TOMORROWLAB®

REALDOLMEN
to get there, together

BUILDING A CULTURE OF INNOVATION

*Will change happen to you or
led by you ?*

Joachim De Vos, CEO Living Tomorrow & TomorrowLab
October, 2018

Living Tomorrow

"

I believe a project like Living Tomorrow – where you are brainstorming about what is possible and you're getting people to come in, look at it, and talk about what this all means – is really fantastic…

Bill Gates
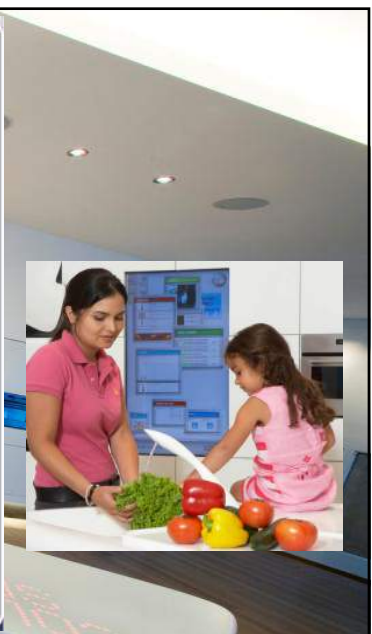
Kitchen of the Future – Smart Home

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Carehome of the Future

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Smart City – Intelligent Street

PILOT – Smart Health Mirror

Where visions meet
Future of Data & Privacy

Where Visions Meet – Future Retail

Living Tomorrow 2030

- **Largest innovation visitor & event center in Europe: 10.000 m² demo center**

- **1.000.000 visitors**
- **100.000.000 virtual visits**
- **50 exclusive participants**
- **Future areas**
  - Home of the Future
  - Care home of the Future
  - Care hotel of the Future
  - Hotel of the Future
  - Restaurant of the Future
  - Store of the Future

3 things

CHANGE
FUTURE & TECHNOLOGY
What we do = be prepared !

The pace of change is increasing

Average life on the S&P 500 index (years)*

60	**35**	**25**	**14.5**
1960	1980	2000	2017
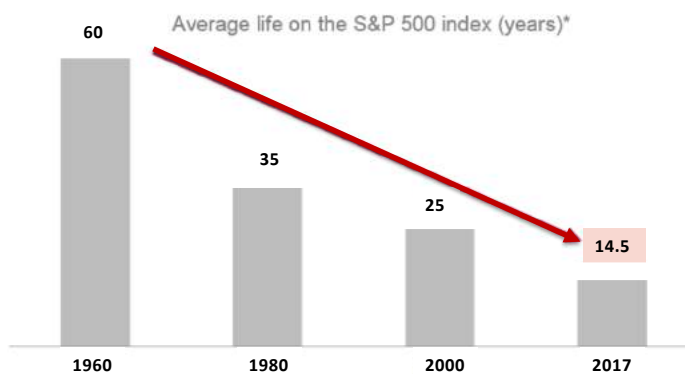
* Data prior to 1955 based on extrapolations by S&P

At current rate, 75% of S&P 500 will be replaced by 2028

Sources: INNOSIGHT / Richard N. Foster / S&P / Euronext

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…as reflected in the composition of the S&P 500

Entered index

Google
NETFLIX
ebay
amazon.com
PayPal
facebook

Exited index

Kodak   COMPAQ
palm   TEXACO
Sears
The New York Times
DELL
abercrombie

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Path to a Billion dollars redefined...

(*) even including Darty network

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... in contrast with companies of yesterday

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Driven by MEGATRENDS across multiple disciplines....

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...that are also profoundly affecting our globe, lives and business.

PLANET

Natural Resources
Water
Health
Energy
Food

CUSTOMERS

Wealth – Poverty
Legislation
Security
Education
Well-Being

BUSINESS

Value Proposition
Key Resources
Value Chain
Customers
Partnerships

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... leading to a NEW ECOSYSTEM in which your organisation needs to operate.

3 things

CHANGE
FUTURE TECHNOLOGY
BE PREPARED !

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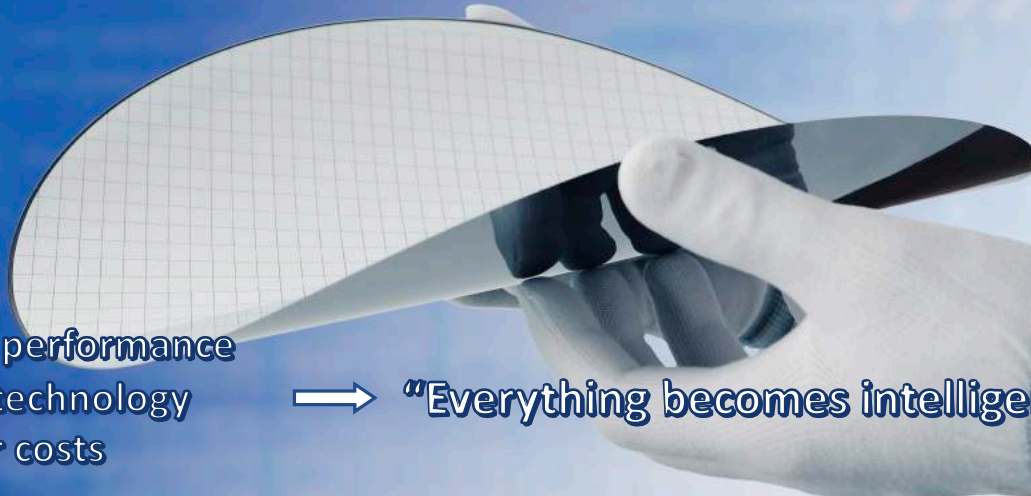
3 Technology Laws

