



**UNIVERSITÀ**  
**DI TORINO**

**From data to decisions**

**Ph.D Luca Giraldi**

Data - driven economy  
into the digital transformation age

Hans Rosling



## Hans Rosling test

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Sri Lanka

Poland

Malaysia

Pakistan

Thailand

Turkey

South Korea

Russia

Vietnam

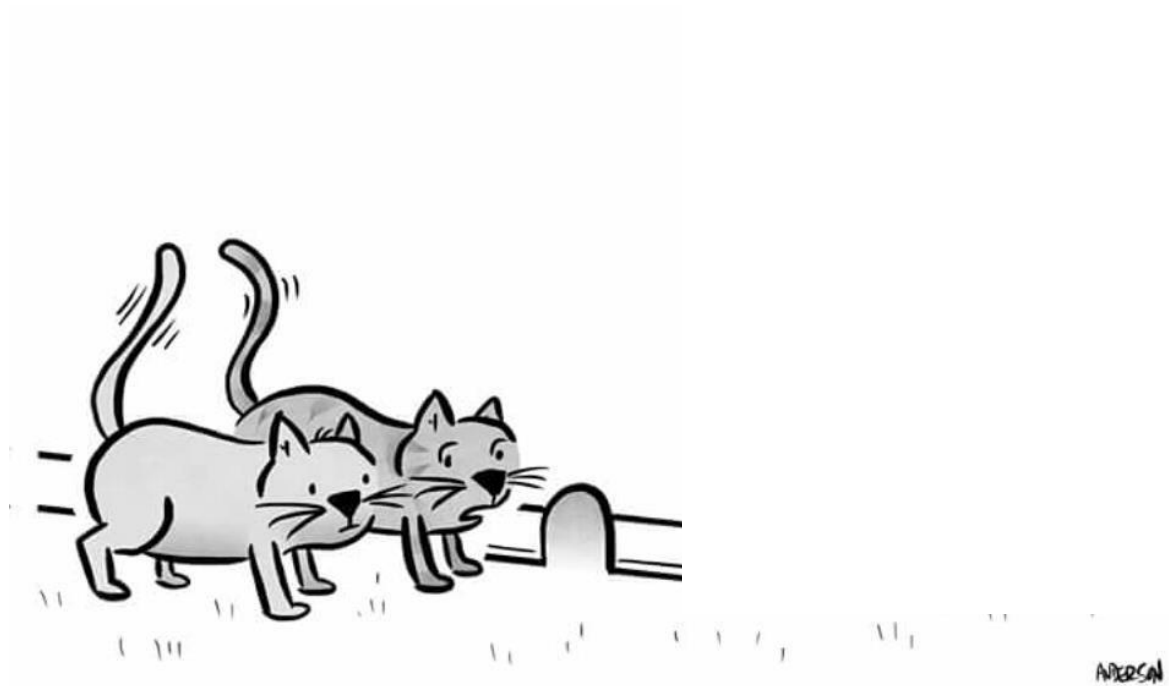
South Africa

## HANS ROSLING TEST

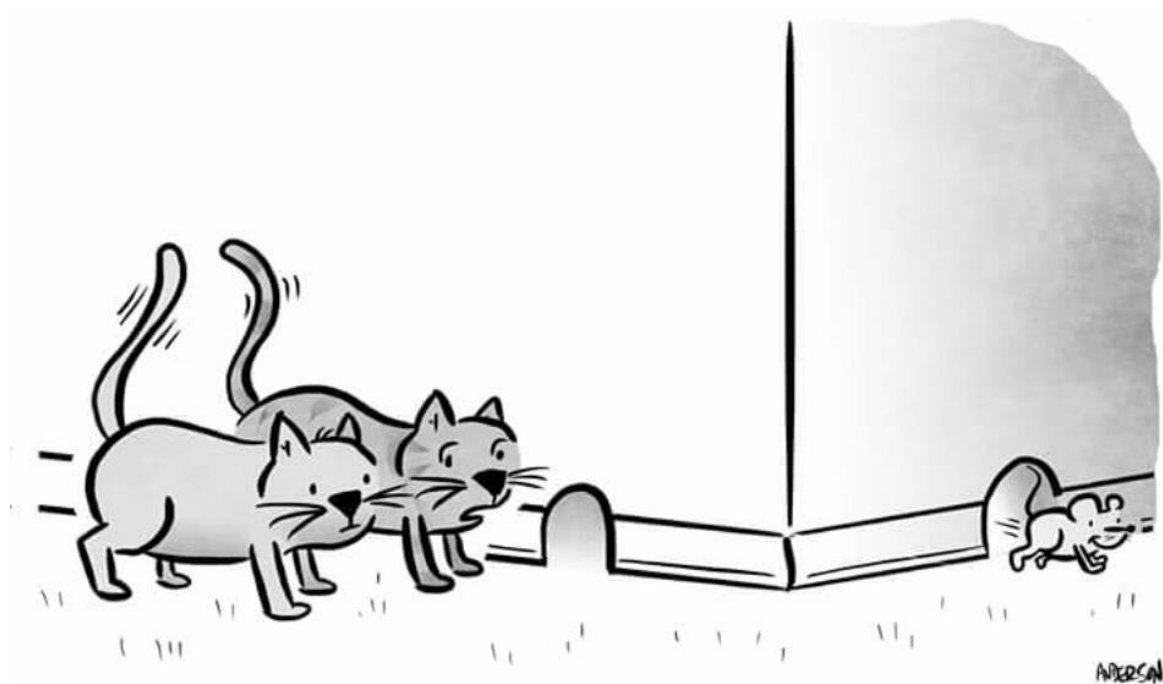


“When it come to data, never work  
with **preconceptions**”

<https://www.youtube.com/watch?v=Sm5xF-UYgdg>



"According to our current predictive analytics solution, the mouse should be exiting from this hole in 3... 2... 1..." #betterdata

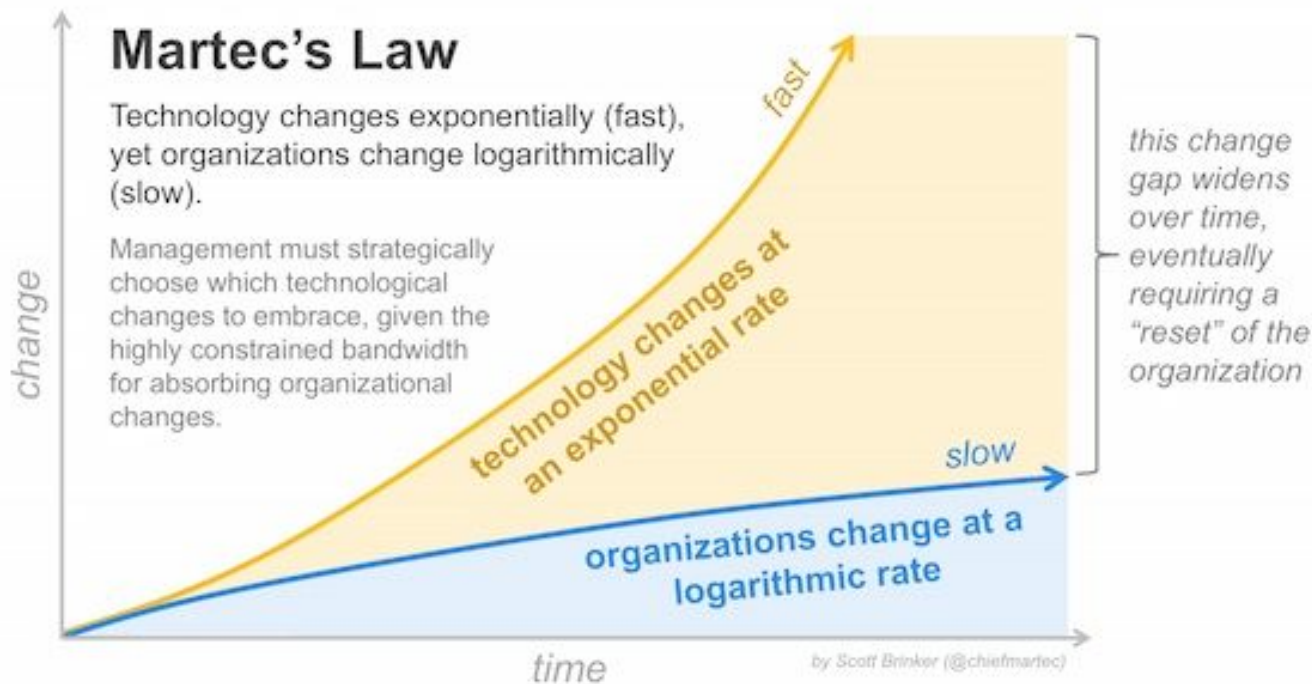


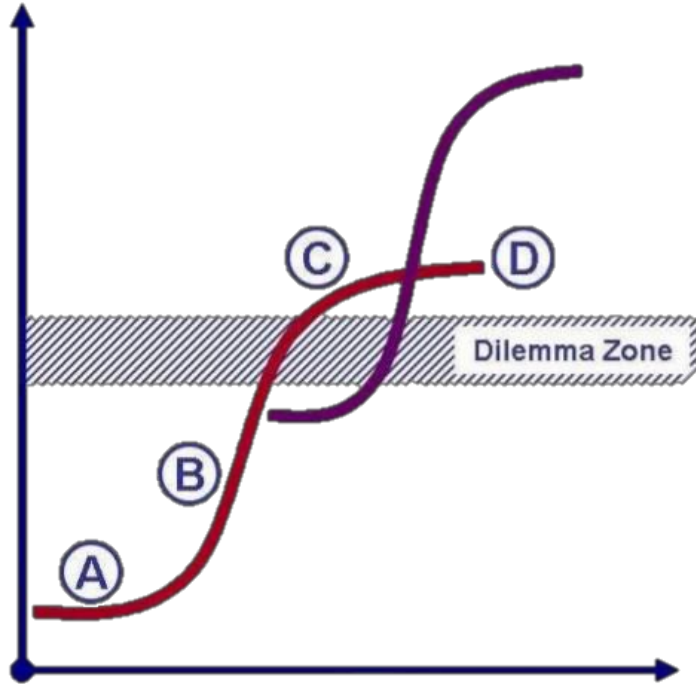
"According to our current predictive analytics solution, the mouse should be exiting from this hole in 3... 2... 1..." #betterdata

## Martec's Law

Technology changes exponentially (fast), yet organizations change logarithmically (slow).

