scale to technology that is transforming manufacturing

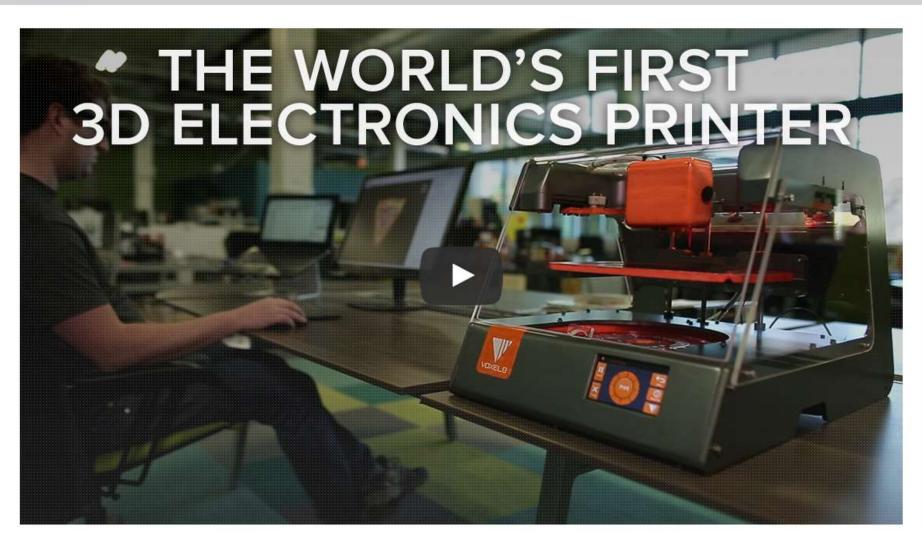
ft.com



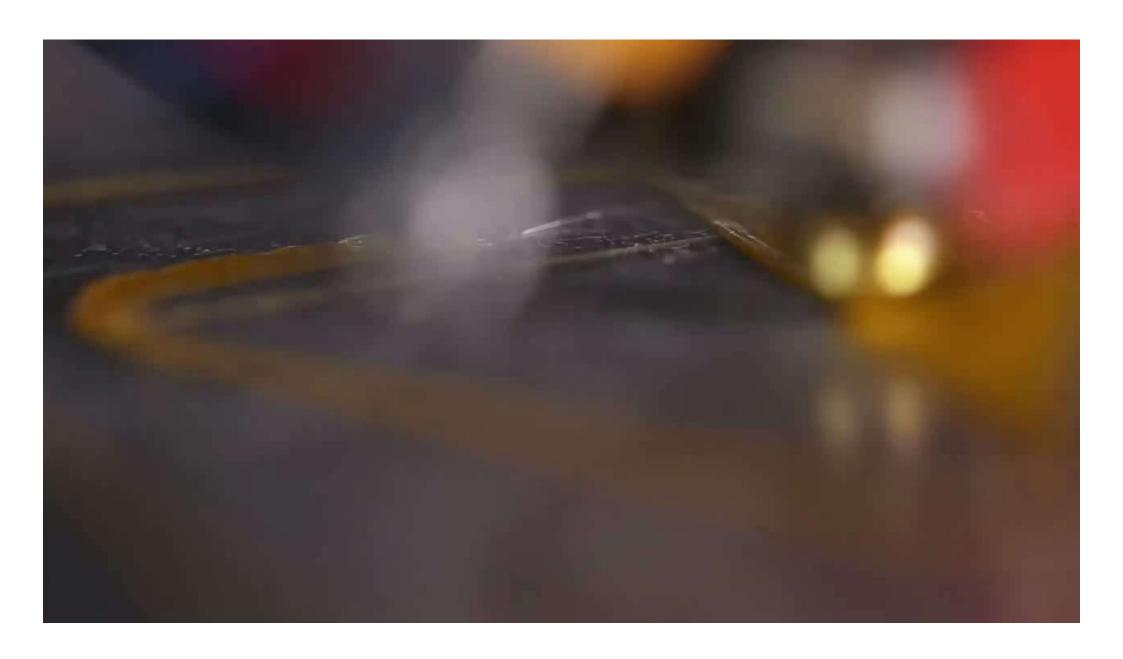








voxel8.co







4D Printing: Cube Self-Folding Strand

from Self-Assembly Lab, MIT PLUS 2 years ago MOT YET HATED

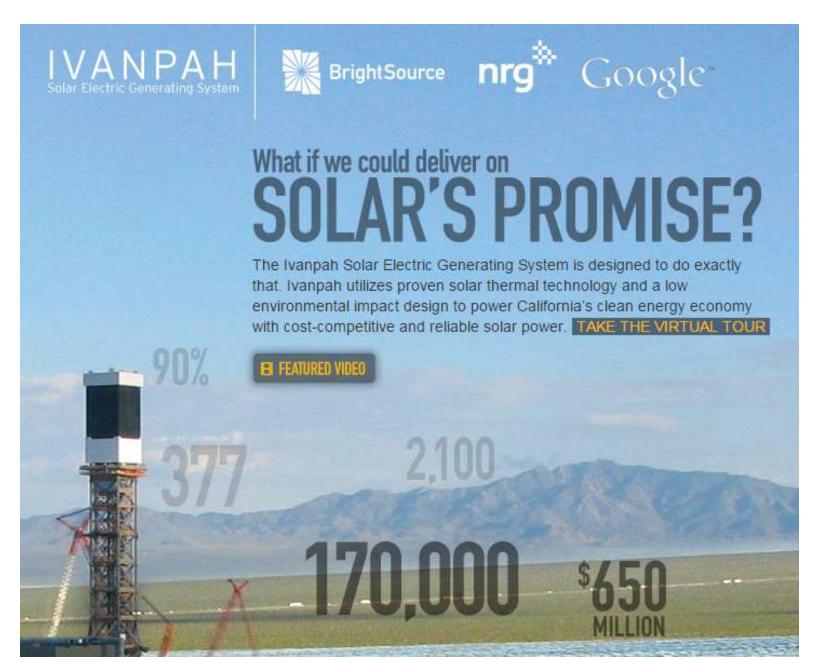


## **SOLAR**

#### **LET IT SHINE**

#### 2016 was the year solar panels finally became cheaper than fossil fuels. Just wait for 2017





ivanpahsolar.com

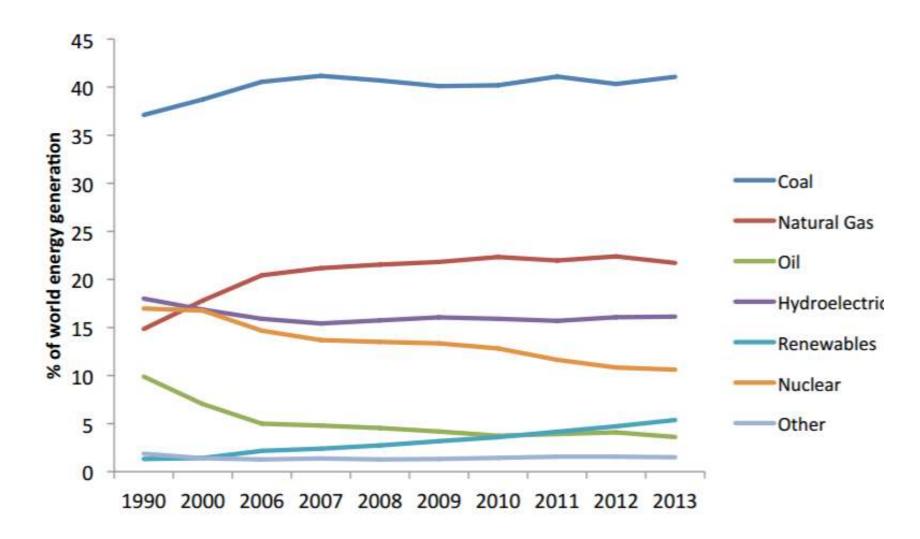


ivanpahsolar.com

# BENEFITS COMPARED TO RIGID SOLAR INCLUDE:



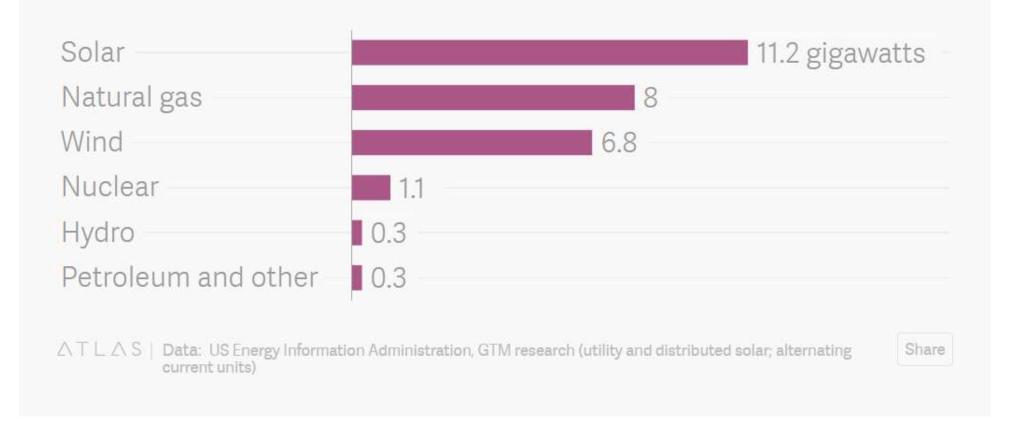
# World Energy Matrix



Source: World Bank

# **USA**

# New electrical generation capacity scheduled to go online in 2016

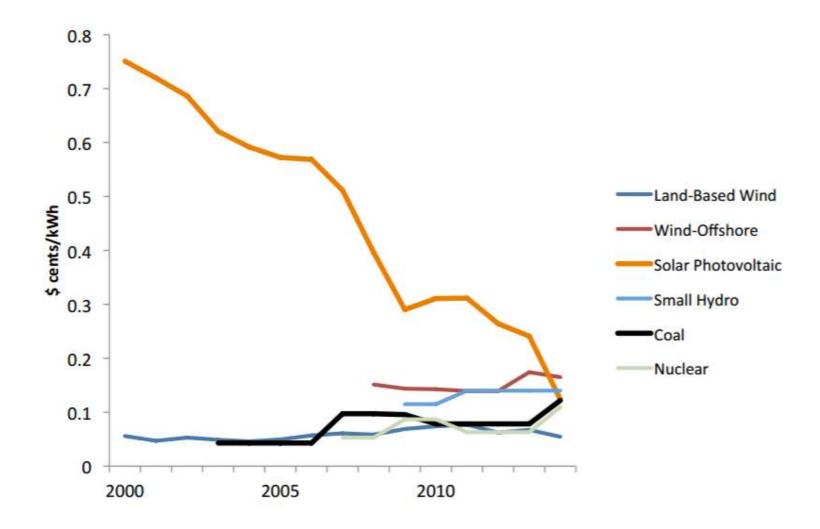