1. **Moore's Law**

2. **Gilder's Law**

3. **Metcalfes Law**

Moore's Law

Processor performance doubles every 2 years

More performance
Nanotechnology
Lower costs

$\longrightarrow$ "Everything becomes intelligent"

Picture: Infineon

1983	2011
8 MHz Intel 80186	700 MHz ARM
128 kB RAM	128 MB RAM
640 x 400 – 256 colors	1080p Full-HD, HDMI
Serial port	USB 2
$ 2.999	$ 25

?

IBM just unveiled the 'world's smallest computer'

By Paul Miller | @futurepaul | Mar 19, 2018, 3:47pm EDT

2018

128 computers on 1 wafer

Smart Dust – MEMS (Micro Electrical Mechanical Systems)
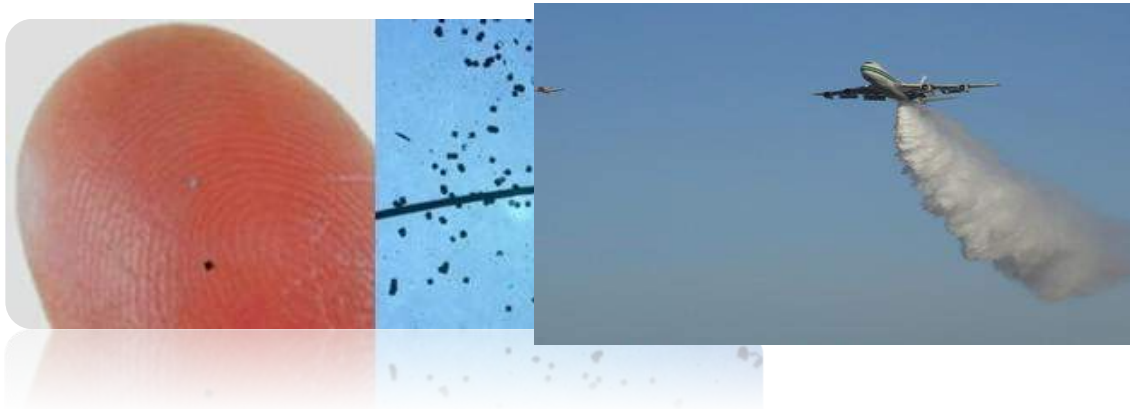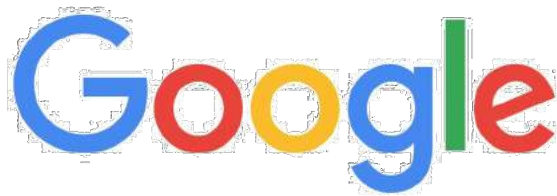
By 2030, immersive visuals will be at least 10,000 times more powerful than today

14

AR will enable new possibilities in education, health, tourism, engineering

Gilder's Law

Bandwidth triples every 12 months

Ultrafast networks
'Cloud'
Always connected

→ "Instant Availability"
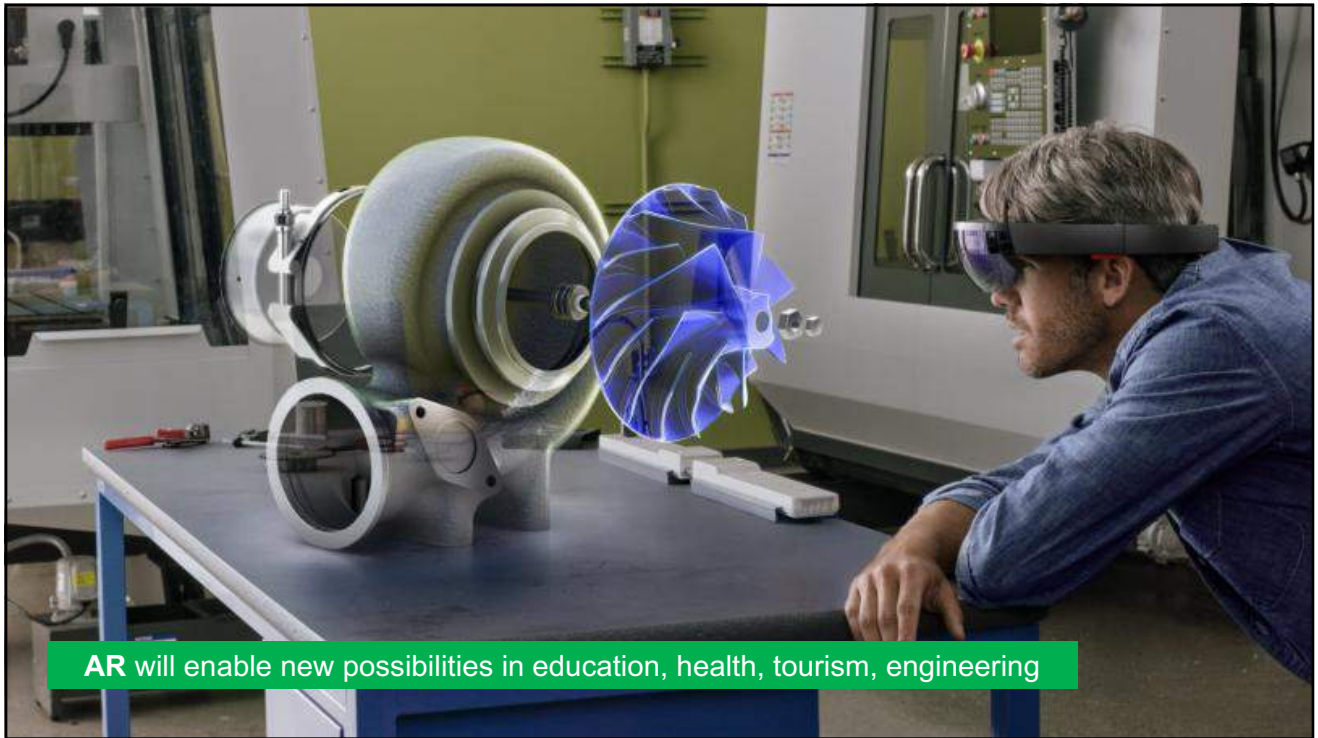
How did you find answers before 1998 ?
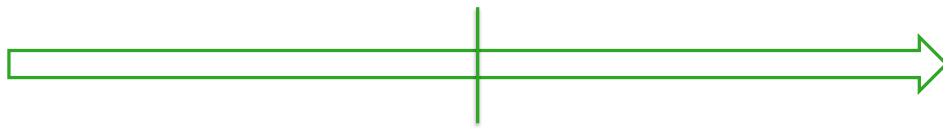
1998