Management must strategically choose which technological changes to embrace, given the highly constrained bandwidth for absorbing organizational changes.





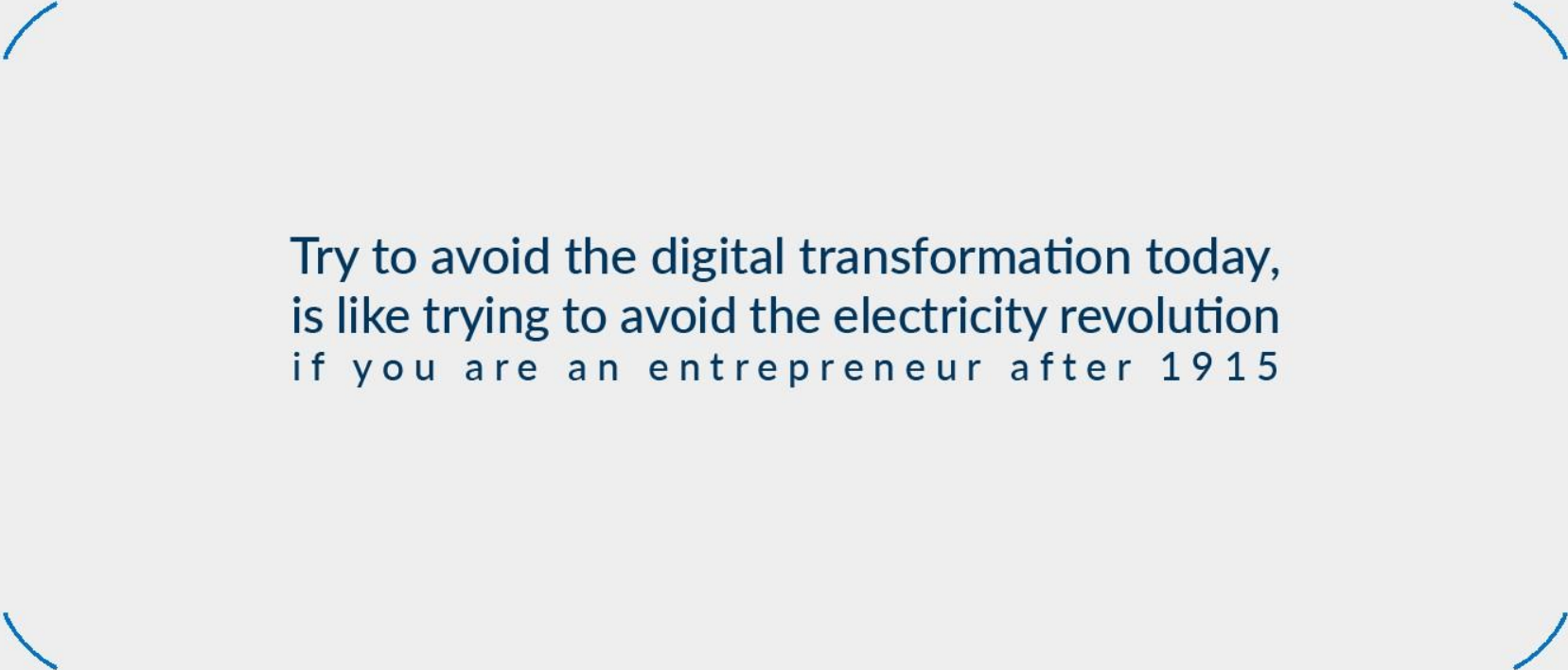
La presa di coscienza che l'azienda deve fare è enorme.

Le nuove tecnologie (tech2) sono rapide, e garantiscono accelerazioni esponenziali e vantaggi competitivi rapidi e schiacciati, ma portano con sé un rischio legato alla loro intrinseca disruptive innovation: se non funzionano crollano.

Le vecchie tecnologie (tech1) sono ormai consolidate e non daranno più il vantaggio disruptive delle nuove innovazioni, ma se ben usate possono comunque garantire incrementi marginali di vantaggio

Allora che fare??



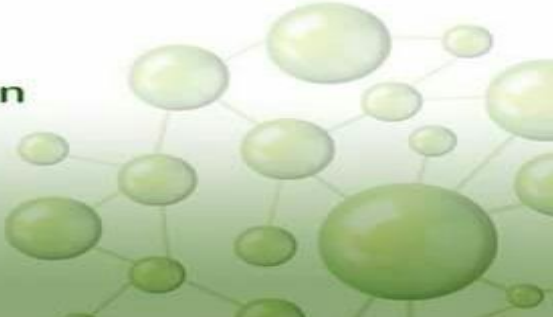


Try to avoid the digital transformation today,  
is like trying to avoid the electricity revolution  
if you are an entrepreneur after 1915

