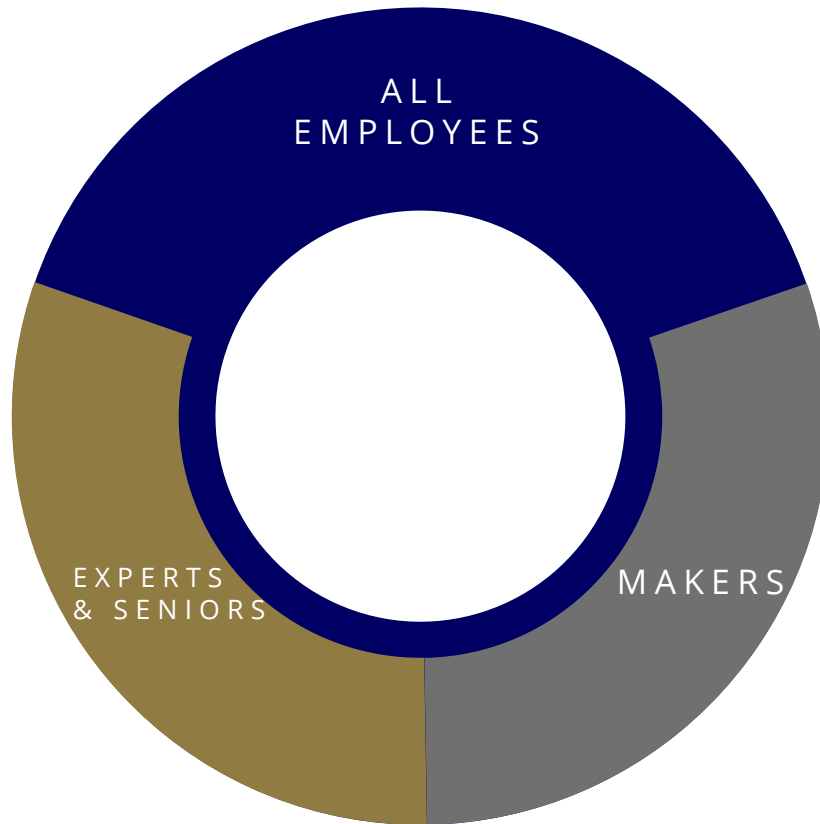


DATA SCIENCE

Our immersive approach to engage all employees



Every employee should lead the digital transformation of their company
TRANSFORMATION IS EVERYBODY'S CONCERN

// PICK&CHOOSE

We believe learning must be responsive and comprehensive. GEM IMPULSE is designed as an agile product: we understand your needs, co-design and iterate with you. We don't make a catalogue of keynotes and workshops but propose to the participants a thorough and tailor-made journey.

// LEARNING BY DOING

We believe immersive experiences and workshops are more impacting than top-down presentations. Thus, participants will practice on various physical and digital tools and have privileged exchanges with experts and entrepreneurs.

// TEST&LEARN

We believe in lean approaches that allow people to develop internal and external projects best matching clients expectations. Test&Learn will be central in our sessions and will also allow us to continuously adapt the program to your needs.

Overview

CULTURAL INSPIRATION

MASTERCLASS

A 60-minute keynote based on FABERNOVEL latest research work (GAFAnomics, Uber, Platform Economy).

Goals : discover secret key factors of Tech Giants and understand the rules of the new economy.

DAILY LIFE

DATA SCIENCE

A one-day session to discover data science.

Goals : understand what is data science and practice on a data challenge.

SIMPLIFY

A one-day workshop to simplify processes.

Goals : develop useful skills and methodologies to simplify existing processes.

CORE TRANSFORMATION

LAB

A 2-day fast-paced seminar combining various workshops, short keynotes and inspiring sessions.

Goals : learn to transform a new idea into a prototype and develop new skills and reflexes (user-centricity, MVP, scalability).

ACCELERATOR

A 6-week tailored program with regular follow-up and specific workshops.

Goals : accelerate and support strategic internal and market-oriented projects and reduce time-to-market.

EXPERTS & SENIORS

ENVISION

A 2-day seminar for 15 Top-Managers including keynotes, workshops and inspiring talks.

Goals : create a change of posture on team-management and provide an in-depth understanding of their new environment.

COMPANION

On-demand two-hour long coaching session with business and technical experts.

Goals : get privileged access to quality resources to quickly unlock situations in project development.

FABERNOVEL

A full stack and digital native agency to identify levers for competitiveness

We help our clients adapt their culture and strategy to the new economy. We assist them in the design of unique user experiences.

We build a new type of organization that stimulates, federates and develops talents in order to have a sustainable impact on its ecosystem.

At start-up speed.

- Stéphane Distinguin
President and founder of FABERNOVEL

// FABERNOVEL
INSTITUTE

Experiential training

// FABERNOVEL
INNOVATE

Strategy consultancy, design
and prototyping

// PARISOMA
BY FABERNOVEL

Coworking, mentorship and
events for startups in SF

// FABERNOVEL
CODE

Full-services web agency

AM Applidium

Mobile products agency

// FABERNOVEL
DATA & MEDIA

Digital smart agency

FABDEV is an innovative company specialised in programming in Python. We make platforms, tools, algorithms.