# Energy demand will grow... But more slowly...

How much energy is used to produce each unit of GDP

# Energy intensity: $Ei_{2050} = \frac{1}{2} Ei_{2013}$

# Levelized Cost of Energy (World Average)

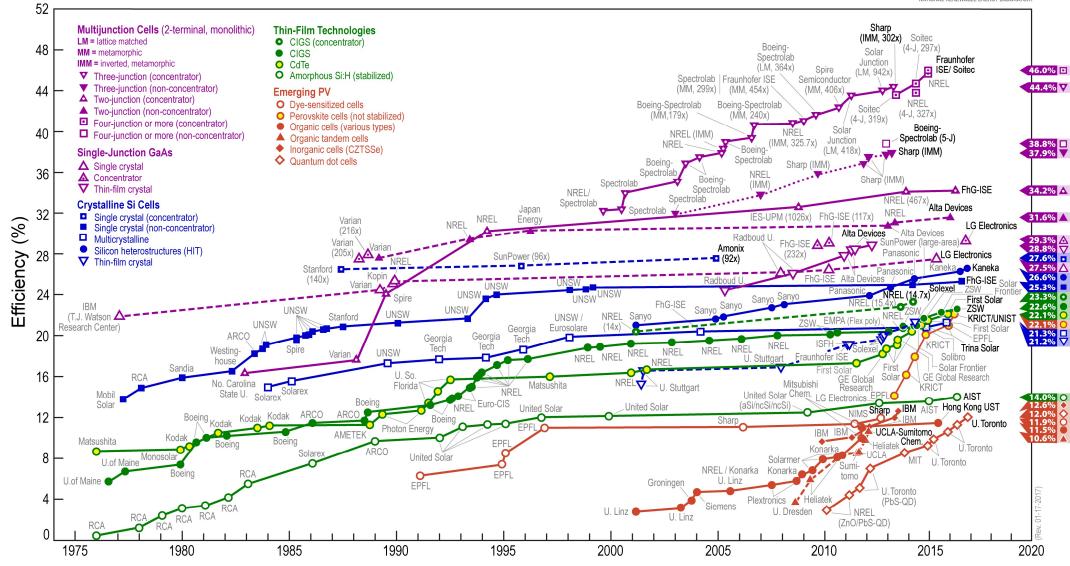


Source: OpenEl, Transparent Cost Database

# China: the biggest producer of solar energy (2015), more than Germany

## **Best Research-Cell Efficiencies**





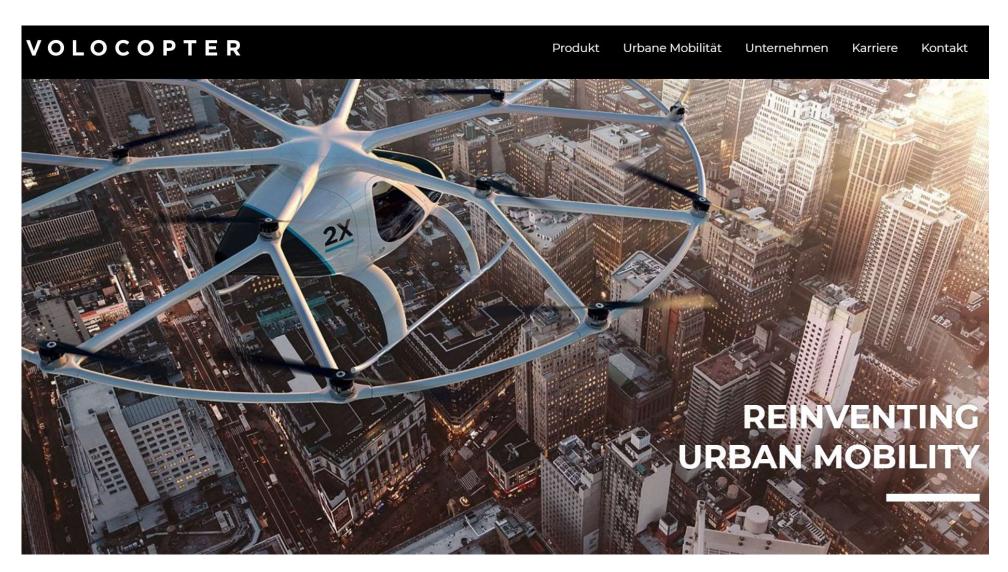
# **DRONES**

# Building Tensile Structures with Flying Machines

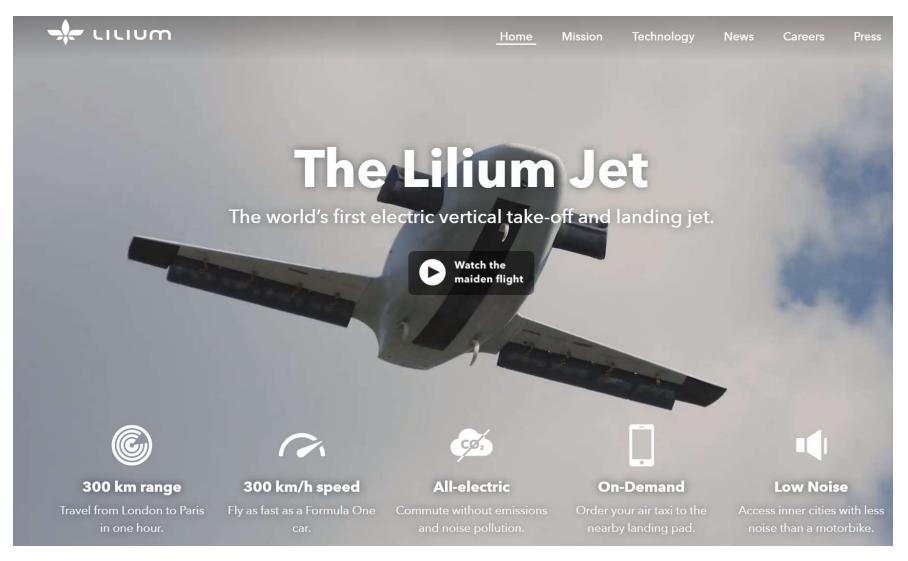








volocopter.com



lilium.com



lilium.com





# SYNTHETIC BIO

### Data and medicine

# A revolution in health care is coming

Welcome to Doctor You