**Il prezzo della luce  
è minore  
del costo dell'oscurità.**

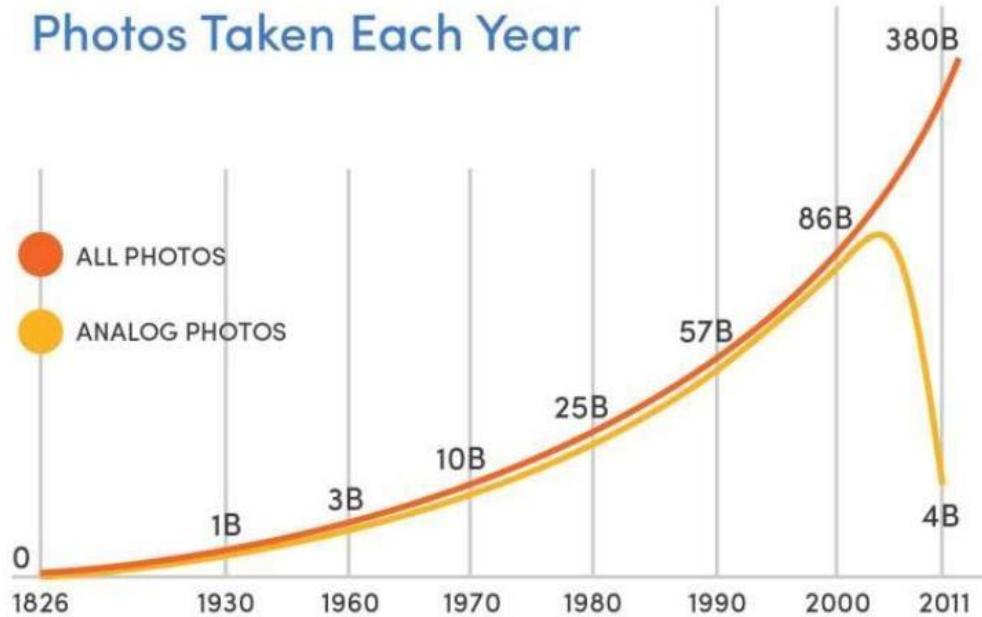


Arthur C. Nielsen





## Photos Taken Each Year



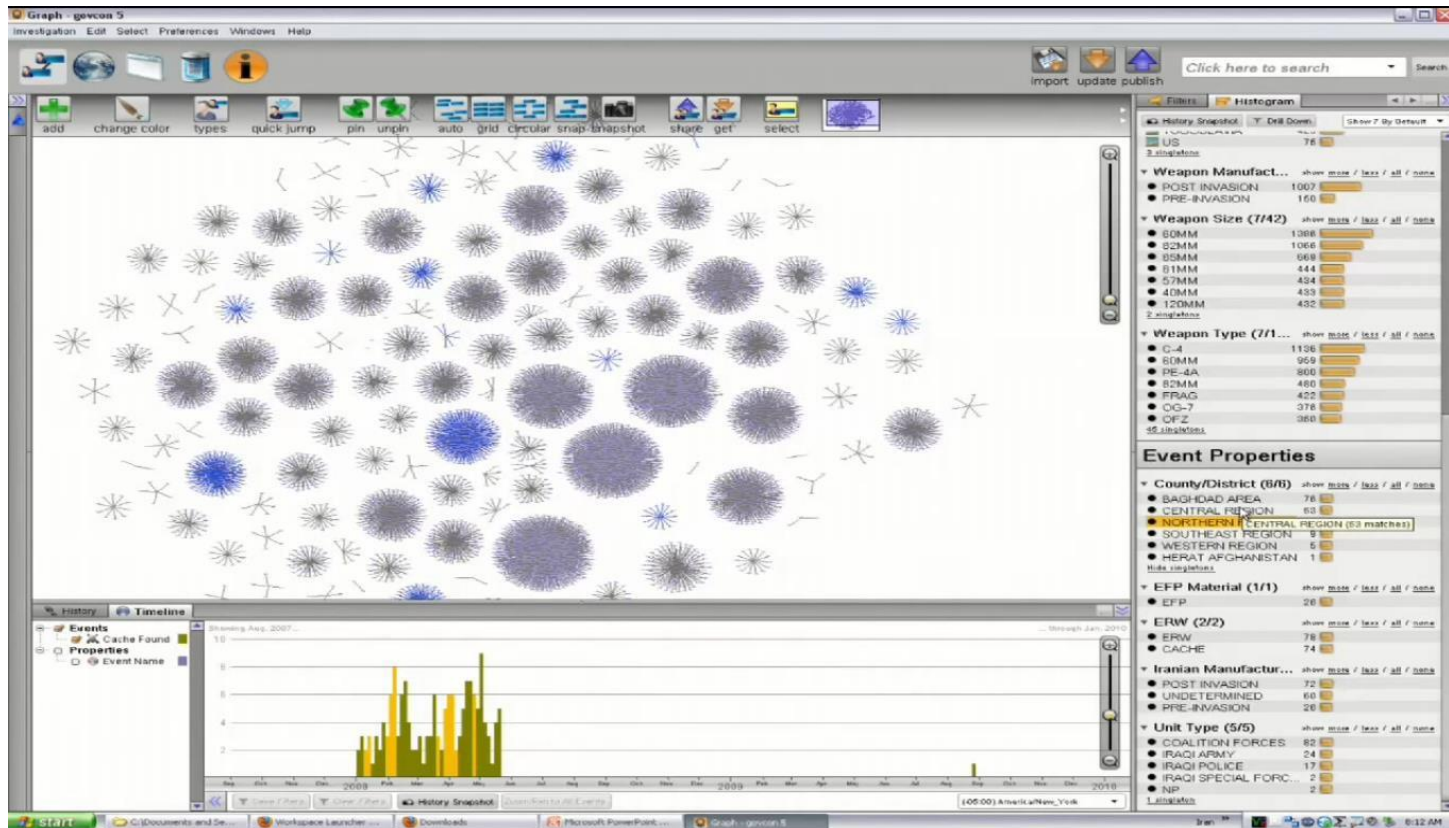
KODAK

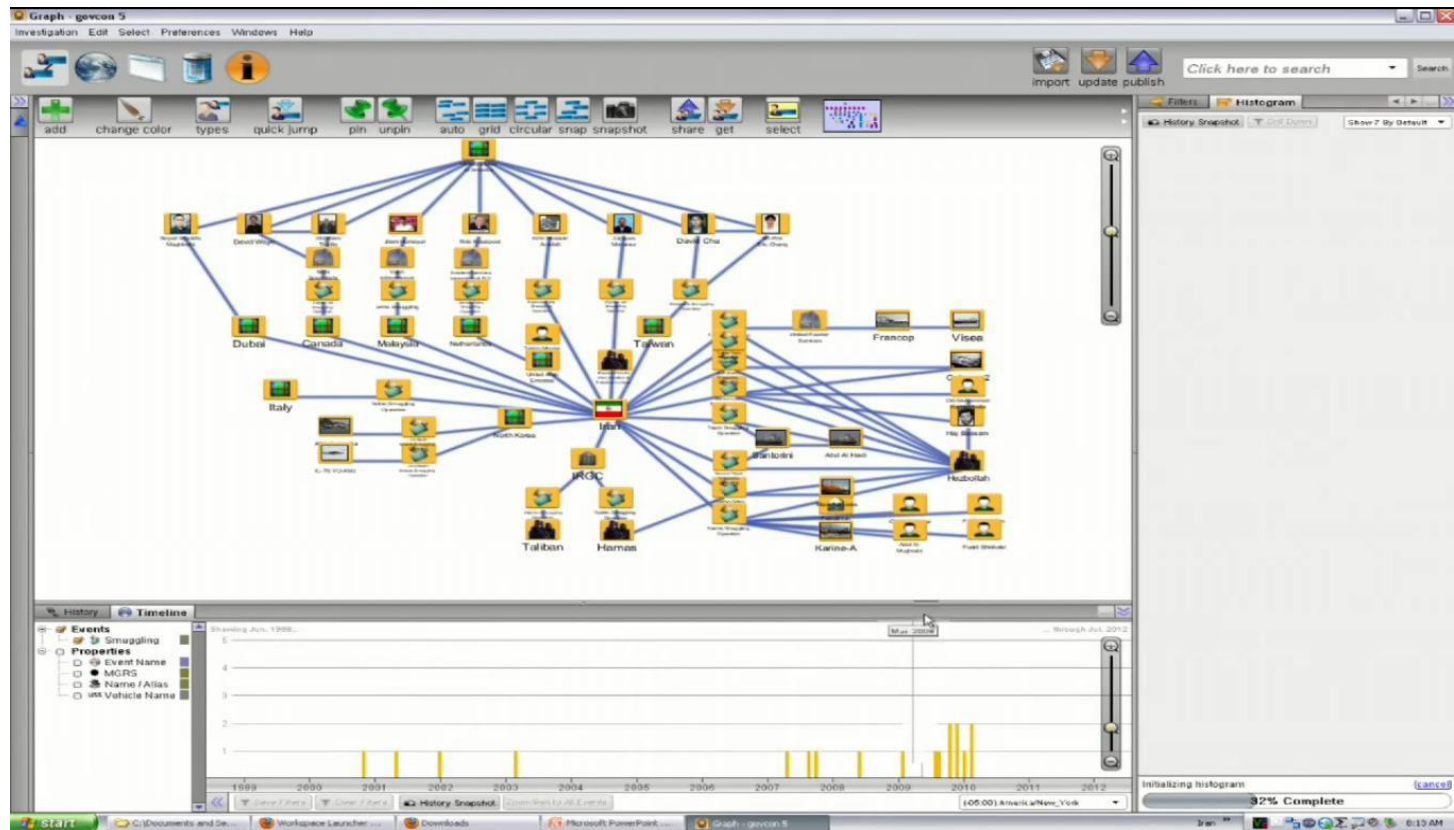
#IoStaifacendoNelmodoSbagliato

Il non utilizzo dei dati, e la non presa di coscienza del rischio hanno portato al disastro.