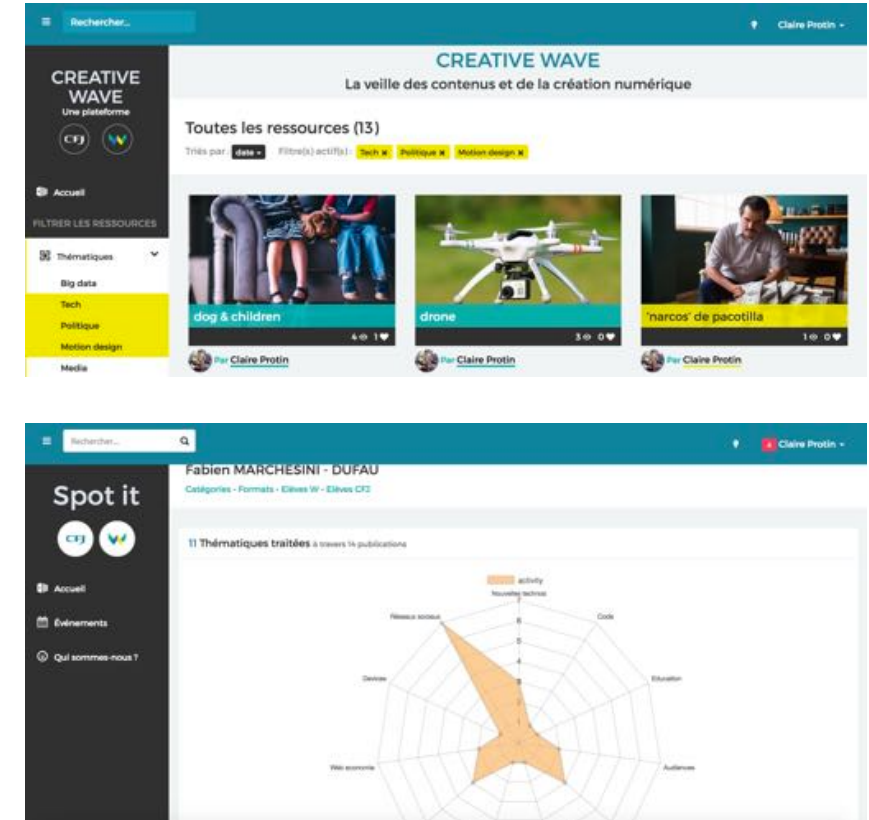
- Apps for work
- Data analysis
- Training and workshops
- Hosting and maintenance



Claire.Protin
@fabdev.fr
CEO



Lucas.Berbesson
@fabdev.fr
CTO



HELLO

my name is

Agenda of the Day



Breakfast

8:45am



Introduction

9:15am



Keynote | Data & APIs

9:25am



Workshop | How non-tech can work with Data

9:55am

Break

10:35am



Live Demo | Beyond Excel

11am



Lunch Break

12:30pm



Live Demo | Classic Data science project

2pm

Break

3:15pm



Data Challenge on Python

3:30pm



Debriefing

5:pm

DATA & APIS

KEYNOTE

Software is eating the World



• Marc Andreessen
in Wall Street Journal



Tech Companies are Leading the Game

20 YEARS AGO

1997 - S&P500 = \$3.2T

SECTOR	WEIGHT	LARGEST COMPANIES
CONSUMER STAPLES	14%	COCA-COLA ALTRIA
CONSUMER DISCRETIONARY	13%	MOTORS LIQUIDATION FORD
INDUSTRIALS	13%	GENERAL ELECTRIC 3M
FINANCIALS	11%	AIG FANNIE MAE
INFORMATION TECHNOLOGY	11%	IBM MICROSOFT
HEALTH CARE	10%	MERCK JOHNSON & JOHNSON
ENERGY	9%	EXXON MOBIL
TELECOM	8%	SOUTHWESTERN BELL GTE
MATERIALS	7%	DUPONT DOW CHEMICAL
UTILITIES	4%	SOURHERN COMPANY DUKE ENERGY

TODAY

2017 - S&P500 = \$17.8T

SECTOR	WEIGHT	LARGEST COMPANIES
INFORMATION TECHNOLOGY	21%	APPLE MICROSOFT
FINANCIALS	15%	BERKSHIRE HATHAWAY WELLS FARGO & CO
HEALTH CARE	14%	JOHNSON & JOHNSON PFIZER
CONSUMER DISCRETIONARY	12%	AMAZON.COM WALT DISNEY
INDUSTRIALS	11%	GENERAL ELECTRIC UNITED TECHNOLOGIES
CONSUMER STAPLES	9%	PROCTER & GAMBLE WAL-MART
ENERGY	8%	EXXON MOBIL
UTILITIES	3%	DUKE ENERGY NEXTERA ENERGY
MATERIALS	3%	DUPONT MONSATO
TELECOM	3%	AT&T VERIZON