Cigna becomes the first healthcare company to simplify health benefits information

By CATHERINE STURMAN · Mar 14, 2018, 6:40AM

Echo

Metcalfe's Law

The value of a network is the square of the number of nodes participating in the network

$$Value\ (network) = nodes^2 \longrightarrow \text{"Everything communicates"}$$

© Living Tomorrow 2015

H2M

Internet of People
H2H

M2H

Internet of Things
M2M
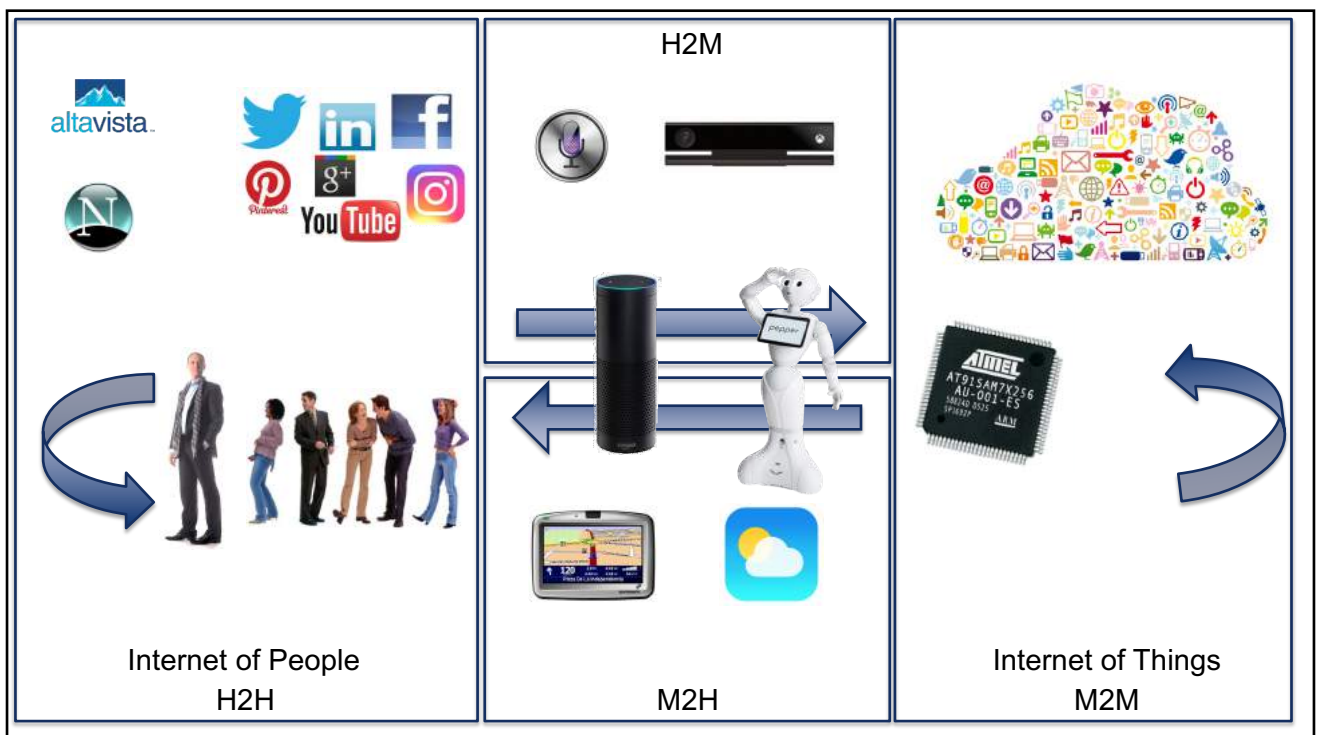
Smart Device ?