Print edition | Leaders >

Feb 1st 2018

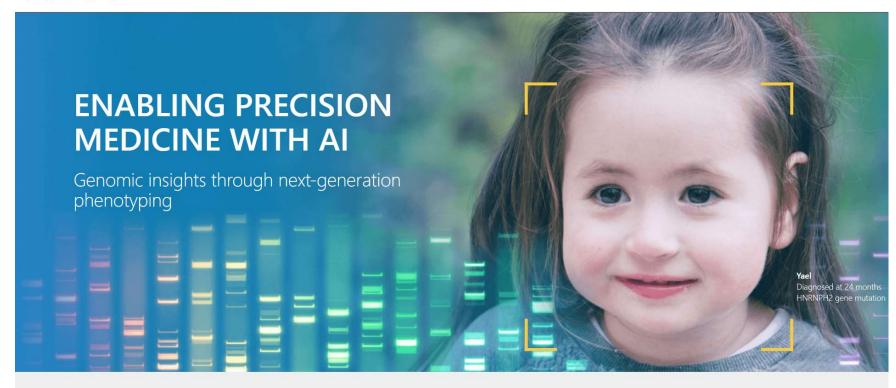












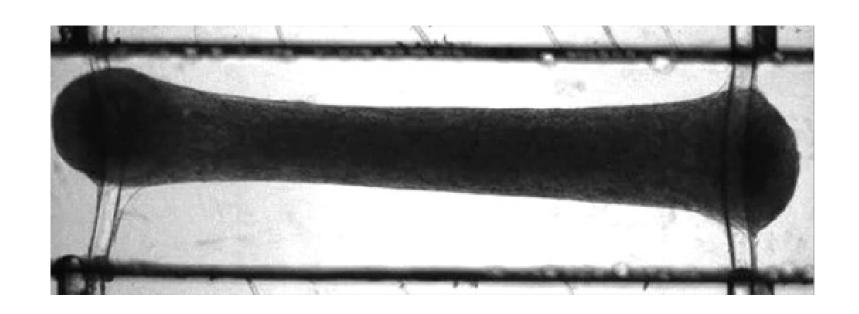
6

We use artificial intelligence to detect physiological patterns that reveal disease-causing genetic variations. With the world's largest network of clinicians, labs and researchers creating one of the fastest growing and most comprehensive genomic databases, FDNA is changing the game for precision medicine.



# **VISION**

TARA is dedicated to pioneering predictive cardiac tissue models that enable faster, safer, and more reliable development of new medicines. Safer and more effective new medicines that rapidly make it to market means better health and longer life, and we believe that's great for people everywhere.