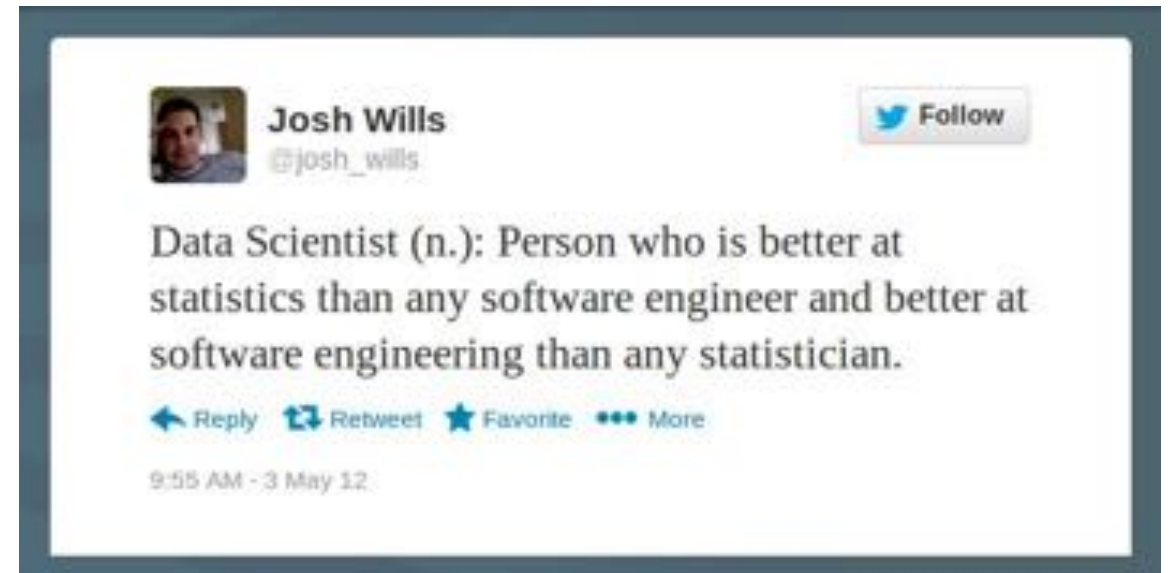
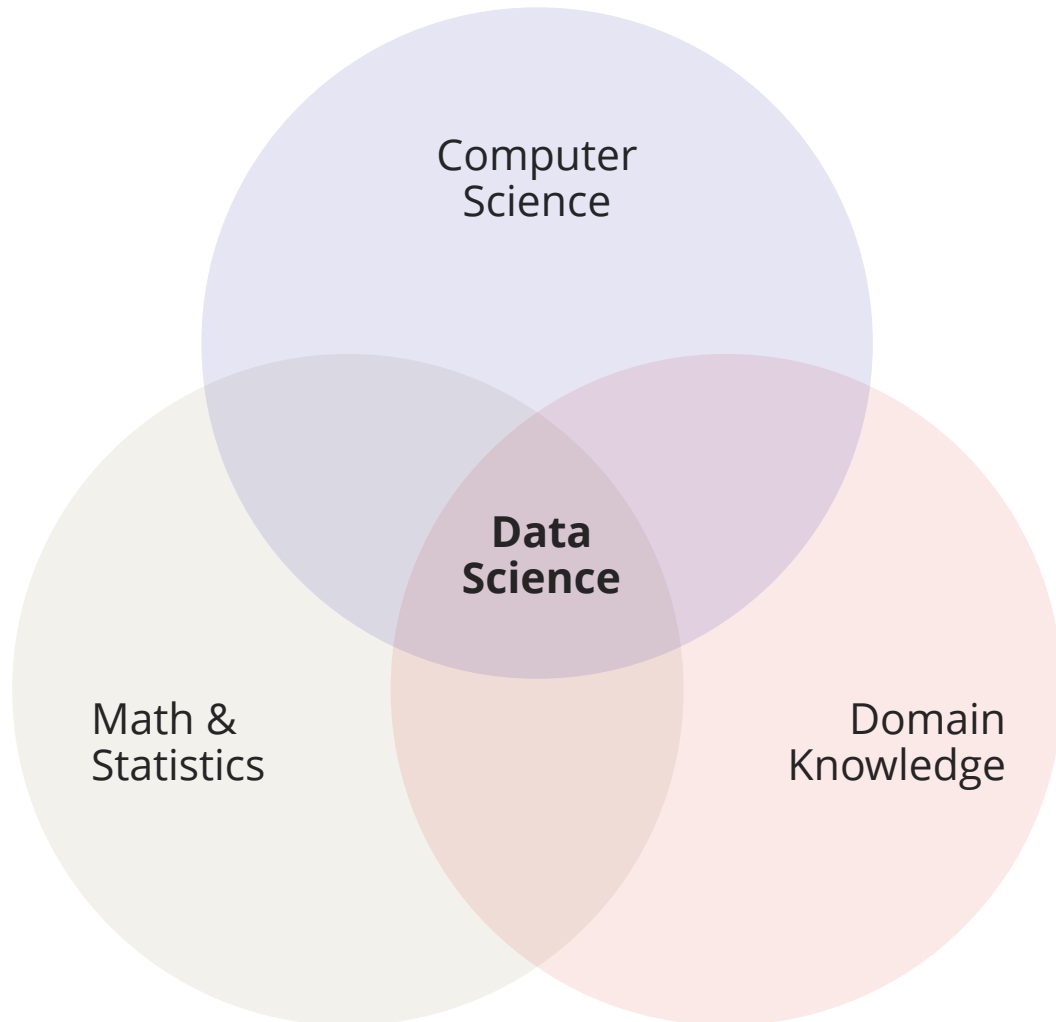
“We are a Technology Company”

- **LLOYD BLANKFEIN**,
CEO AT GOLDMAN SACHS

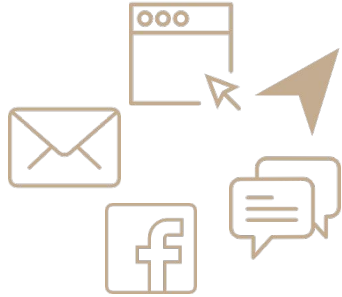
WHAT'S DATA SCIENCE?