Physical Component

Smart Component

Connectivity Component

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4 levels of smart

| Monitoring | Control | Optimization | Autonomy |
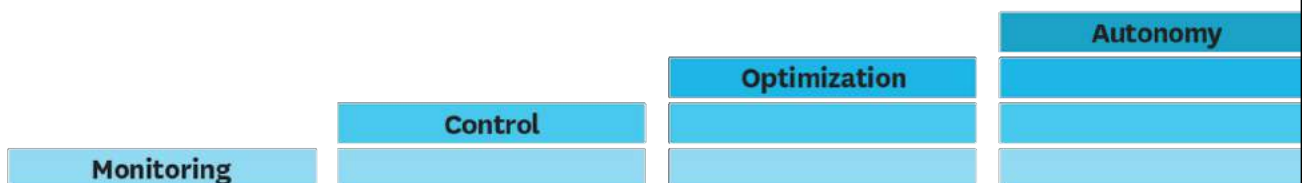
DROPLET

nervenet

What does this mean ?

Computer power is now growing more every hour than it did during its first 90 years (1900 – 1990).

IT Waves changing the world

Wave 1

Wave 2

Wave 3
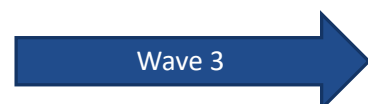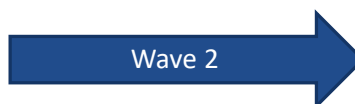
Jewelers and Precious Stone and Metal Workers have a

95.5%

chance of being automated.

http://automate-my-job.tomorrowlab.com

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Today

Tomorrow

Human
Machine

Human

Machine

The Internet
Of Everything
+ A.I.
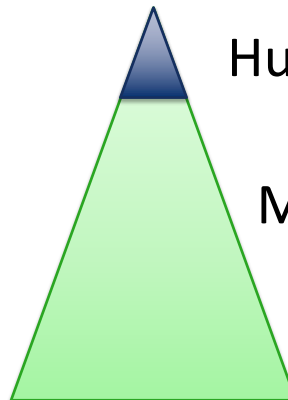
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A.I. Progress