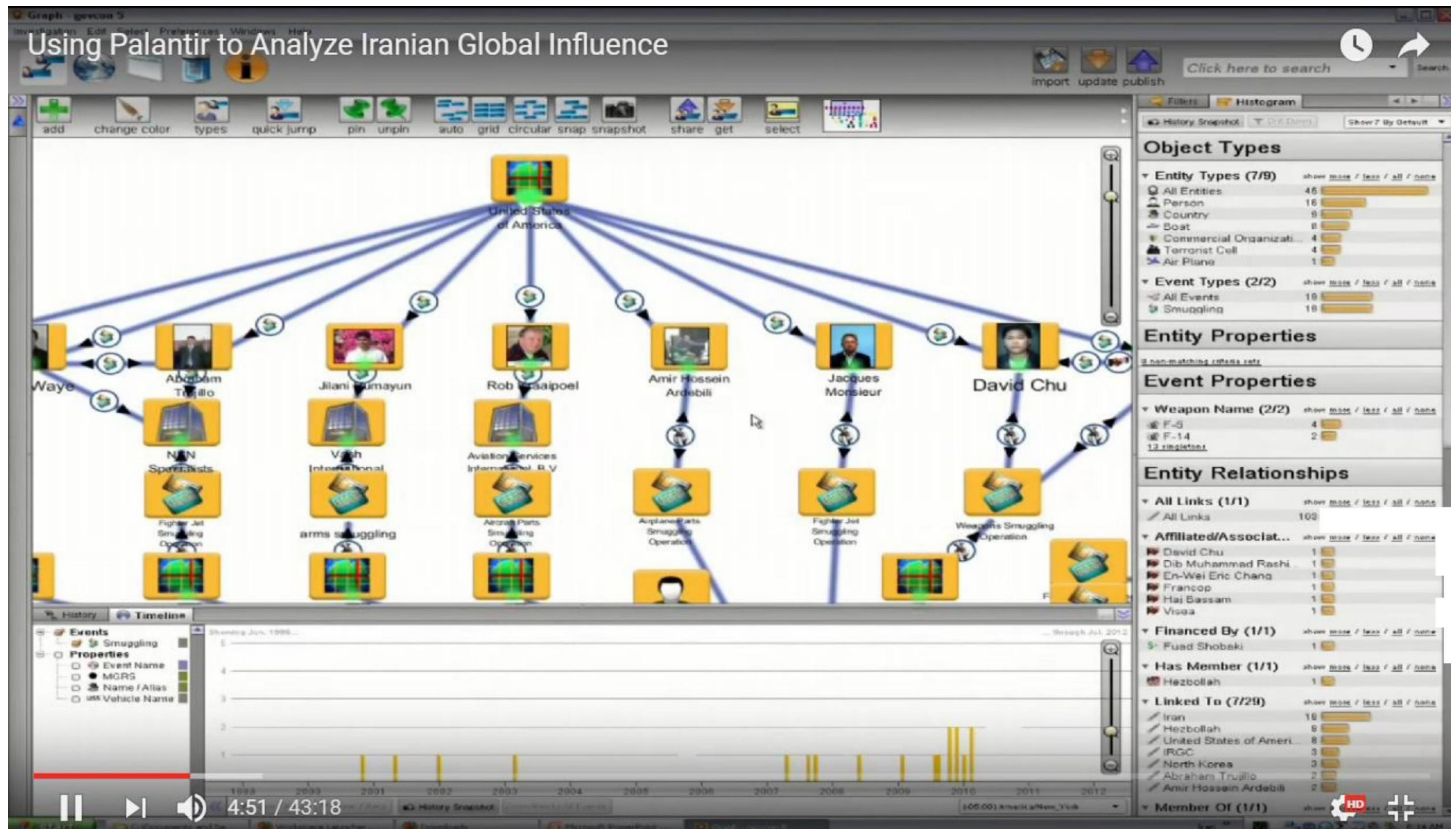
 Palantir



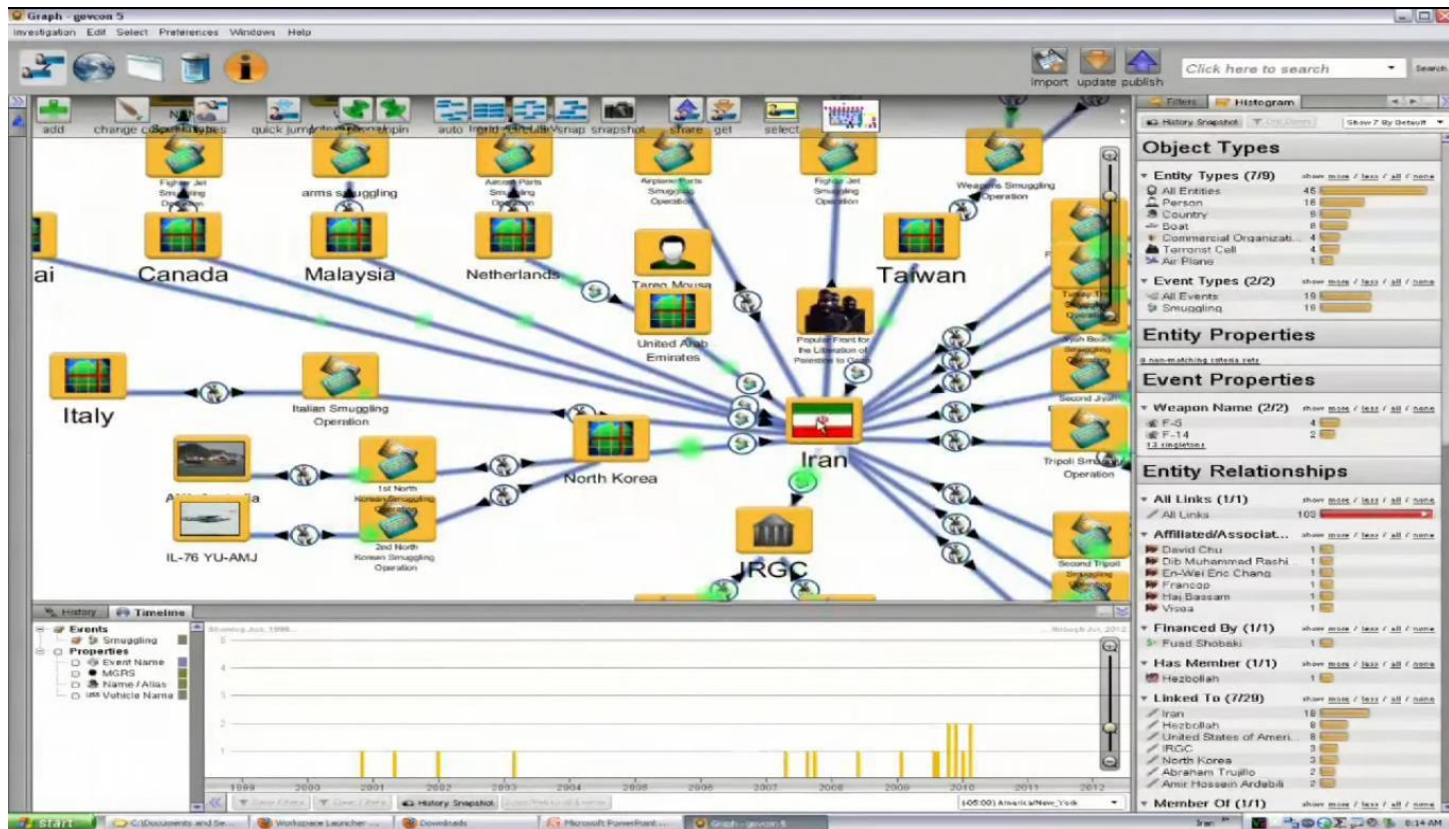


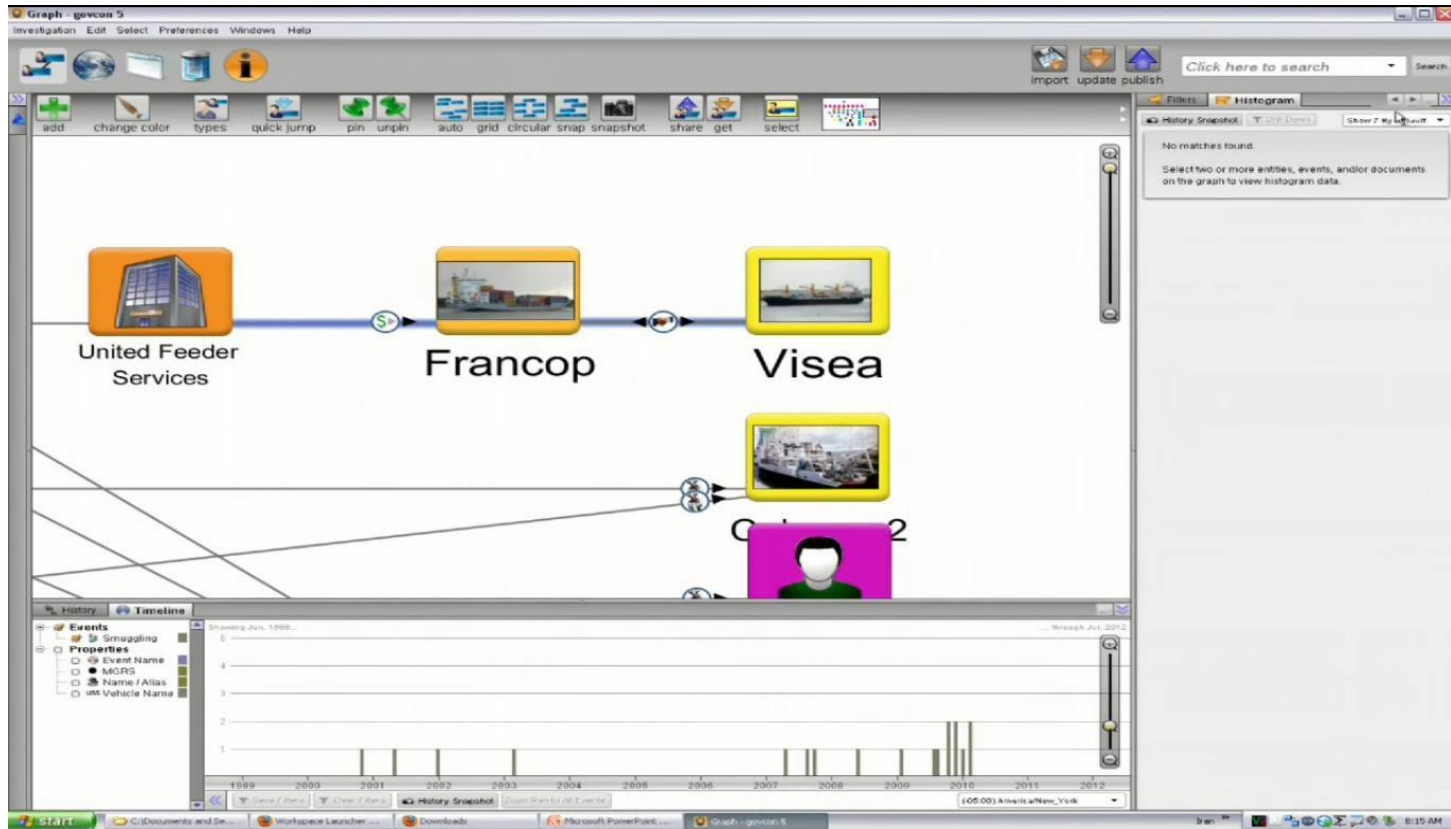


## Using Palantir to Analyze Iranian Global Influence









## Using Palantir to Analyze Iranian Global Influence

MapServer 5.0

radius polygon route recent snapshot back forward select zoom

import update publish Click here to search

**User Filters**

**Shared Filters**

- Iranian Influence Events
- Latin American Leaders
- Nuclear Sites
- election provinces
- iranian airfields
- iranian refineries
- ports

Home Login Logout Filter as search cond

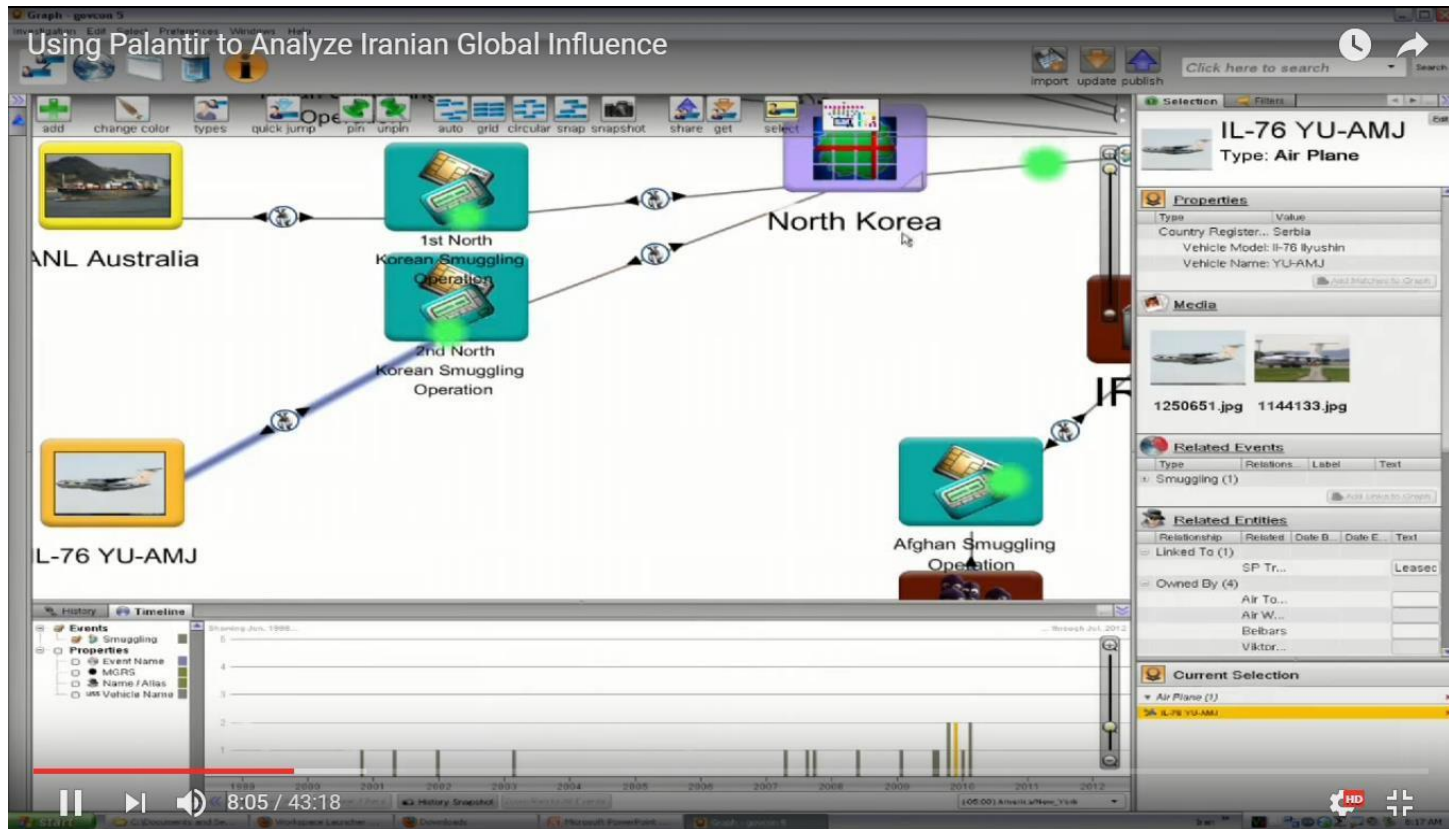
You have not yet created any filters.  
Click ["New"](#) to create a new filter.