|

Data Science

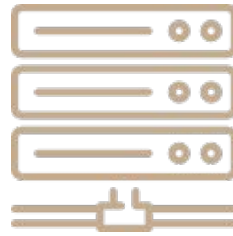


Leveraging Data has never been “easier”



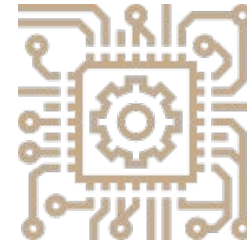
THE AMOUNT OF DATA CREATED IS EXPLODING

90% of the data in the world today has been created in the last two years alone.



COST OF STORAGE IS DECREASING

The cost of Hard Drive Storage Space per gigabyte was \$300,000 in 1980, \$100 in 1997, \$0,1 in 2010.



COMPUTER POWER IS INCREASING

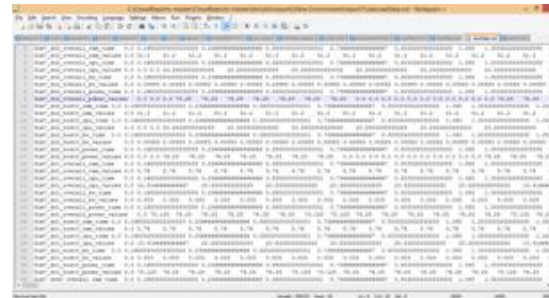
According to Moore's law, overall processing power for computers doubles every two years.

Data is everywhere... ...but comes in various types

BIG DATA

"Data sets that are **so large or complex** that traditional data processing applications are inadequate to deal with them."

RAW DATA



MULTIMEDIA (sound, pictures, videos)

LANGUAGE



VOLUME

THE EXPONENTIAL GROWTH OF DATA



VELOCITY

THE REAL-TIME DATA PROCESSING



VARIETY

HETEROGENEOUS DATA TYPES AND SOURCES



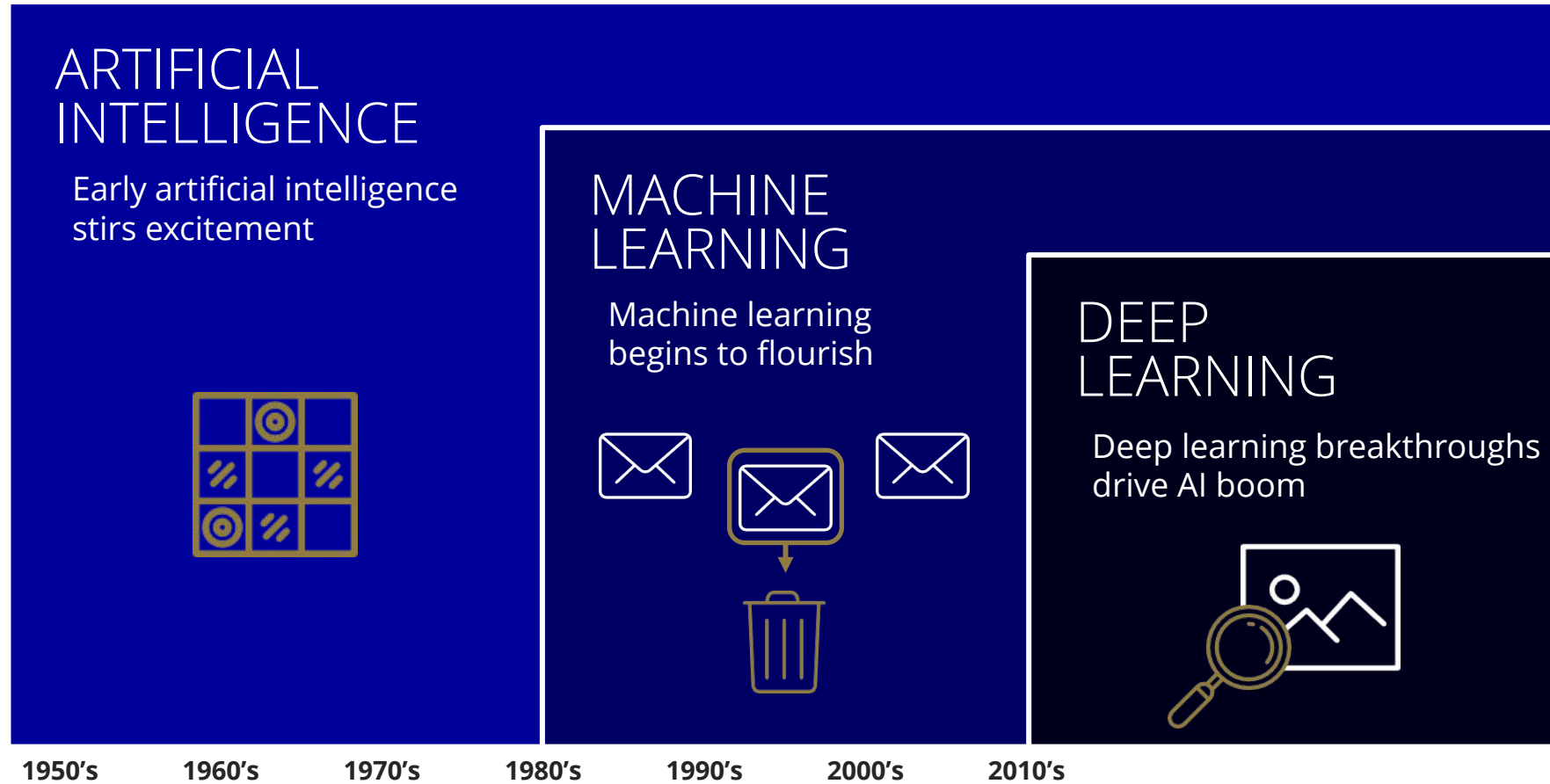
CLOUD COMPUTING
=
ON-DEMAND ACCESS TO VIRTUALLY
INFINITE COMPUTING POWER & STORAGE