Machine

Calculations

Chess

Data Analysis

Driving

ACF

Invention

Music

Humour

Journalism

Art

Novels

Personality
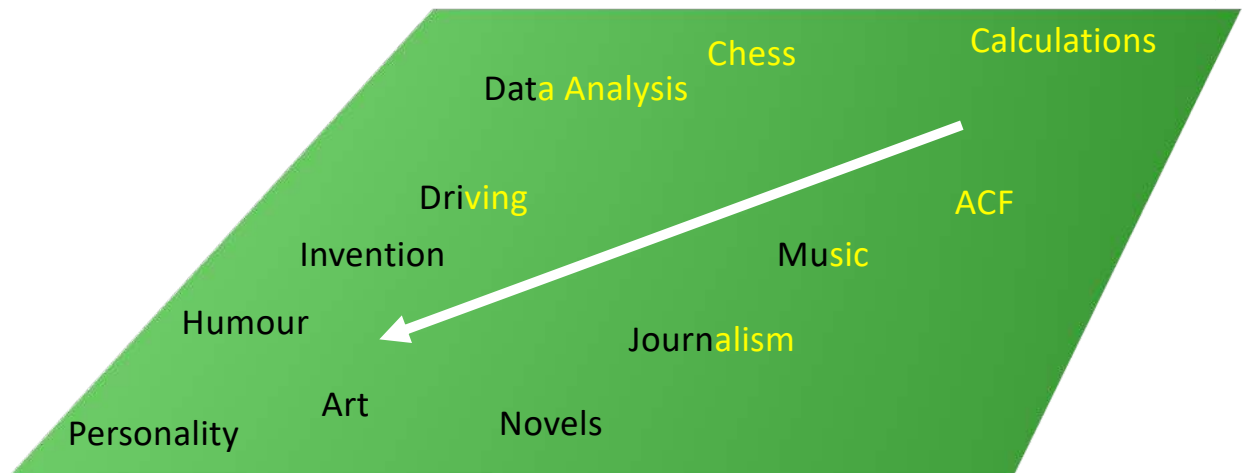
Human

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The Law of Accelerating Returns
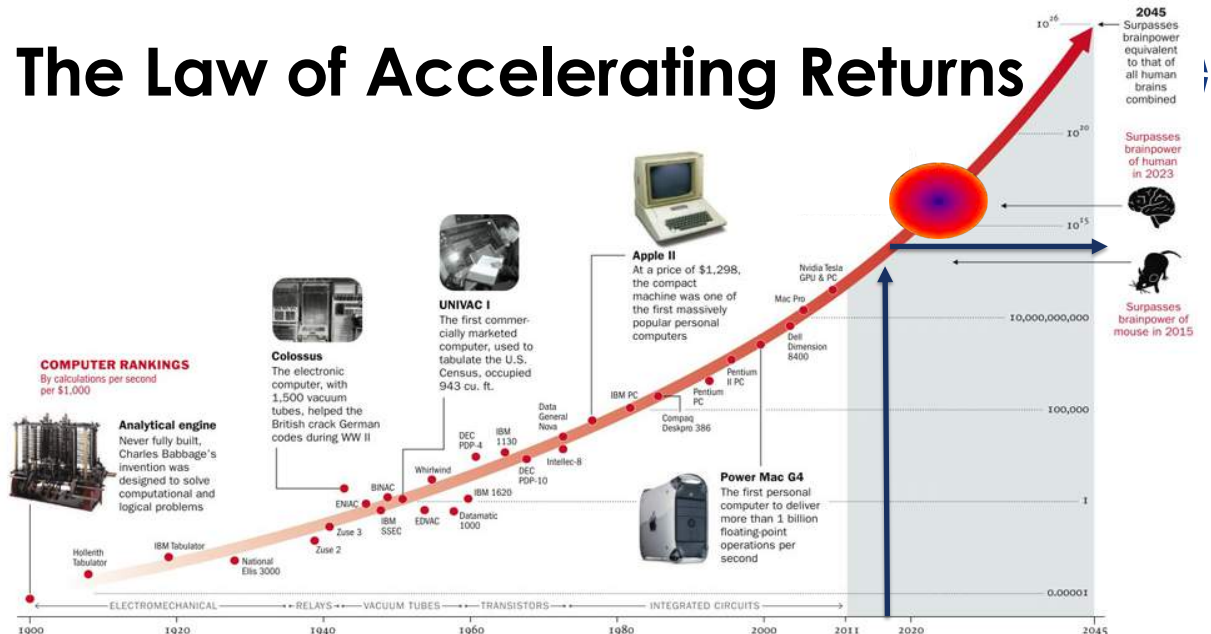
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March 1st, 2015 – 'virtual mouse with a brain'

Institute for Ethics and Emerging Technologies

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2016 – Meet BRETT, a 3 year old.

Bloomberg Business

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Deep Learning: Berkeley Robot for the Elimination of Tedious Tasks

This robot aced an exam without understanding a thing—here's why you should be worried

Ruth Umoh | @ruthumohnews | 10:24 AM ET Thu, 30 Nov 2017

2017, The Todai Robot, was able to write a 600-word essay on maritime trade in the 17th century better than most students

AI Robot passes the entrance exam of Univ of Tokyo

Singularity

Revolution in Egypt

Joe Klein: What the U.S. should do
On the Street: Hope meets anxiety
Muslim Brotherhood: What it wants

Oscars: Portraits of star power

TIME

2045
The Year Man Becomes Immortal
BY LEV GROSSMAN

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3 things
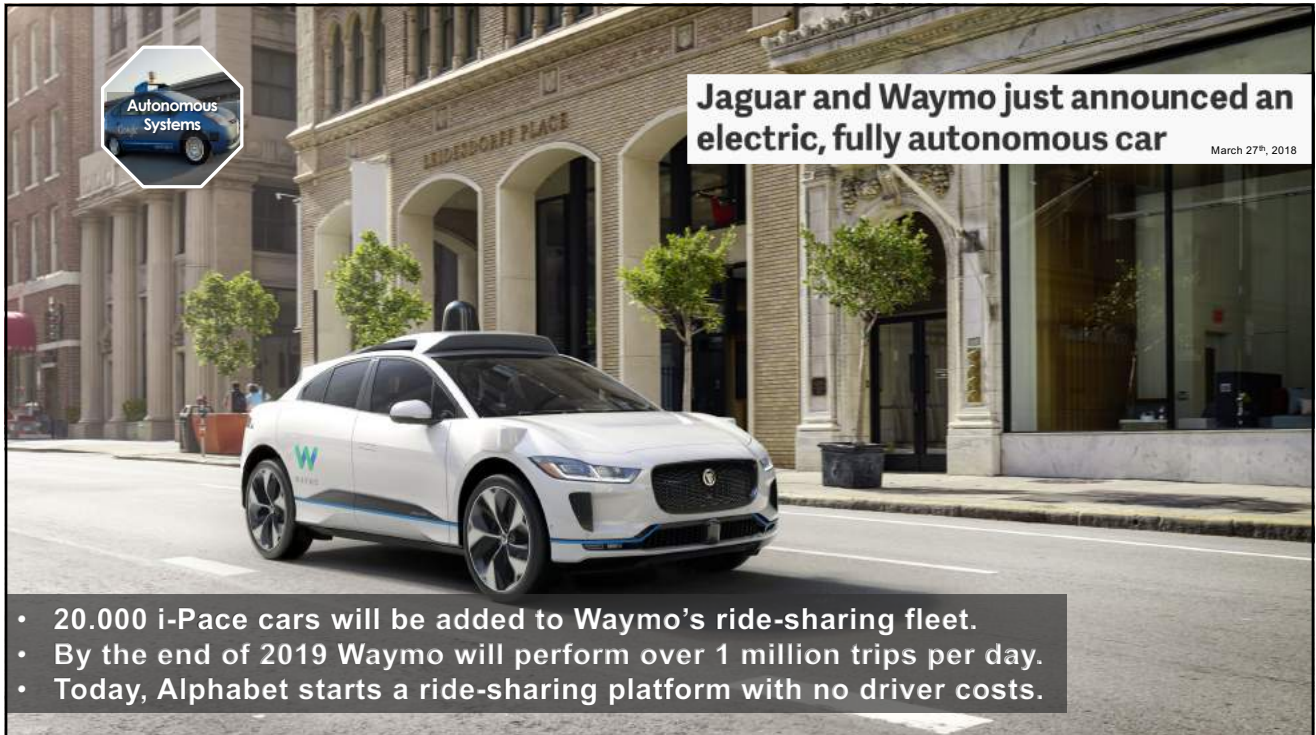
CHANGE

TECHNOLOGY & IMPACT ?