tarabiosystems.com

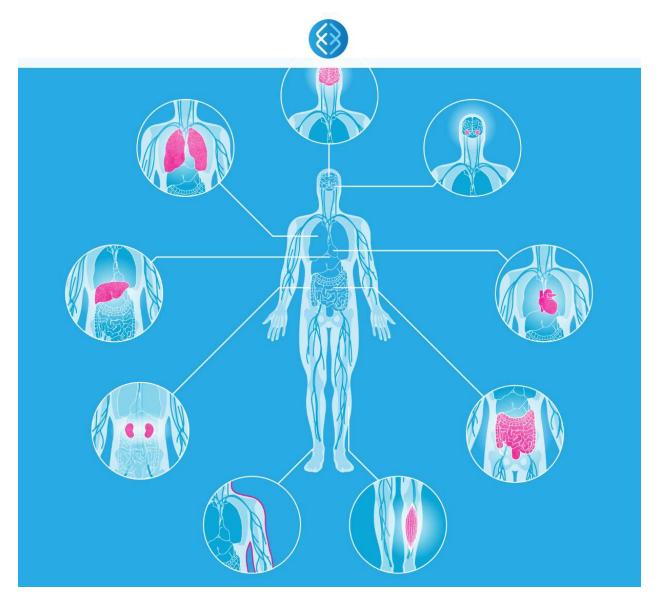


We emulate human biology to understand how diseases, medicines, chemicals, and foods affect human health

emulatebio.com



emulatebio.com



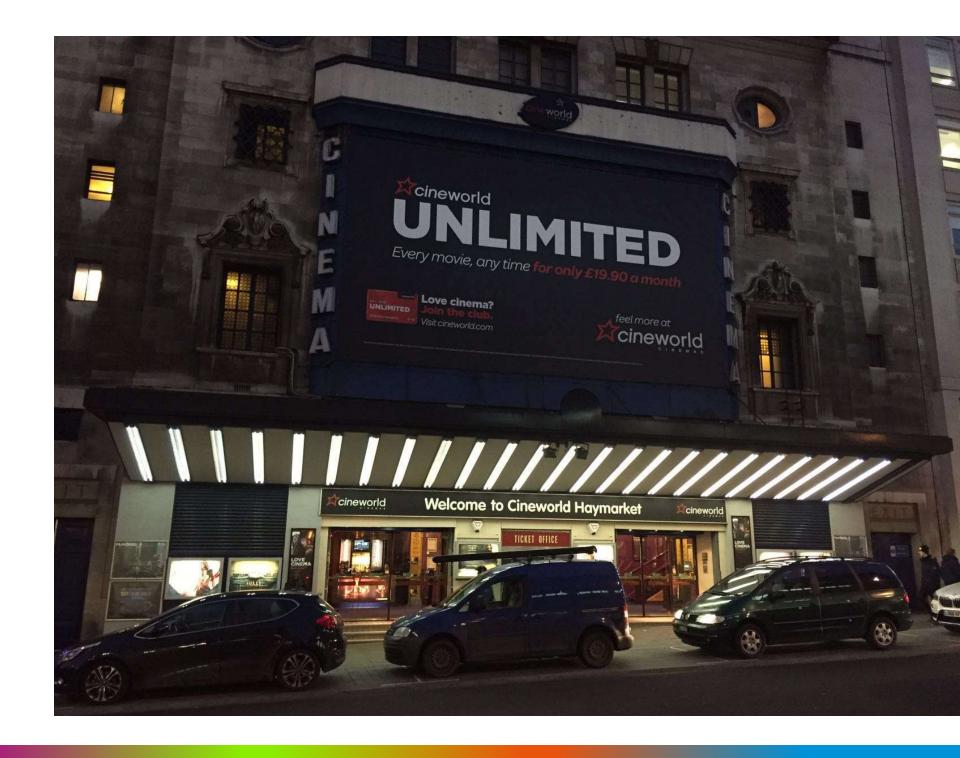
emulatebio.com

# 6. Elements of value



# Uniqlo Is Launching An Airport Clothing Vending Machine For Travelers







# CONSEGUIR EL ESTILO QUE TE GUSTA NUNCA FUE TAN FÁCIL

# "VISTE LO QUE VISTE"

### ACERCA DE NOSOTROS

La red social donde los amantes de la moda pueden encontrar todo lo que siempre han deseado.



/about

# Descubre el estilo que te inspira

Sigue a tus amigos e influencers favoritos, mantente al día de las últimas tendencias y descubre las prendas que más se llevan.