Added 5 properties to the map

39N KM 22817 89059

6:17 / 43:18

## Using Palantir to Analyze Iranian Global Influence



## IL VALORE NON E' MAI STATICO

Casi eclatanti come Palantir mostrano come i dati tracciati ed analizzati normalmente per un singolo scopo a cui attribuiamo un chiaro valore, possono in realtà avere “n” altri valori che dobbiamo solo investigare





## OCCHIO ALLA MEDUSA









← Post



della Natura (IUCN) ha stabilito che i gatti domestici siano la causa dell'estinzione di ben 33 specie animali (rettili, uccelli, e mammiferi).

Il gatto domestico è stato inserito nella lista delle 100 specie non-autoctone più invasive (il gatto sopravvive grazie all'uomo in habitat che sarebbero a lui molto più ostili).

<https://www.nature.com/articles/ncomms2380>



Il gatto domestico (*Felis catus*) uccide ogni anno 22 miliardi di mammiferi e 4 miliardi di uccelli. E' ritenuto responsabile dell'estinzione di 33 specie animali.



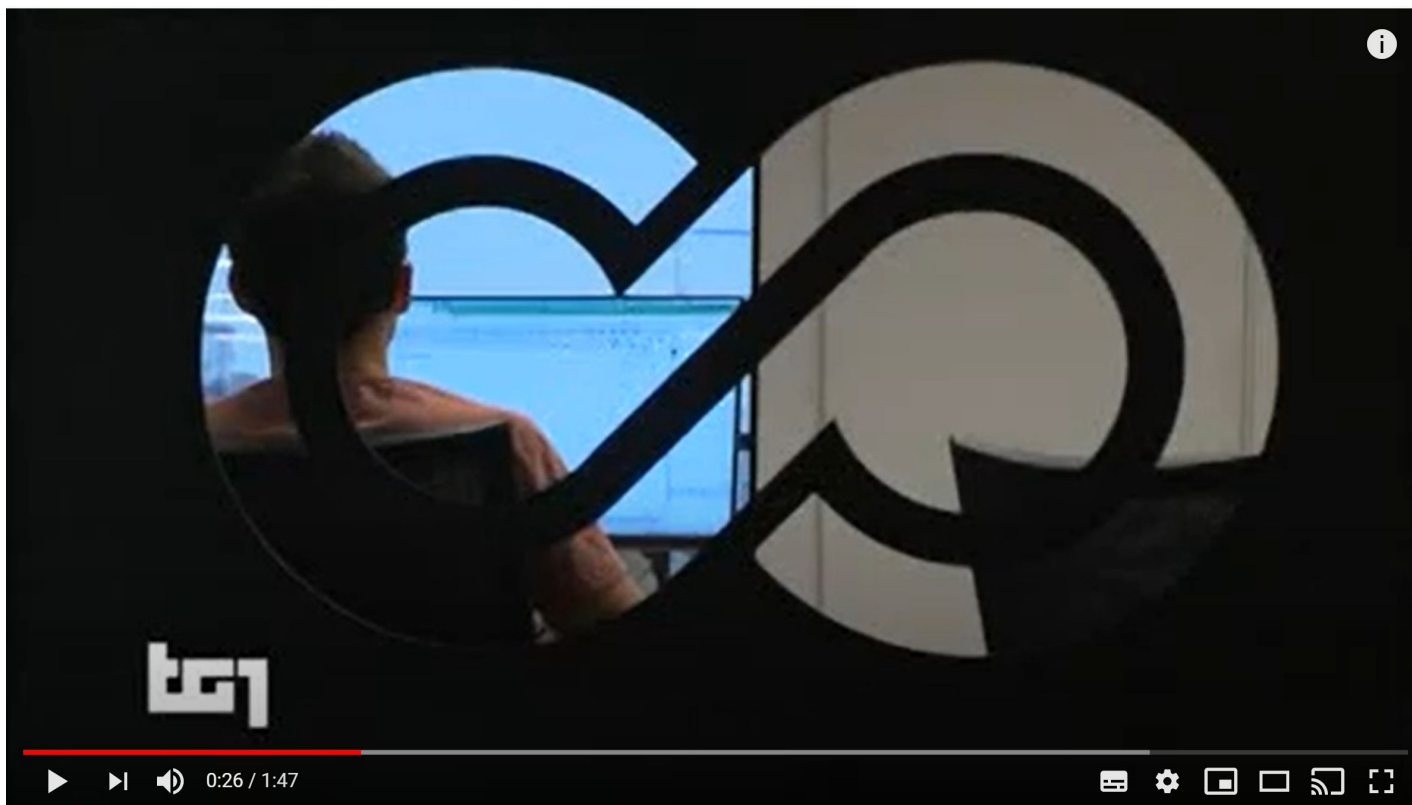
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# Conquering The World, One App At A Time

We have a passion for creating products that lots of people all over the world will use. So far we've focused on mobile: 20+ iOS apps and 294 million downloads are just the beginning. Find below a few examples of our products.





<https://www.youtube.com/watch?v=I2qmbE1cYI>

g

CONTROLLO ED EPIDEMIA

## App per il monitoraggio del coronavirus, arriva la app europea

Partecipano istituzioni e società di otto paesi europei, Italia compresa. Adottato il bluetooth per rispettare la privacy

di Elena Comelli



Coronavirus, l'app per monitorare i contatti è pronta ma il progetto rischia di partire tra un mese

L'app Immuni di Bending Spoons è cruciale per l'avvio della Fase 2 ma diventerà efficace solo se usata da almeno il 60% degli italiani. Restano i dubbi su privacy e accessibilità

[https://www.ansa.it/sito/videogallery/italia/2020/04/18/arriva-app-immuni-aiutera-contenimento-virus\\_410d59b8-953f-4def-a2f3-17f63d859c81.html](https://www.ansa.it/sito/videogallery/italia/2020/04/18/arriva-app-immuni-aiutera-contenimento-virus_410d59b8-953f-4def-a2f3-17f63d859c81.html)









CULTURA | SABATO 17 NOVEMBRE 2018

# Netflix sta imparando a essere meno Netflix

Era abituata a usare dati e algoritmi per ogni sua decisione, ma ora che lavora con grandi attori e registi di Hollywood ha dovuto fare compromessi



 (Justin Sullivan/Getty Images)



Per esempio, Netflix usa i dati che raccoglie per capire su quali serie puntare e quali non è invece il caso di rinnovare, ma anche per capire quali immagini involino certi utenti a far partire la visione o come girare i film e le serie prodotti per evitare che gli utenti interrompano a metà. Cary Joji Fukunaga, che per Netflix ha diretto la serie *Maniac*, [ha detto](#):

«Sono una *data company*, sanno esattamente come gli spettatori guardano le cose. Quindi possono guardare la tua sceneggiatura e dirti: sappiamo che se girerai questa scena, perderemo tot. spettatori in quel momento. Fa effetto. Non è come dire: abbiamo opinioni diverse, discutiamone e vediamo chi ha ragione. L'algoritmo ha sempre ragione, alla fine».

**Technically, Moses**



**was the first person  
with a tablet  
downloading data  
from the cloud**





Amazon expands servi...  
venturebeat.com

Condividi

## Amazon expands services for AI training, translation, and transcription

BLAIR HANLEY FRANK @BELRIL

APRIL 4, 2018 10:41 AM



Above: The AWS logo hangs in the Sands Convention Center in Las Vegas, Nevada on November 30, 2017.

Image Credit: Blair Hanley Frank / VentureBeat





## France, China, and Silicon Valley: The fight to dominate AI and the rise of tech nationalism

CHRIS O'BRIEN

@OBRIEN

APRIL 2, 2018 11:15 AM



Above: French President Emmanuel Macron

Image Credit: Reuters

As new products and services have



# Initiative to establish a European Lab for Learning & Intelligent Systems

---

We are at a crossroads where

1. **machine learning is at the heart of a technological and societal artificial intelligence revolution** involving multiple sister disciplines, <sup>1</sup> with large implications for the future competitiveness of Europe,
2. **Europe is not keeping up**: most of the top labs, as well as the top places to do a PhD, are located in North America; moreover, AI investments in China and North America are significantly larger than in Europe, and
3. **the distinction between academic research and industrial labs is vanishing**, with a significant part of the basic research now being done in industry (with substantial research freedom, and higher salaries), rapid commercialization of results, and academic institutions worldwide struggling to retain their best scientists (with negative implications not only for research but also for the education of future talent). This further weakens Europe since all of the companies doing top research in this field are controlled from the US (or China) – many European companies whose future business crucially depends on AI are not perceived as competitive.