BE PREPARED !

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Self-driving cars will change the way we move, forever
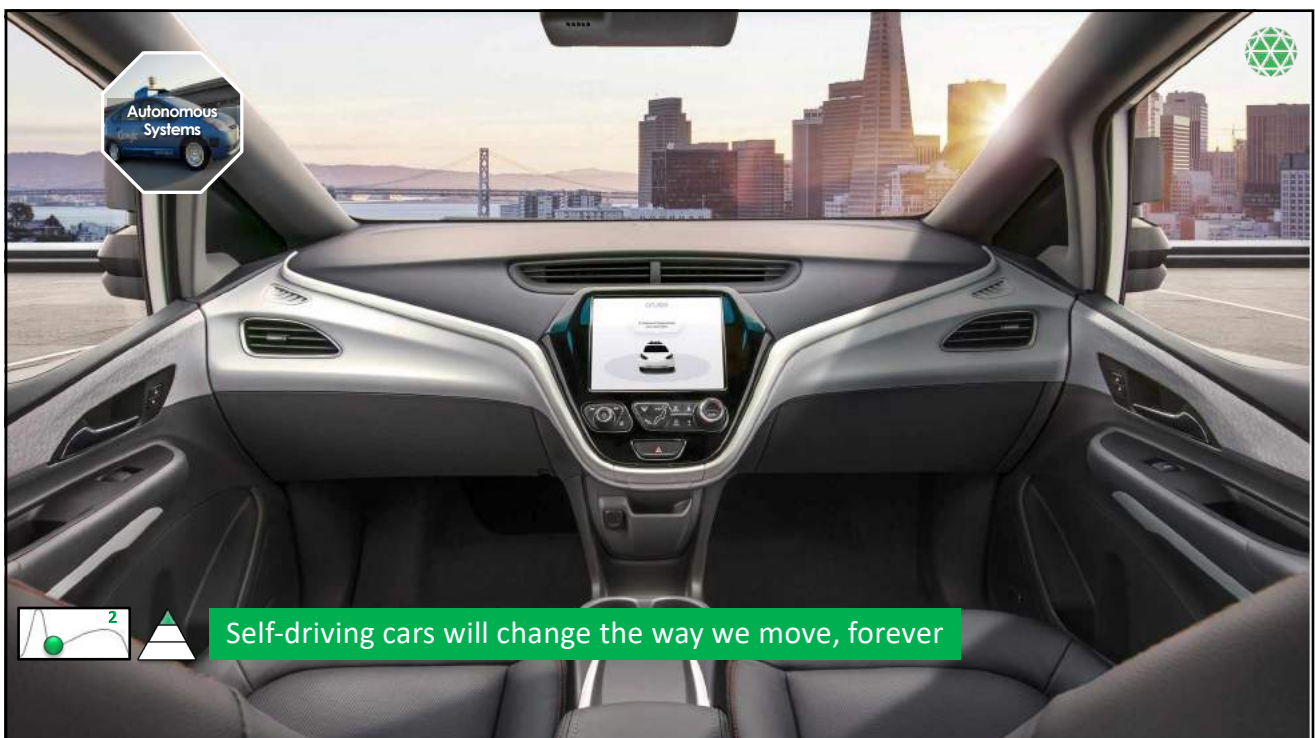
Jaguar and Waymo just announced an electric, fully autonomous car
March 27th, 2018

Autonomous Systems

- **20.000 i-Pace cars will be added to Waymo's ride-sharing fleet.**
- **By the end of 2019 Waymo will perform over 1 million trips per day.**
- **Today, Alphabet starts a ride-sharing platform with no driver costs.**

Autonomous Systems

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How will this change logistics, retail, last mile delivery ?

Robots deliver pizza in US & London

De Lijn wil vanaf 2020 zelfrijdende busjes in steden en gemeenten

How will **Autonomous Vehicles** change cities & mobility ?