### YA SON BUTTONERS...



alexdomenec



lauraescanes



mariapombo



cristinamusacchio



gigi\_vives



ravottimartina





# The Elements of Value

Measuring—and delivering—what consumers really want

BY ERIC ALMQUIST, JOHN SENIOR, AND NICOLAS BLOCH

### Social impact



# Maslow +

SELF-TRANSCENDENCE

Life changing





PROVIDES HOPE

SELF-ACTUALIZATION







MOTIVATION

HEIRLOOM

AFFILIATION/ BELONGING

### **Emotional**











REDUCES ANXIETY **REWARDS ME** 

NOSTALGIA

DESIGN/ AESTHETICS

BADGE VALUE









WELLNESS

THERAPEUTIC VALUE

FUN/ ENTERTAINMENT

**ATTRACTIVENESS** 

PROVIDES ACCESS

### **Functional**















SIMPLIFIES



REDUCES RISK

ORGANIZES

INTEGRATES

CONNECTS















REDUCES EFFORT

AVOIDS HASSLES

REDUCES

QUALITY

VARIETY

SENSORY APPEAL

INFORMS



# Maslow +

SELF-TRANSCENDENCE

Life changing





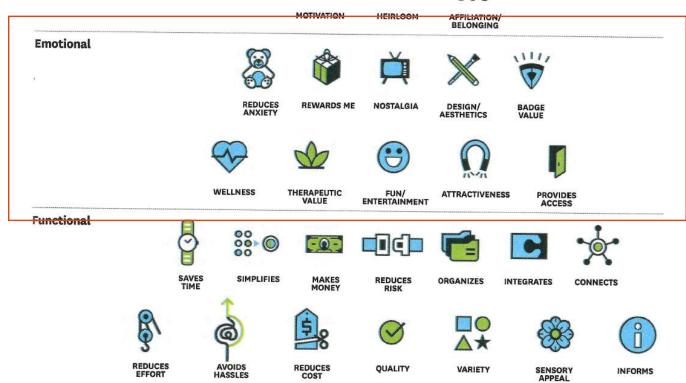
PROVIDES HOPE

SELF-ACTUALIZATION





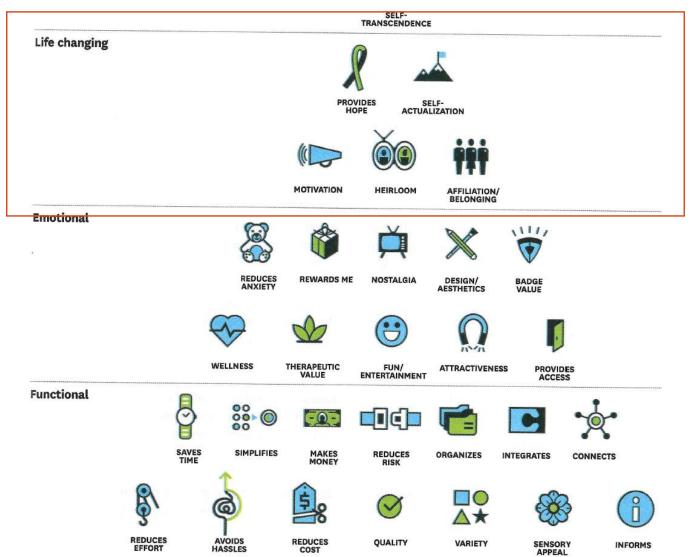




#### Social impact



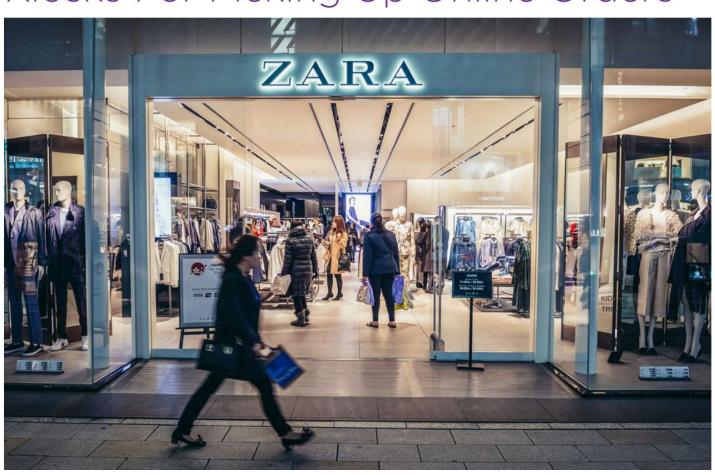
#### Maslow +



psfk

Retail Advertising Design

#### Zara Is Introducing Self-Service Kiosks For Picking Up Online Orders







Catego: ▼ Cerca a tota la botiga...

INICI

**BOSSES** 

BABAU



LA MEVA CISTELLA 0,00€

### **LLUM INTERIOR**

Sabies que la dona perd més de 50 dies de la seva vida buscant dins les seves bosses?