AI

ARTIFICIAL INTELLIGENCE IS
THE **NEXT DIGITAL DISRUPTION**

Deep Tech, Machine Learning & Artificial Intelligence



UNDERTAND USERS BETTER THAN THEMSELVES | NETFLIX

CHALLENGE

Decrease the churn rate (= stop users from leaving the platform).

SOLUTION

Develop a recommendation algorithm based on previous watching.

RESULTS

A churn rate decrease of several percentage points, equivalent to a \$1 billion saving per year.



UNDERTAND USERS BETTER THAN THEMSELVES | NETFLIX

CHALLENGE

Detect high-potential programs – before competitors - and produce them (Tv-show House of cards in this case)

SOLUTION

Analyze data and make data-driven decisions.

In this case, Netflix saw that a large majority of its viewers enjoy programs

directed by David Fincher (who directed Se7en, Fight Club and The Social Network) and programs starring Kevin Spacey.

RESULTS

Get a success rate of 70% compared to 35% on average for other TV shows.



PREVENT CRIME FROM HAPPENING LAPD

CHALLENGE

Place officers at the right time and location to give them the best chance of preventing crime.

SOLUTION

Feed a earthquakes prediction model with 13 million crimes of over the past 80 years.

RESULTS

- 33% reduction in burglaries
- 21% reduction in violent crimes
- 12% reduction in property crime



API AT THE CORE OF THE DIGITAL ECONOMY

|

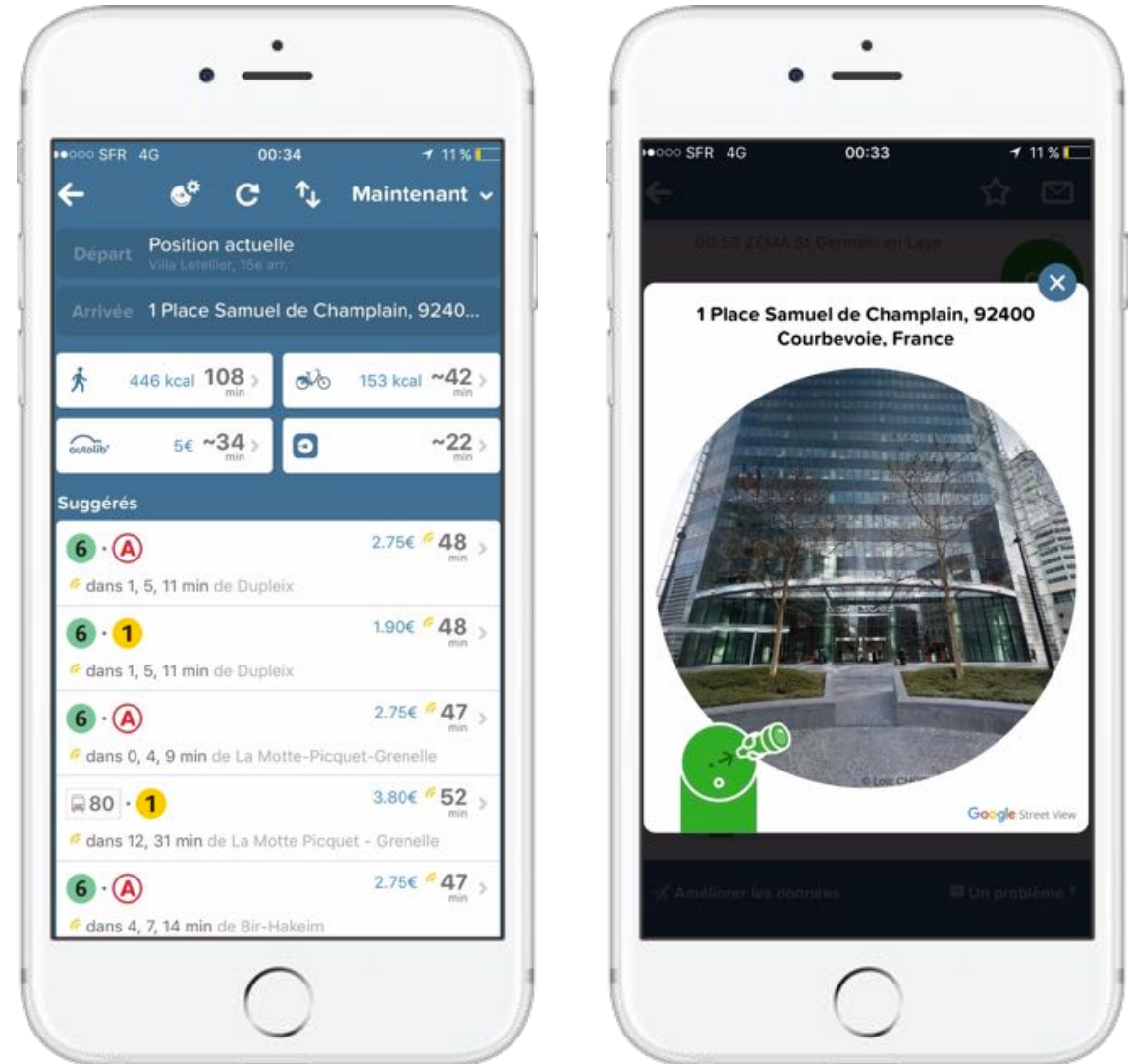
What is an API?