Cobots define new ways of working & manufacturing
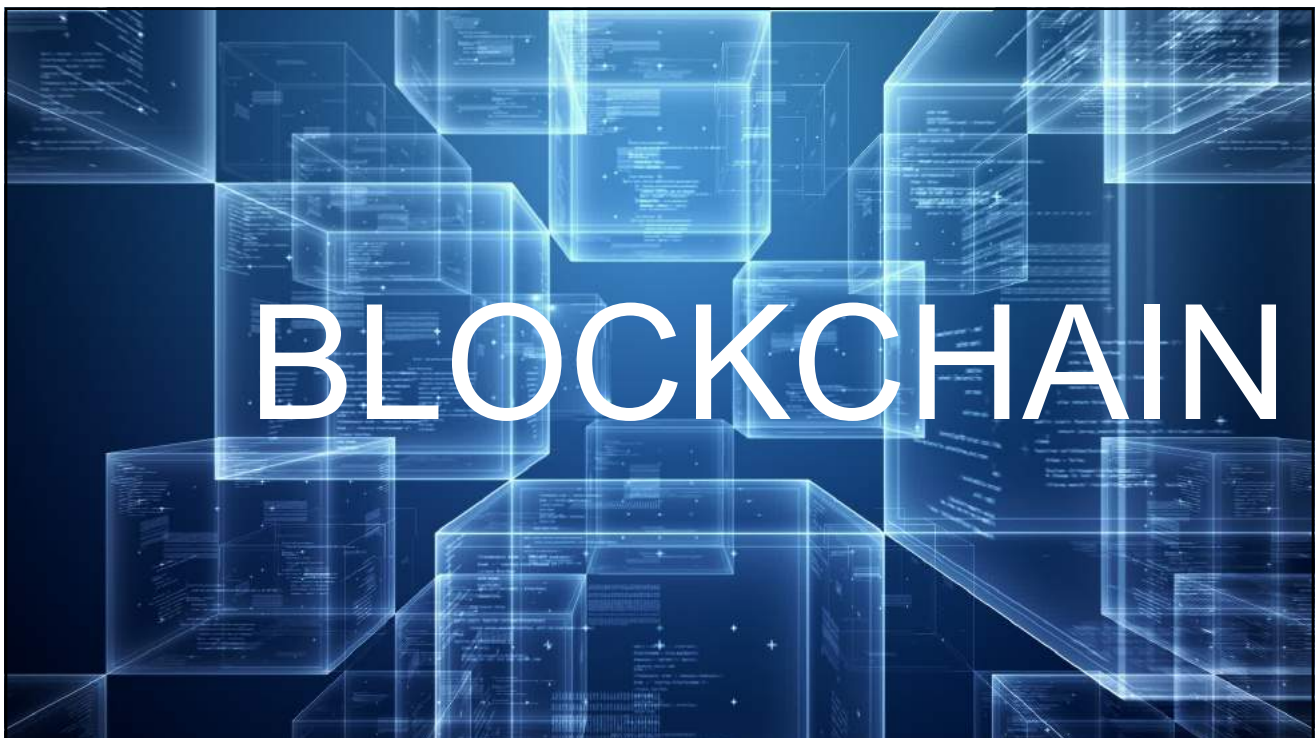
BLOCKCHAIN

What is revolutionairy about this ?
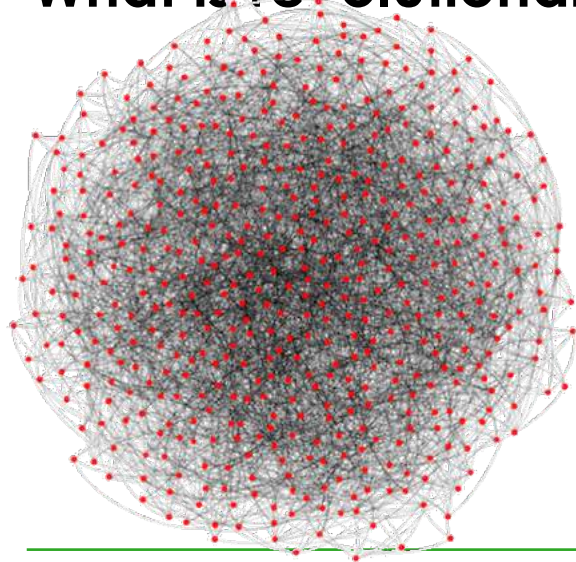
- Nodes
- Transactions encrypted
- Added to the "blockchain"
- Distributed over the full network

DISTRIBUTED LEDGER

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DAC: Storj.io – decentralized cloud storage

STORJ.IO

☐ **Pay** for what you need   (buyer, soon also by STORJ, BTC)

☐ **Get paid** for what you don't need   (supplier, STORJ cryptocurrency)

☐ Distributed Cloud

    ✓ Security, Speed, No downtown

    ✓ Fraction of the cost

STORJ	$0.015 GB/Month
amazon S3	$0.023 GB/Month
Microsoft Azure	$0.030 GB/Month

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DAC future

❏ Autonomous vehicles
❏ Registered users
❏ Toll-routing

❏ Vehicles use the tradenet to find customers
❏ Vehicles bid for road space

❏ Fully autonomous smart contracts and payments

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3 things

CHANGE
FUTURE
BE PREPARED = INNOVATION

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Organizations look for risks *in the wrong places*

THE PROPORTION OF SIGNIFICANT LOSSES IN MARKET VALUE CAUSED BY EACH TYPE OF RISK OVER THE LAST 10 YEARS

| 2% | 3% | 9% | 86% |

THE PROPORTION OF TIME SPENT ON EACH TYPE

| 39% | 13% | 42% | 6% |
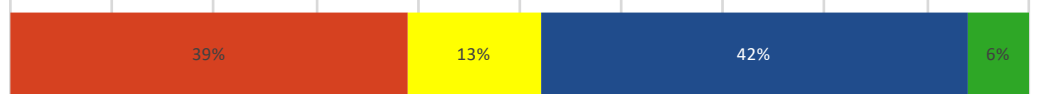
0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%