**There are still a few machine learning & perception research hotspots in Europe** that play in the international top league. Virtually all of the top people in those places are continuously being pursued for recruitment by US companies. Even if we only wanted to retain these centers, we would need to increase our investments in line with what other countries are doing. To strengthen our position, we need to build on what is strong in Europe, think big and have the courage to try new models. <sup>2</sup> We believe our best bet is for the outstanding centers in Europe to join forces.

**European strength currently lies in its academic culture and well-educated students.** There are some top university departments in the field, as well as some centers of excellence at Max Planck and CNRS/INRIA. Large US players have started research labs in some of those places. While a major motivation for these labs is the competition for local talent, the labs also strongly contribute to the local ecosystems by rendering them more attractive for students and researchers, and educating a generation of high-level

87% delle aziende UE  
stanno intraprendendo un percorso di  
innovazione digitale.

Il 50% lo fanno attraverso i big data e  
il 30% pianifica di farlo. (Gartner 2017)

# I D C

international

data

corporation



#casialvolo





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privato <http://visionari.org>

Jul 4 · 6 min read

## La General Electric assume Intelligenze Artificiali

Come parte della transazione ad  
azienda hi-tech, il gruppo nato più  
di 125 anni fa, sta implementando  
AI in tutti i livelli, partendo dalla  
ricerca e sviluppo

Open in app





<https://www.youtube.com/watch?v=usgb3BdHRPg>



to Raineri

ounder at MYagonism

226

wed your profile

80

s of your post

usive tools & insights  
ctivate Premium

Tutti lavori che seguono un codice verranno sostituiti dall'AI. Rischioso andare a competere con dei robot.



Newsletter 50  
14 Luglio 2017

## In Usa c'è l'avvocato robot

Il primo 'avvocato robot', specializzato in multe, è sbarcato ufficialmente in 50 stati Usa, dopo i test in alcune città come New York o Seattle. L'ideatore Joshua Browder, studente, secondo cui finora è riuscito a far togliere quasi 400mila contravvenzioni per divieto di parcheggio.

Il robot, che si chiama DoNotPay, in realtà è un'intelligenza artificiale in forma di chatbot, un programma in grado di dialogare autonomamente con l'utente e lo rende capace di rispondere a oltre mille problemi legali, dalle compensazioni per voli cancellati alle possibili discriminazioni



2 Likes • 3 Comments

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Vigonza

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About

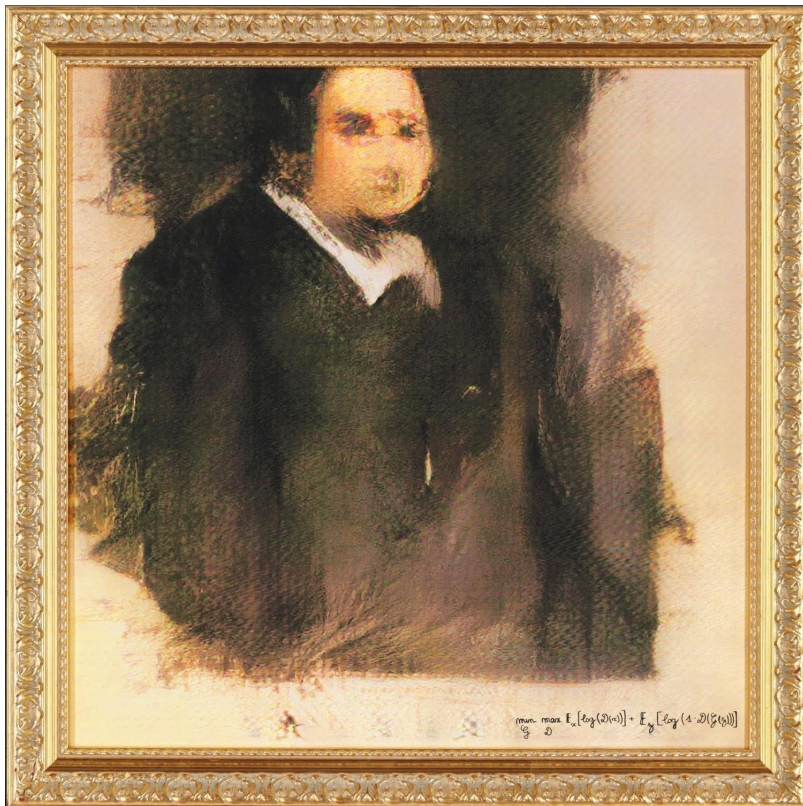
Link



<https://www.theverge.com/2018/11/8/18074806/ai-news-anchor-china-xinhua-digital-composite>







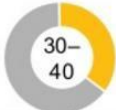
## Edmond Belamy – AI art

<https://www.linkedin.com/pulse/ai-art-painting-future-creativity-oo-paolo-raineri/>

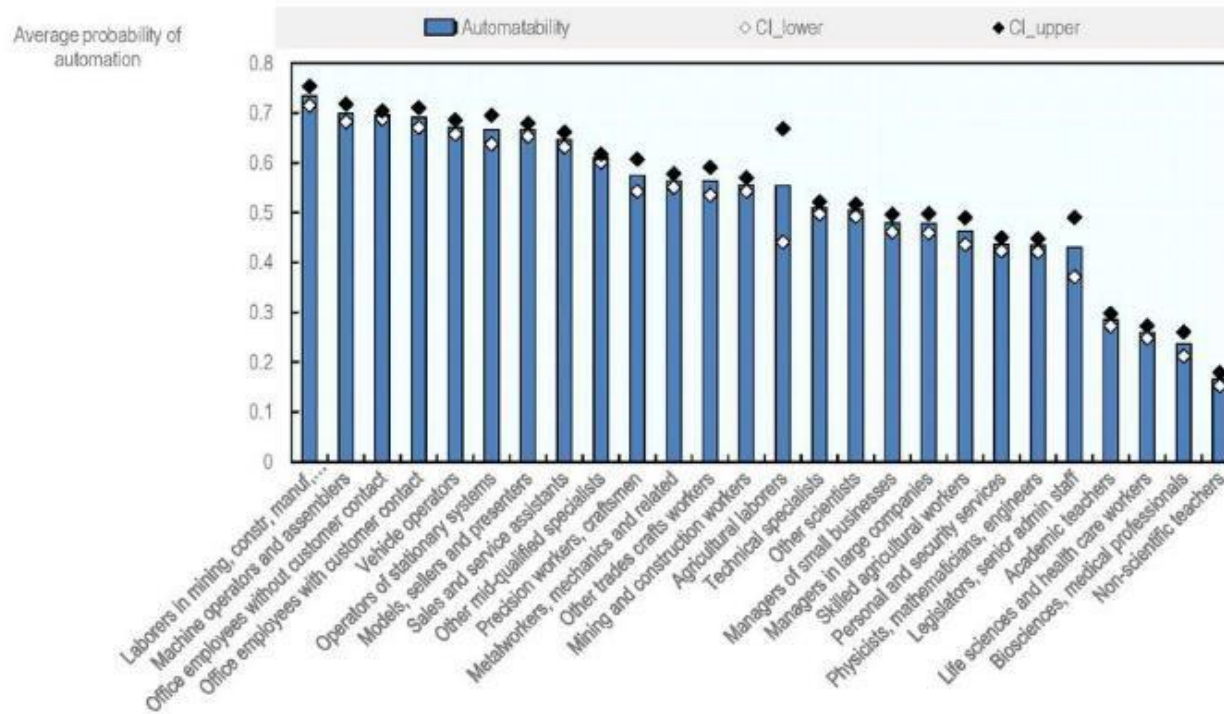
$$\min_G \max_D \mathbb{E}_x [\log(D(x))] + \mathbb{E}_z [\log(1 - D(G(z)))]$$

Exhibit 1

There has been uneven progress in capturing value from data and analytics

|                                     | Potential impact: 2011 research                                                                                                                                                   | Value captured %                                                                                 | Major barriers                                                                                                                                           |
|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Location-based data</b>          | <ul style="list-style-type: none"> <li>▪ \$100 billion+ revenues for service providers</li> <li>▪ Up to \$700 billion value to end users</li> </ul>                               |  <p>50–60</p> | <ul style="list-style-type: none"> <li>▪ Penetration of GPS-enabled smartphones globally</li> </ul>                                                      |
| <b>US retail<sup>1</sup></b>        | <ul style="list-style-type: none"> <li>▪ 60%+ increase in net margin</li> <li>▪ 0.5–1.0% annual productivity growth</li> </ul>                                                    |  <p>30–40</p> | <ul style="list-style-type: none"> <li>▪ Lack of analytical talent</li> <li>▪ Siloed data within companies</li> </ul>                                    |
| <b>Manufacturing<sup>2</sup></b>    | <ul style="list-style-type: none"> <li>▪ Up to 50% lower product development cost</li> <li>▪ Up to 25% lower operating cost</li> <li>▪ Up to 30% gross margin increase</li> </ul> |  <p>20–30</p> | <ul style="list-style-type: none"> <li>▪ Siloed data in legacy IT systems</li> <li>▪ Leadership skeptical of impact</li> </ul>                           |
| <b>EU public sector<sup>3</sup></b> | <ul style="list-style-type: none"> <li>▪ ~€250 billion value per year</li> <li>▪ ~0.5% annual productivity growth</li> </ul>                                                      |  <p>10–20</p> | <ul style="list-style-type: none"> <li>▪ Lack of analytical talent</li> <li>▪ Siloed data within different agencies</li> </ul>                           |
| <b>US health care</b>               | <ul style="list-style-type: none"> <li>▪ \$300 billion value per year</li> <li>▪ ~0.7% annual productivity growth</li> </ul>                                                      |  <p>10–20</p> | <ul style="list-style-type: none"> <li>▪ Need to demonstrate clinical utility to gain acceptance</li> <li>▪ Interoperability and data sharing</li> </ul> |

**Figure 8.2. Mean probability of automation by occupation in the BIBB**



Source:

Nedelkoska, L. And G. Quintini (2018), «Automation, skills use and training», OECD social, *Employment and Migration Working papers*, No. 202, OECD Publishing, Paris.