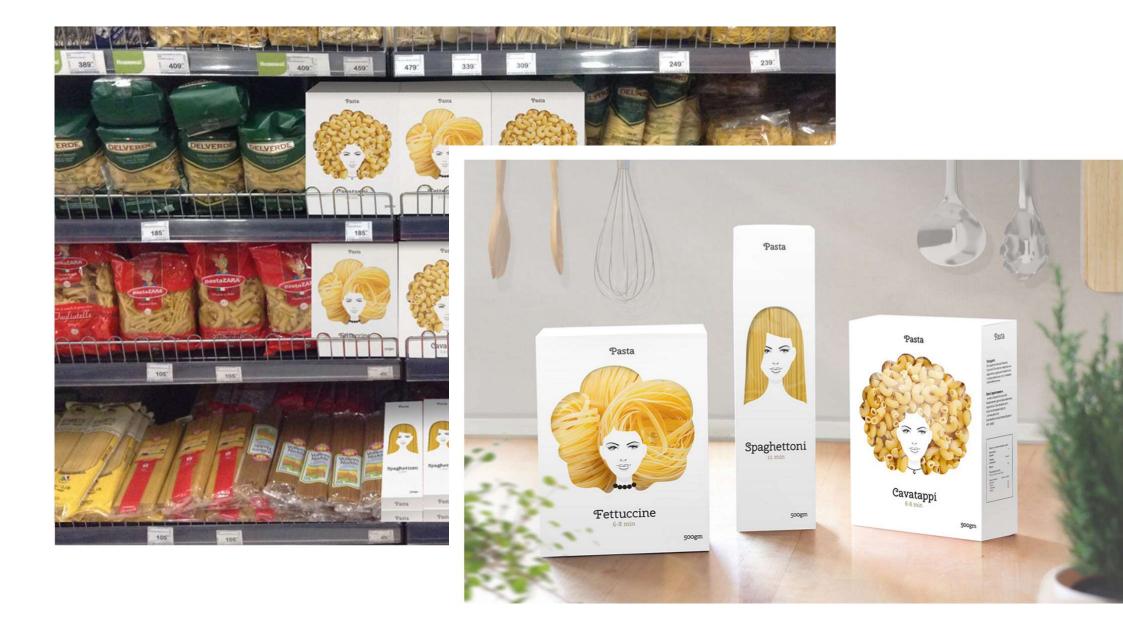




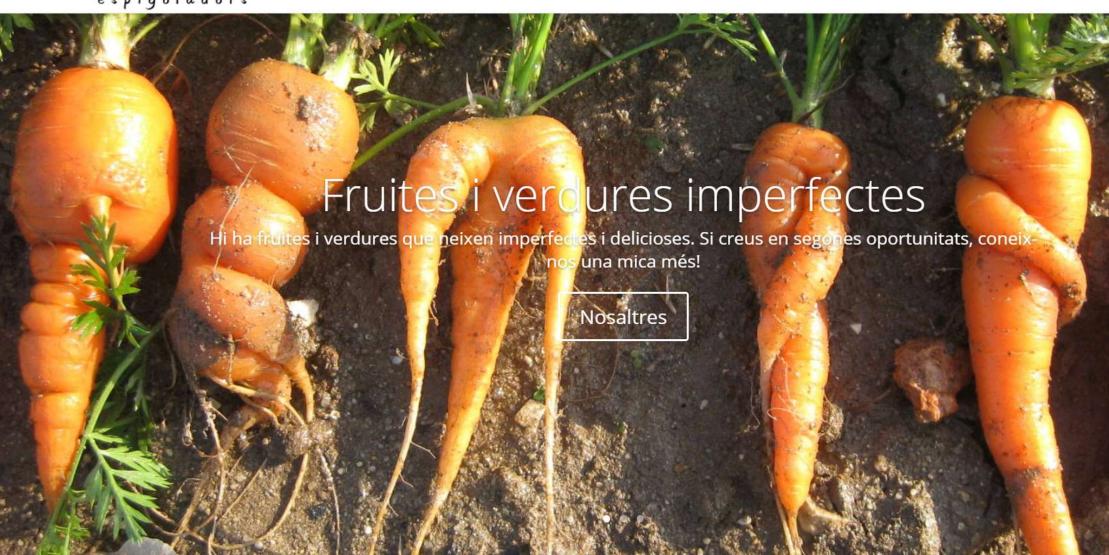
PRODUKTER PROFIL PROCES HANDELSBETINGELSER KONTAKT GALLERI



1 2 3









ACCOMMODATION

RECYCLING

**DAILY LIFE** 

## Giving furniture a second life with IKEA

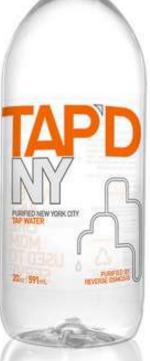
IKEA offers the "Second Life for Furniture" service to customers. They can bring old IKEA furniture to a store and exchange it for a voucher. This service has been rolled out to all French stores (except Vélizy) since 1 January 2014. The purpose of this service is to help consumers adopt a sustainable and responsible lifestyle while saving money. It also encourages the reuse of furniture, maximising the life of IKEA products.