API - Application Programming Interface

An API is a specification intended to be used as an interface by software components to communicate with each other.

An API may include specifications for routines, data structures, object classes, and variables.

In other words, APIs are like male and female plugs allowing software to share data and functionalities.



There are three main types of APIs

PUBLIC

Public APIs allow companies to **publicly expose information and functionalities** of one or various systems and applications to **third parties** that do not necessarily have a business relationship with them.

Advantages:

- Delegated R&D
- Increased reach, traffic
- New revenue stream

PARTNER

Partner APIs are used to **facilitate** communication and integration of software **between a company and its business partners**

Advantages:

- Value-added service
- Up sell
- Must have for business partners

PRIVATE

Private APIs are used **internally** to facilitate the **integration** of different applications and systems used by a company.

Advantages:

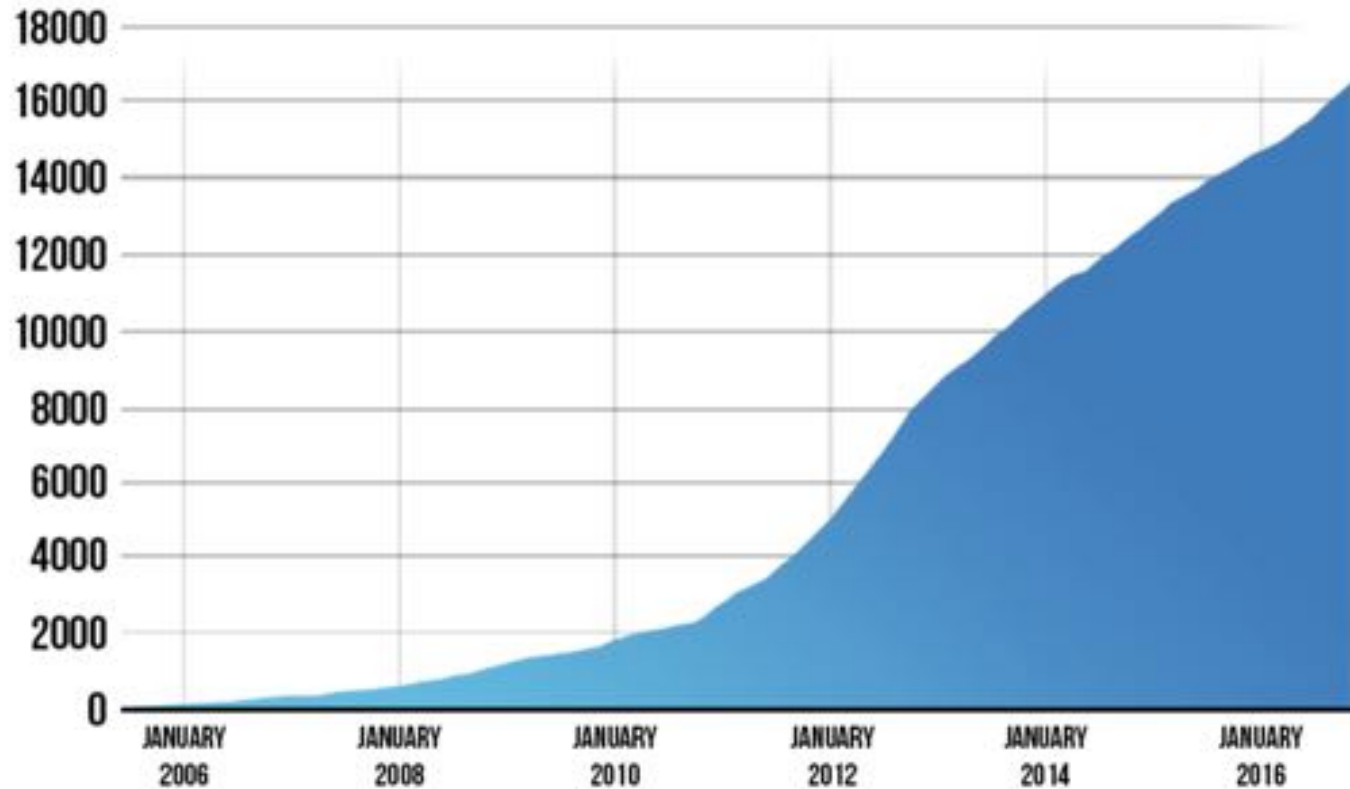
- Rationalized infrastructure
- Reduced costs
- Increase flexibility: “real-time” business
- Improved internal operations