■ Financial Reporting ■ Legal & Compliance ■ Operations ■ Strategy

Source: CEB/ Harvard 2016

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Our 360°Outside-In Model™

CONTEXTUAL ENVIRONMENT

Macro-economics
Education
International Finance
Legislation
Geo-political
Ecology
Social Values
Competitors   Suppliers   International Commerce
Demographics
Lobbies   NGOs
Technology
Regulators   **TRANSACTIONAL ENVIRONMENT**
Investors   Energy Prices
Employees
Clients
YOUR ORGANIZATION

© TomorrowLab 360° Outside-In Model

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THE FUTURE IN 3 STEPS
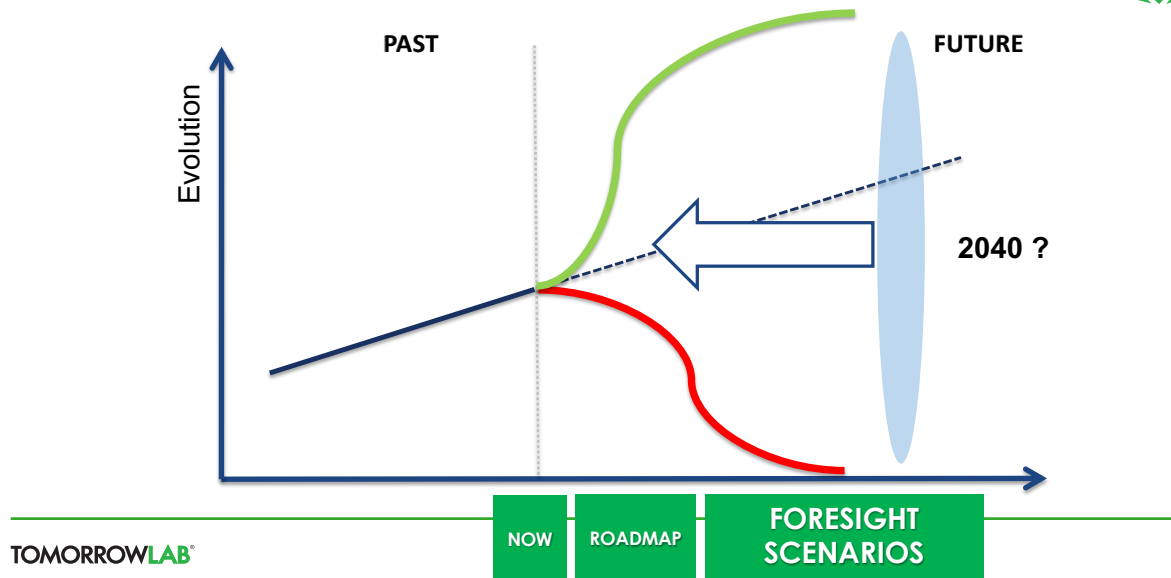
3H of innovation
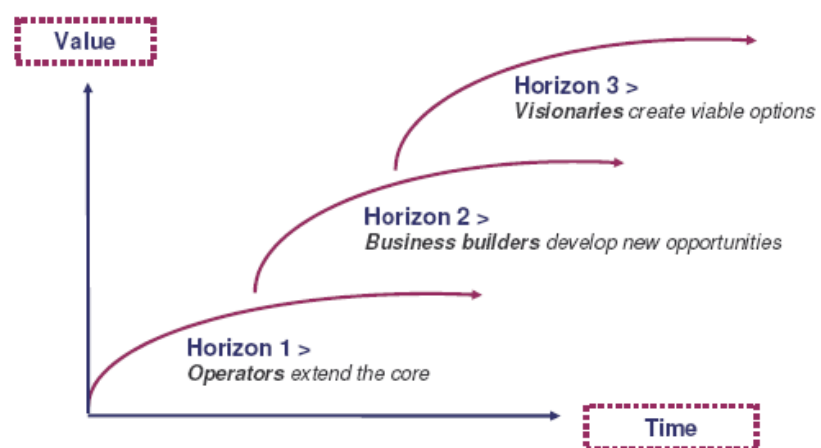
How ?

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Why do you need a digital strategy ?

Better Customer
Experience

Increase
Efficiency / ROI

Increase
Sales

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BUILD UNDERSTANDING
outside-in exploration
Digital Vision

MAKE CHOICES
Improve, Invent & Select
Digital Strategy

BUILD
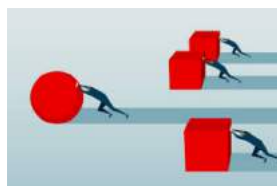Test and iterate
Digital Innovation Lab

Outside-in — Scenario building — Windtunneling & Ideation — Refine best business models — Pilot & test — Pivot & iterate

Scenario building Vision 202x	Customer Journeys / personas Options, stress-test, plan, roadmap	Make "digital" a lifestyle and create quicks wins + cultural adaption
Build a team that understands the future customers, market, technologies and the impact on your organization, services, skills, business models. Become agile !	Build and start implementing a digital strategy that realizes the vision for tomorrow. Identify POCs, priorities, teams, resources, business models and partners	Deploy, measure progress, increase effectiveness, fill digital gaps, coach / train people, co-creation with customers, need detection and solutions design.

Typical 3 year process

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*Will change <u>happen</u> to you,
OR will it be <u>led</u> by you?*

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THANK YOU.

We cannot predict the future, but we can invent it.

Joachim De Vos, CEO
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