**Table 4.1. O\*NET variables corresponding to identified engineering bottlenecks**

|                         | Variable                              | Definition                                                                                                                                        |
|-------------------------|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Perception manipulation | Finger dexterity                      | The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.     |
|                         | Manual Dexterity                      | The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.             |
|                         | Cramped work space, awkward positions | How often does this job require working in cramped work spaces that requires getting into awkward positions?                                      |
| Creative intelligence   | Originality                           | The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.             |
|                         | Fine arts                             | Knowledge of theory and techniques required to compose, produce, and perform works of music, dance, visual arts, drama, and sculpture.            |
| Social intelligence     | Social perceptiveness                 | Being aware of others' reactions and understanding why they react as they do.                                                                     |
|                         | Negotiation                           | Bringing others together and trying to reconcile differences.                                                                                     |
|                         | Persuasion                            | Persuading others to change their minds or behaviour.                                                                                             |
|                         | Assisting and caring for others       | Providing personal assistance, medical attention, emotional support, or other personal care to others such as co-workers, customers, or patients. |

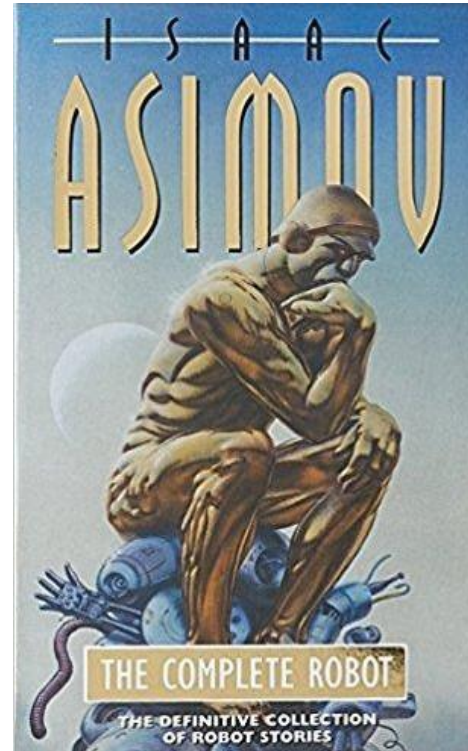
Source: Frey and Osborne (2017), Table 1.

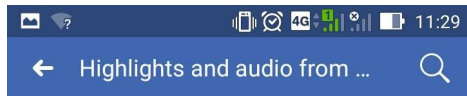
Source:

Nedelkoska, L. And G. Quintini (2018), «Automation, skills use and training», OECD social, *Employment and Migration Working papers*, No. 202, OECD Publishing, Paris.

“L’intelligenza artificiale è in grado di evolversi molto più velocemente di quanto non faccia la specie umana. Al momento, per nostro vantaggio, può coesistere con gli esseri umani, ma una volta che i computer raggiungeranno la capacità di evolversi senza l’intervento umano non è possibile prevedere che i loro obiettivi siano gli stessi dei nostri. L’intelligenza artificiale potrebbe essere la cosa migliore oppure la peggiore mai accaduta all’umanità.

S. Hawking





On the timeline for fixing data privacy: "This is going to be a never-ending battle. You never fully solve security. It's an arms race" Zuckerberg said early in the call. Then to close Q&A, he said "I think this is a multi-year effort. My hope is that by the end of this year we'll have turned the corner on a lot of these issues and that people will see that things are getting a lot better."



SOCIAL.TECHCRUNCH.COM

**Highlights and audio from Zuckerberg's emotional Q&A on scandals**



Mi piace



Commenta



Condividi

Di' che ti piace prima di tutti



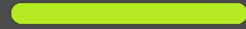
Scrivi un commento...



"If you are not paying for it,  
You are the product."

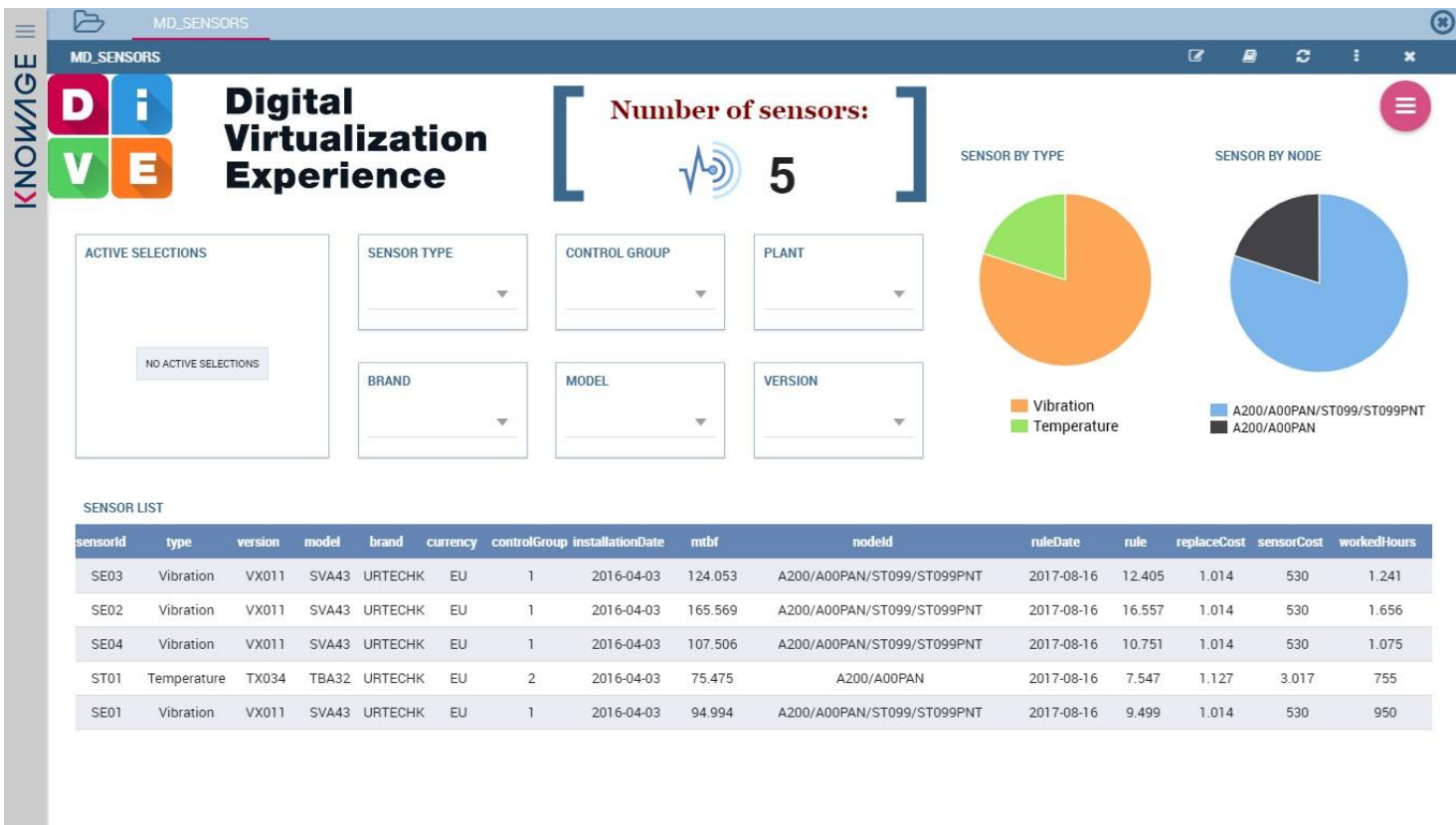
– Some really smart guy on the internet –





myagon<sup>sm</sup>

advanced **sports analytics**  
democratization





# VISION

Sports analytics  
democratization

**the power** of sports  
analytics  
**to every coach** in the  
world.



myagon<sup>sm</sup>

## COACHES PROBLEMS

---

Minor-club coaches have analytics and management issues...

NO  
TIME

NO  
MONEY

NO  
KNOWLEDGE

**80% of coaches** still use pen & paper...



## SOLUTION

---

**Advanced sports analytics services** where coaches can track, manage and analyze data & performance.

SAVE  
TIME

SAVE  
MONEY

GET  
KNOWLEDGE



myagon<sup>sm</sup>

# SOLUTION

---

## Basketball analytics IN - A - BOX



myagon<sup>sm</sup>

## Assistant coach app



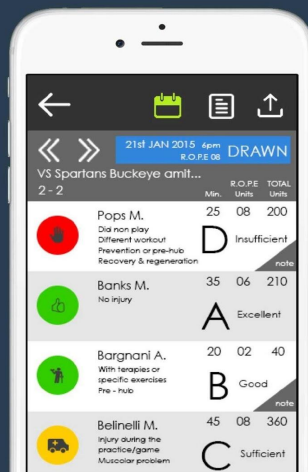
free app instead of pen and paper to log private data  
during the game



myagon<sup>sm</sup>

## Strength & Condition app

**professional app for trainers:**  
track and analyze physical efforts and  
workloads.



The image shows a white smartphone displaying the Strength & Condition app. The screen shows a match summary for '21st JAN 2015 4pm' between 'VS Spartans' and 'Buckeye amit...'. The score is '2 - 2' and the result is 'DRAWN'. Below this is a table of player performance data.

|                                                                                                  | Min | Units | TOTAL |                |
|--------------------------------------------------------------------------------------------------|-----|-------|-------|----------------|
| Pops M.<br>Did not play<br>Different workout<br>Prevention or pre-hub<br>Recovery & regeneration | 25  | 08    | 200   | D Insufficient |
| Banks M.<br>No injury                                                                            | 35  | 06    | 210   | A Excellent    |
| Bagnani A.<br>With therapies or<br>specific exercises<br>Pre - hub                               | 20  | 02    | 40    | B Good         |
| Belinelli M.<br>Injury during the<br>practice/game<br>Muscular problem                           | 45  | 08    | 360   | C Sufficient   |

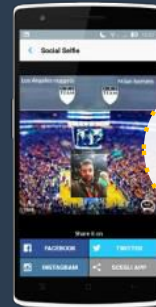


## Fan Engagement

### Basketball live MYagonism

*talk while watching*

We give to every club our **fan engagement app** to MONETIZE from their audience, enlarging the fan base thanks to a live-stats-streaming smartphone app. We love to look at value generation.