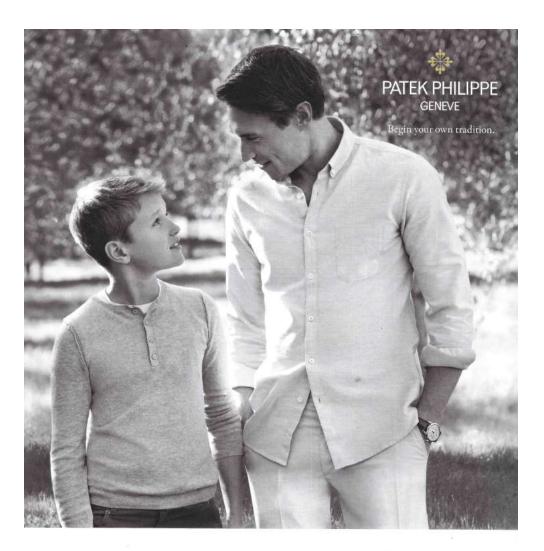










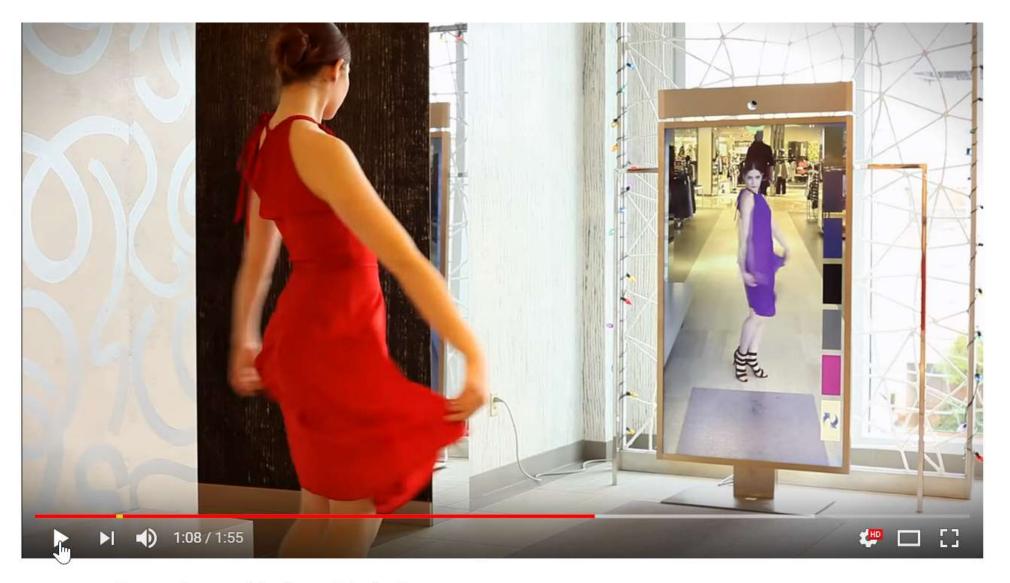


You never actually own a Patek Philippe.

You merely look after it for the next generation.



Chronograph Ref. 5170G patek.com



Memory Mirror - The World's first Digital Mirror

http://memorymirror.com/

153



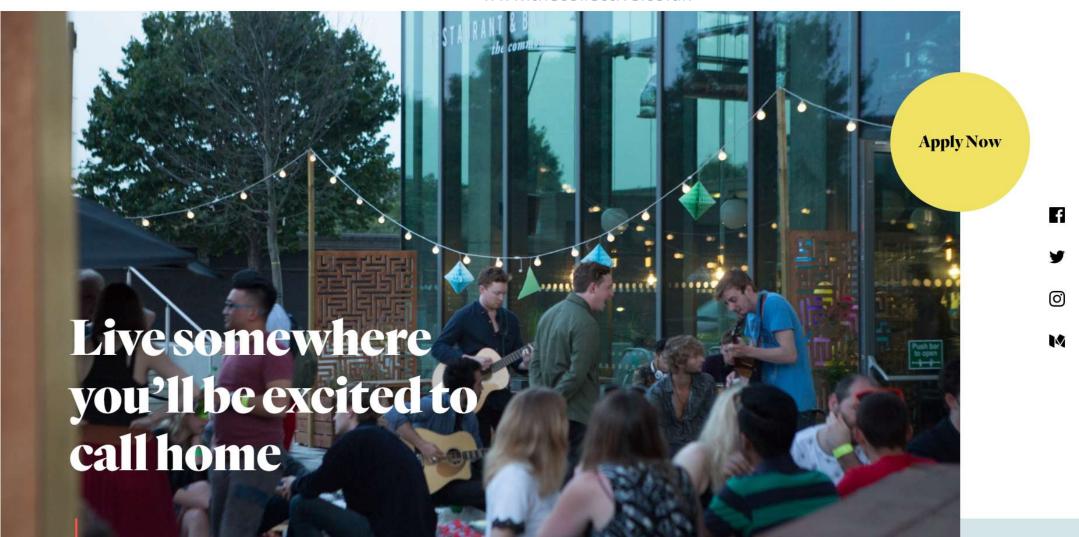




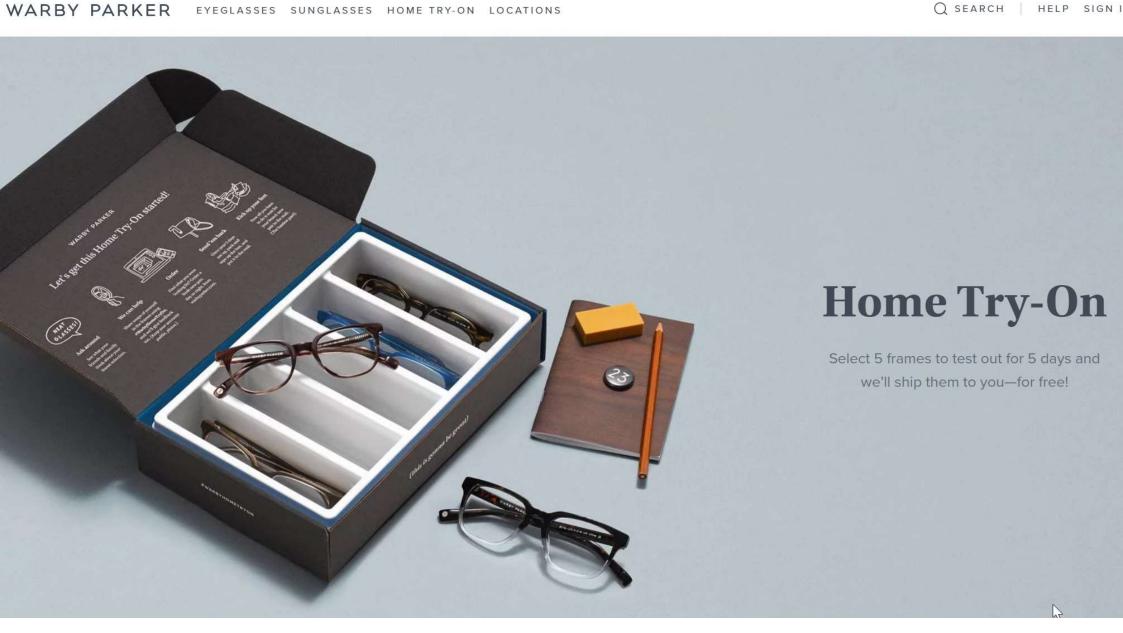




www.thecollective.co.uk



HELP SIGN I



# With your help, we've distributed over three million pairs of glasses to people in need.

Watch the video











# Donate to Victims of the Las Vegas Tragedy & Zappos Will Match Up to \$1M.

**LEARN MORE** 

**Now Trending** 

h

What customers value in products varies by industry. Here are the top five elements influencing loyalty for 10 types of businesses.