Today, API Growth is skyrocketing

Twitter : 15B+ API calls a day
Facebook : 7B+ API calls a day

Salesforce : 1B+ API calls a day
Netflix : 1.5B+ API calls a day

GROWTH IN WEB APIS SINCE 2005

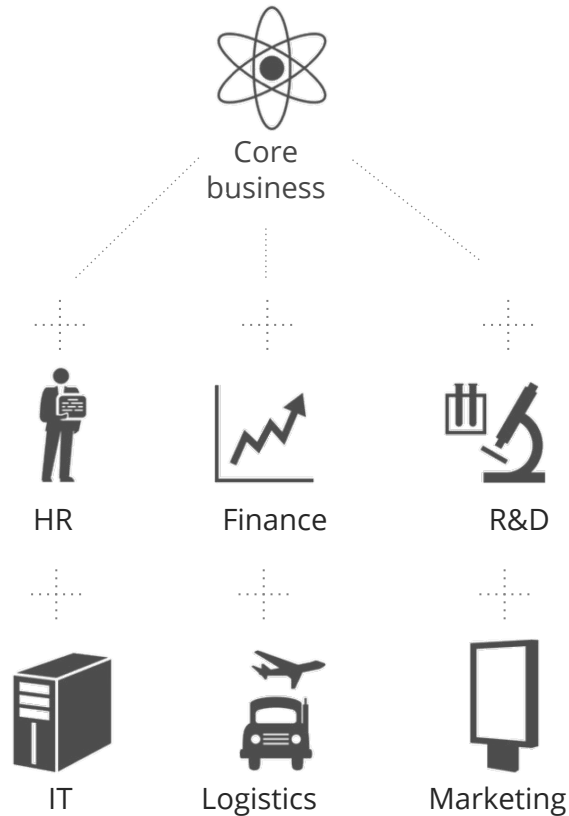


...however, most APIs are private and thus invisible to the public.

There are ten times more private APIs (for internal developers) and semi-private APIs (for partners) than there are public APIs

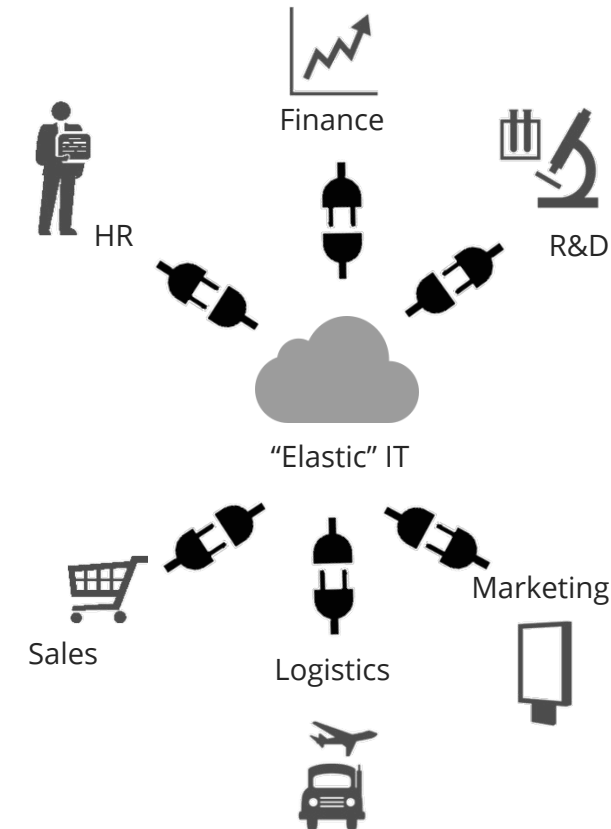
APIs, an innovative and efficient model allowing companies to manage their core business only

TRADITIONAL COMPANY



In a traditional company, all functions are **internalized** to support the **core business**

API-DRIVEN COMPANY



In an API-driven company, support functions are **externalized** via an **API**, focus is on the **core business**

API as an advantage for growth: Uber (1/2)

Uber has built its whole service on top of infrastructures set out by GAFA (Google, Amazon, Facebook, Apple). Now that it has grown big, is slowly gaining independence; for example from Google Maps by acquiring DeCarta and Bing Maps.



ACCESS TO USERS

App distribution on the App Store, Google Play, Amazon Echo and soon Facebook Messenger.



PAYMENT

Google Wallet and Apple Pay are used to complete transactions.



DRIVER NAVIGATION

Google Maps used to geolocate cars and users as well as to help drivers navigate.



API as new distribution channels and an extended reach: Uber (2/2)

Uber's future customers are probably someone's current customers. In order to acquire users from other businesses' customer bases, Uber has opened a set of APIs to integrate its service into third parties' apps and gain visibility.