2 NBA  
Teams  
now  
integrate  
same tech.



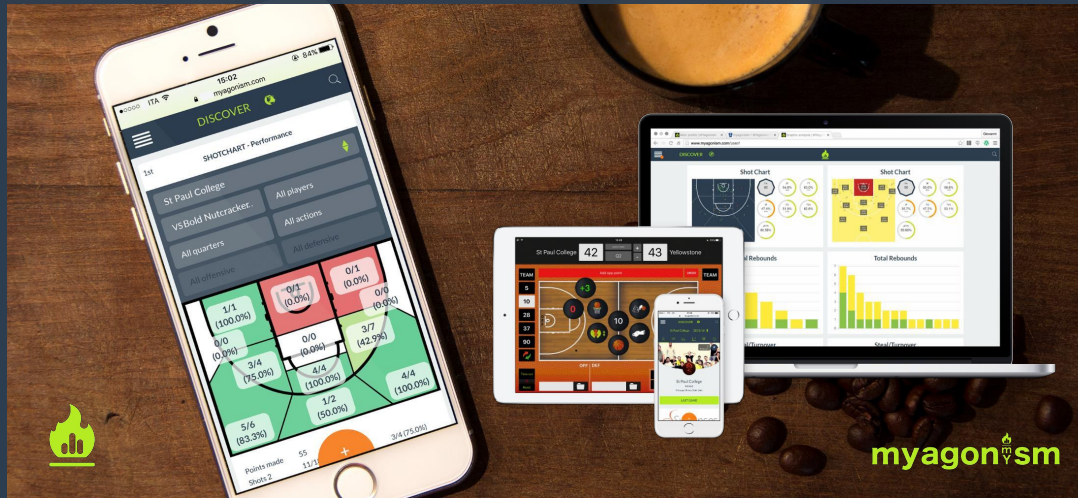
*Strong partnership  
with TOK.tv*

**myagonism**

# Analytics Platform

The house of all data. For **coaches, recruiters, players,**

Easy to use platform for **advanced analytics (PROPRIETARY ALGORITHM that innovates the talent ranking)**. Small-budget users get big league capabilities.  
Share and analyze the talent into the sport business.





## TECHNOLOGY – proprietary algorithms

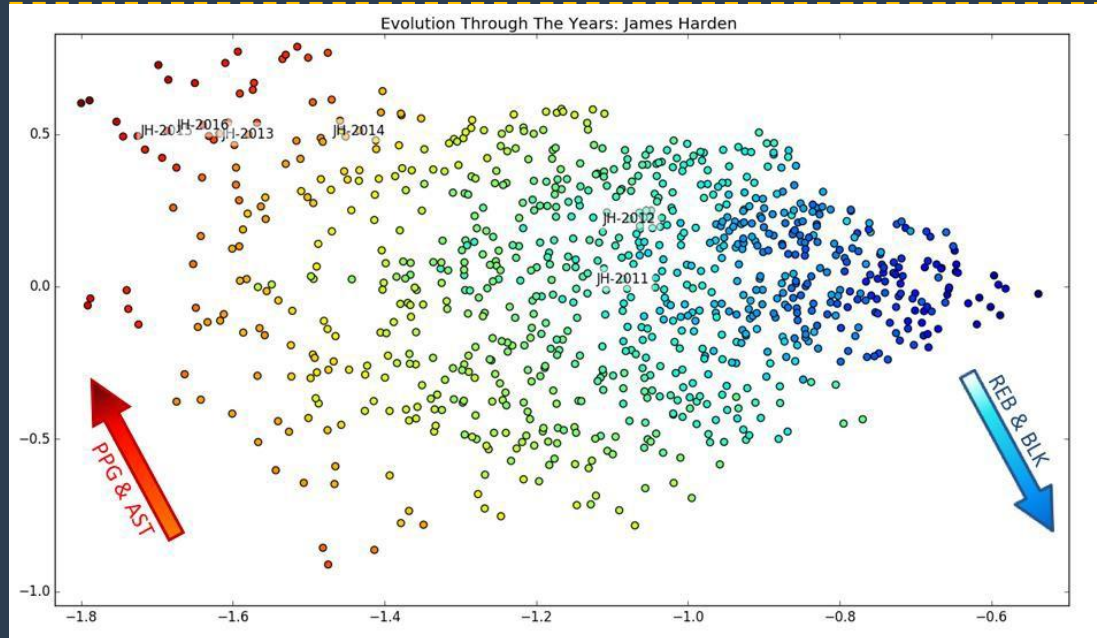


We are **changing the paradigms** of talent evaluation  
and definition of **new players positions**.

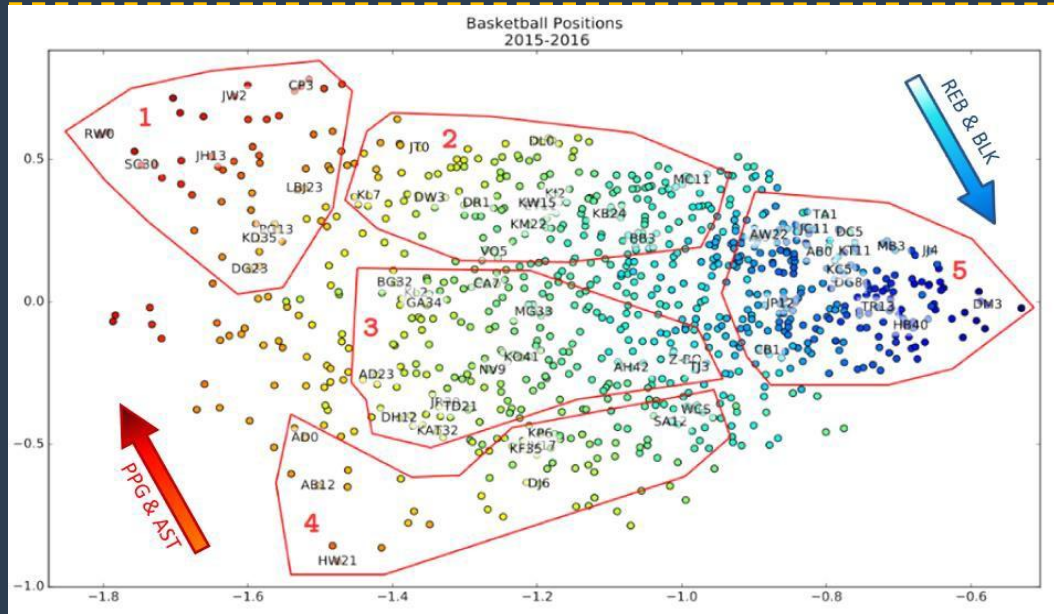


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# TECHNOLOGY – proprietary algorithms



# TECHNOLOGY – proprietary algorithms



PROUD OF

NCAA  
approved

MIT  
selected

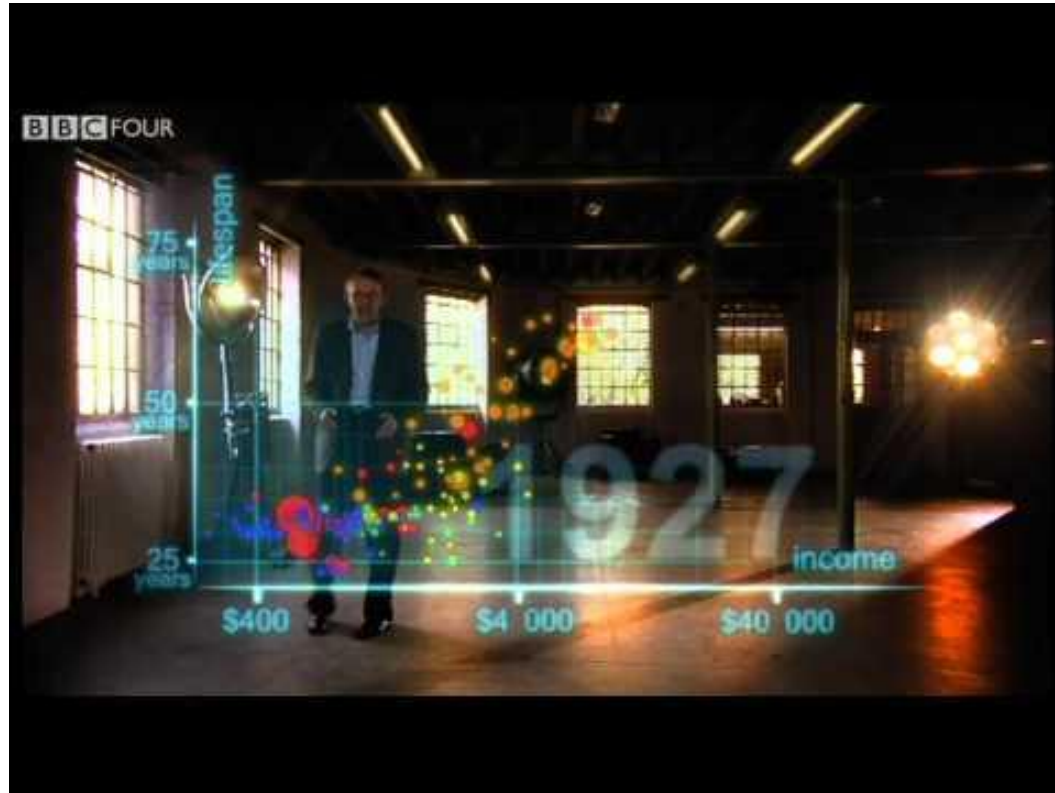


Software/Hardware  
services AROUND

myagon<sup>sm</sup>

# k e e p

È importantissimo saper  
visualizzare e  
raccontare i dati.



<https://www.youtube.com/watch?v=jbkSRLYSojo>

Gracie