#### APPAREL RETAIL

QUALITY
VARIETY
AVOIDS HASSLES
DESIGN/AESTHETICS
SAVES TIME

#### DISCOUNT RETAIL

QUALITY VARIETY REDUCES COST SAVES TIME REWARDS ME

#### **GROCERY**

QUALITY VARIETY SENSORY APPEAL REDUCES COST REWARDS ME

#### **FOOD AND BEVERAGES**

QUALITY SENSORY APPEAL VARIETY DESIGN/AESTHETICS THERAPEUTIC VALUE

#### **SMARTPHONES**

QUALITY REDUCES EFFORT VARIETY ORGANIZES CONNECTS

#### TV SERVICE PROVIDERS

QUALITY
VARIETY
REDUCES COST
DESIGN/AESTHETICS
FUN/ENTERTAINMENT

#### **CONSUMER BANKING**

QUALITY
PROVIDES ACCESS
HEIRLOOM
AVOIDS HASSLES
REDUCES ANXIETY

#### **BROKERAGE**

QUALITY
MAKES MONEY
HEIRLOOM
VARIETY
PROVIDES ACCESS

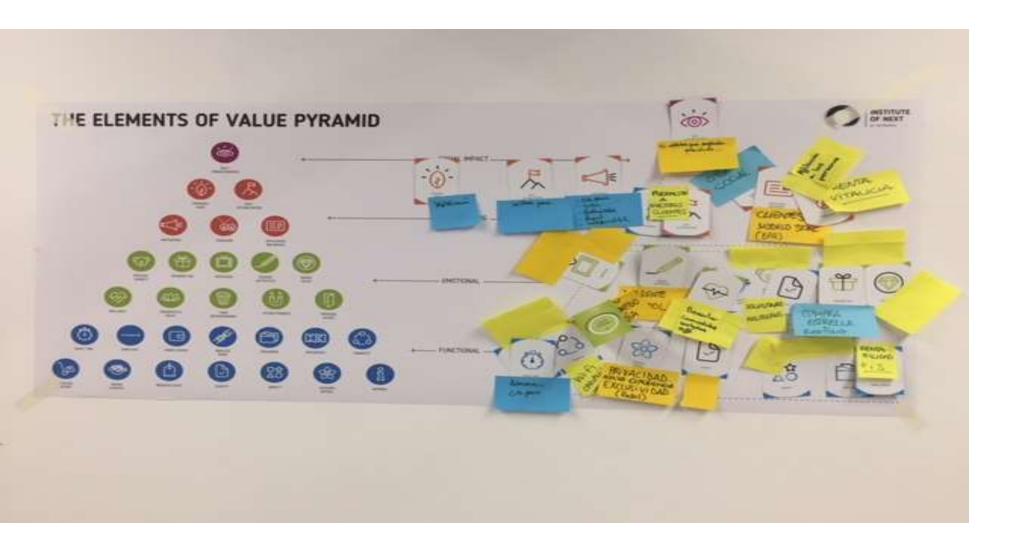
#### **AUTO INSURANCE**

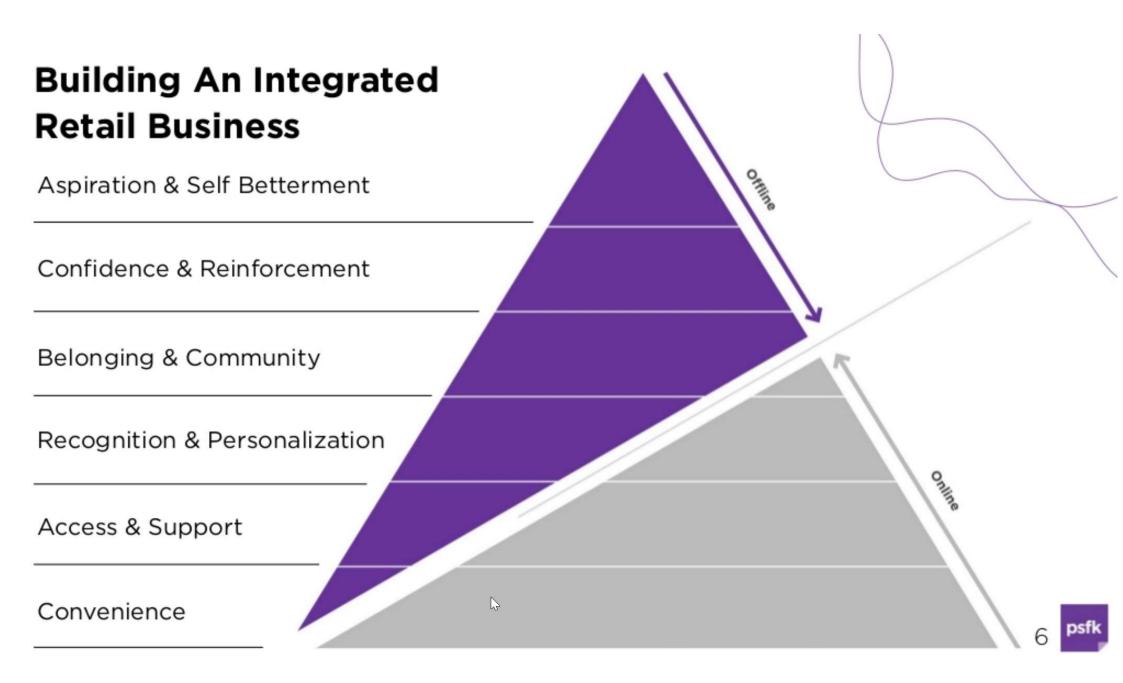
QUALITY REDUCES ANXIETY REDUCES COST PROVIDES ACCESS VARIETY

#### **CREDIT CARDS**

QUALITY REWARDS ME HEIRLOOM AVOIDS HASSLES PROVIDES ACCESS







PURPOSE

INSPIRATIONAL VALUE







CAREER







INDIVIDUAL VALUE









PRODUCTIVITY







ACCESS































**OPERATIONAL** 





























PERFORMANCE











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ILLUSTRATION BY NIK SCHULZ

## Your conclusions

## The workshop

¿Qué temas/tecnologías serán más relevantes en el mundo en +5?

# ¿Qué temas/tecnologías ofrecen más oportunidades para TU CIUDAD en +5?

## ¿En qué temas te interesaría participar?



## INSTITUTE OF NEXT

BY INFONOMIA

Business
Transformation
Services