Outsourcing marketing efforts

"Consider emailing your user base to ensure they are aware of the Uber integration within your app"

Suggestion to its API users

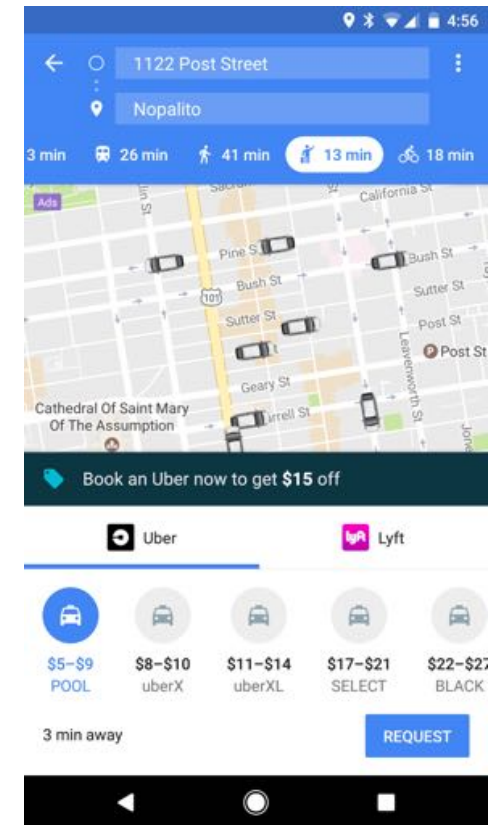
Uber's APIs allow developers to incorporate Uber into their applications (close to 10,000 at the end of 2015). Developers can make up to 5000\$ in referral fees. (5\$ per signed-up user)

Be where users are

Uber can reach **200 million** more users through its partners' apps.



The Partner Program is aimed at big companies that integrated Uber in their own app. It's a free added service for their customers and it offers exposure to Uber.



API as an external R&D: Walgreen

Photo Prints allows mobile application developers to include the ability for their app users to print photos to any of the 8,000+ Walgreens locations. With every photo order that is successfully placed and picked up at a local store, the developer can earn a revenue share commission. A strategy to increase mobile interaction as Walgreens' revenues per customer for people who interacted with it physically and through mobile devices were six times those generated by people who just shopped at its stores.



225 Third party applications

15% Revenue share for apps

200% Growth of API adoption

40% Of digital photo business through APIs

4M Photo prints via Printicular

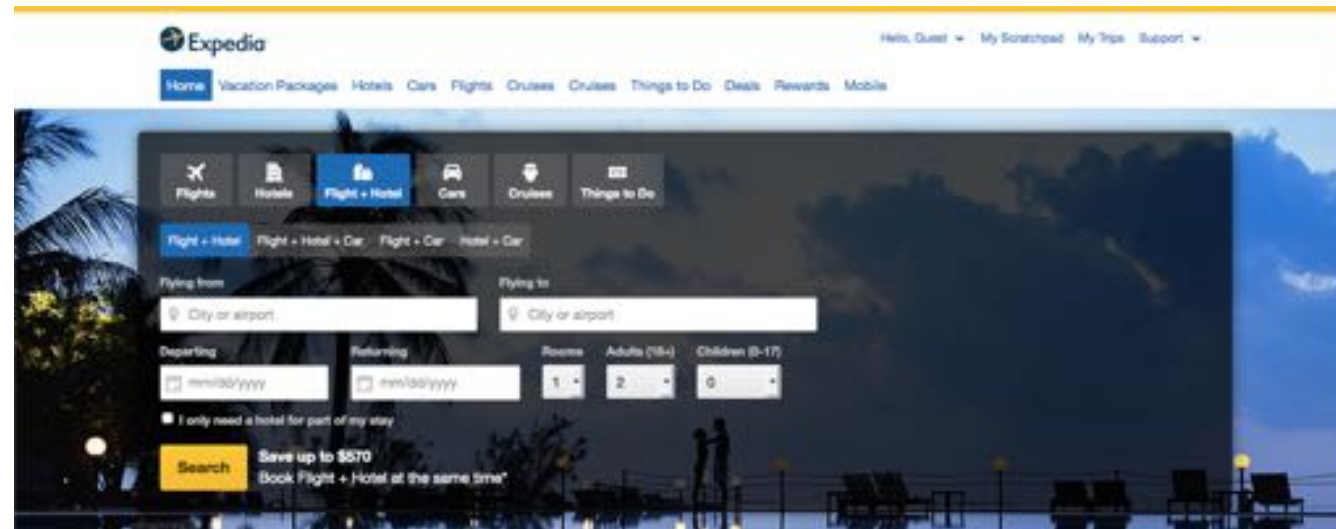
API as a new revenue stream: Expedia

Expedia opened up APIs to allow developers to pick-up photos, bookings, search results and customer reviews. It allowed developers who needed a **piecemeal access** to Expedia content to integrate it **seamlessly** in their **interfaces** and **experiences**.

Thanks to its API, Expedia affiliates do the partnership and marketing work for Expedia at a low marginal cost for Expedia.

10 000 partners use Expedia APIs of Likes/day

90% of Expedia's \$2bn revenue come from its APIs



API as a internal culture

- All teams will henceforth expose their data and functionality through service interfaces.
- Teams must communicate with each other through these interfaces.
- There will be no other form of inter-process communication allowed: no direct linking, no direct reads of another team's data store, no shared-memory model, no back-doors whatsoever. The only communication allowed is via service interface calls over the network.
- It doesn't matter what technology they use.
- All service interfaces, without exception, must be designed from the ground up to be externalizable. That is to say, the team must plan and design to be able to expose the interface to developers in the outside world. No exceptions.

Anyone who doesn't do this will be fired.

Thank you; have a nice day!

Email from Jeff Bezos (2002)

API for non-tech: IFTTT

IFFTT offers a unique service allowing users to create recipes (trigger + action) between 242 services. 15 million of these triggers are realized every day. IFTTT has raised more than \$38M to date. All the value captured and distributed by IFTTT comes from API connections.

Use other's API to benefit from externally-created value.

