

BIG DATA, un nuevo reto en el sector salud

TERTÚLIES TECNOLÒGIQUES DE LA FACULTAT DE FARMÀCIA I CIÈNCIES DE L'ALIMENTACIÓ

(Tertúlies amb els amics del professor Ramon Salazar)

14 de Setembre de 2017

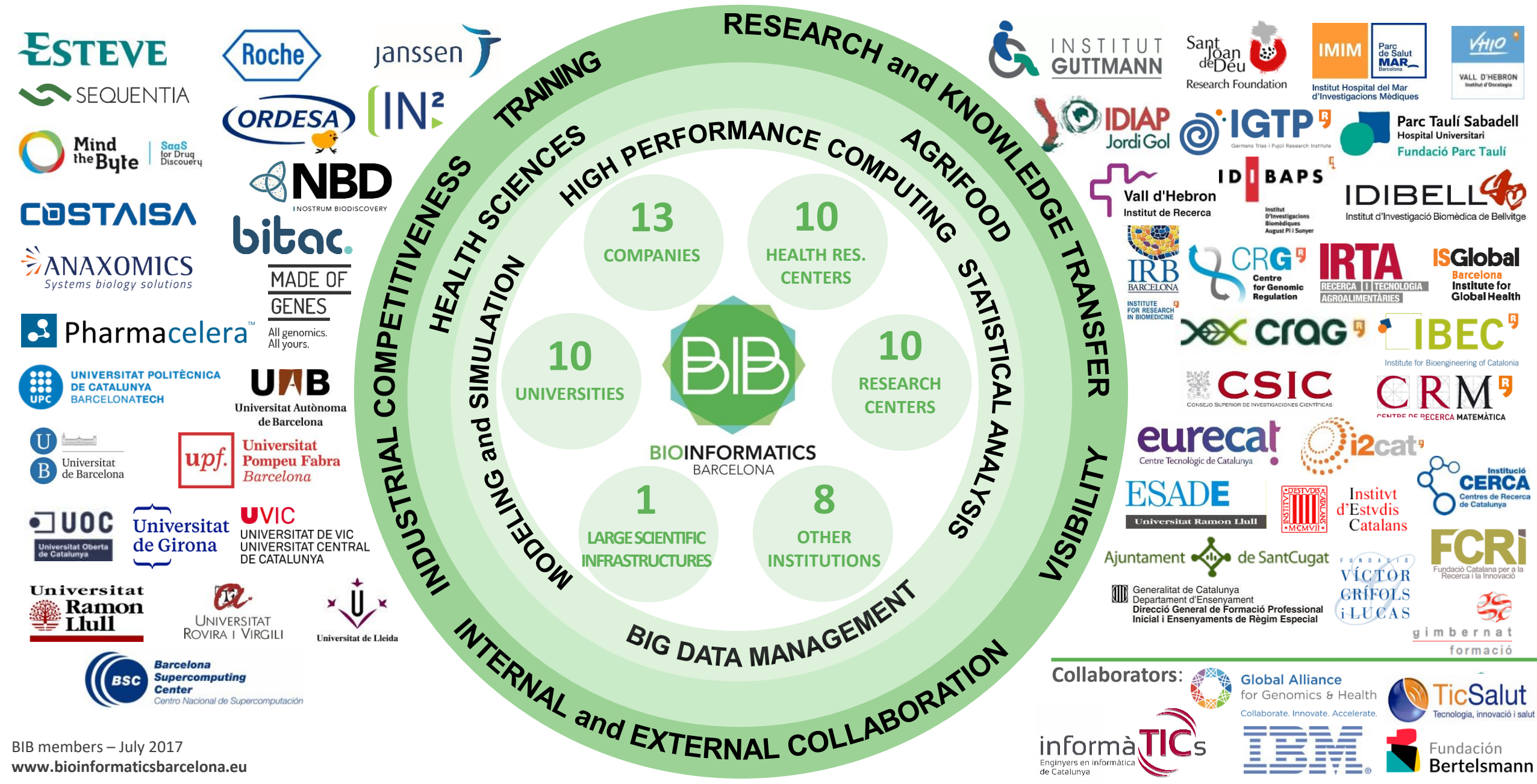
M Alavedra Farell / Coordinadora Sector Salut BIB (Bioinformatics Barcelona)



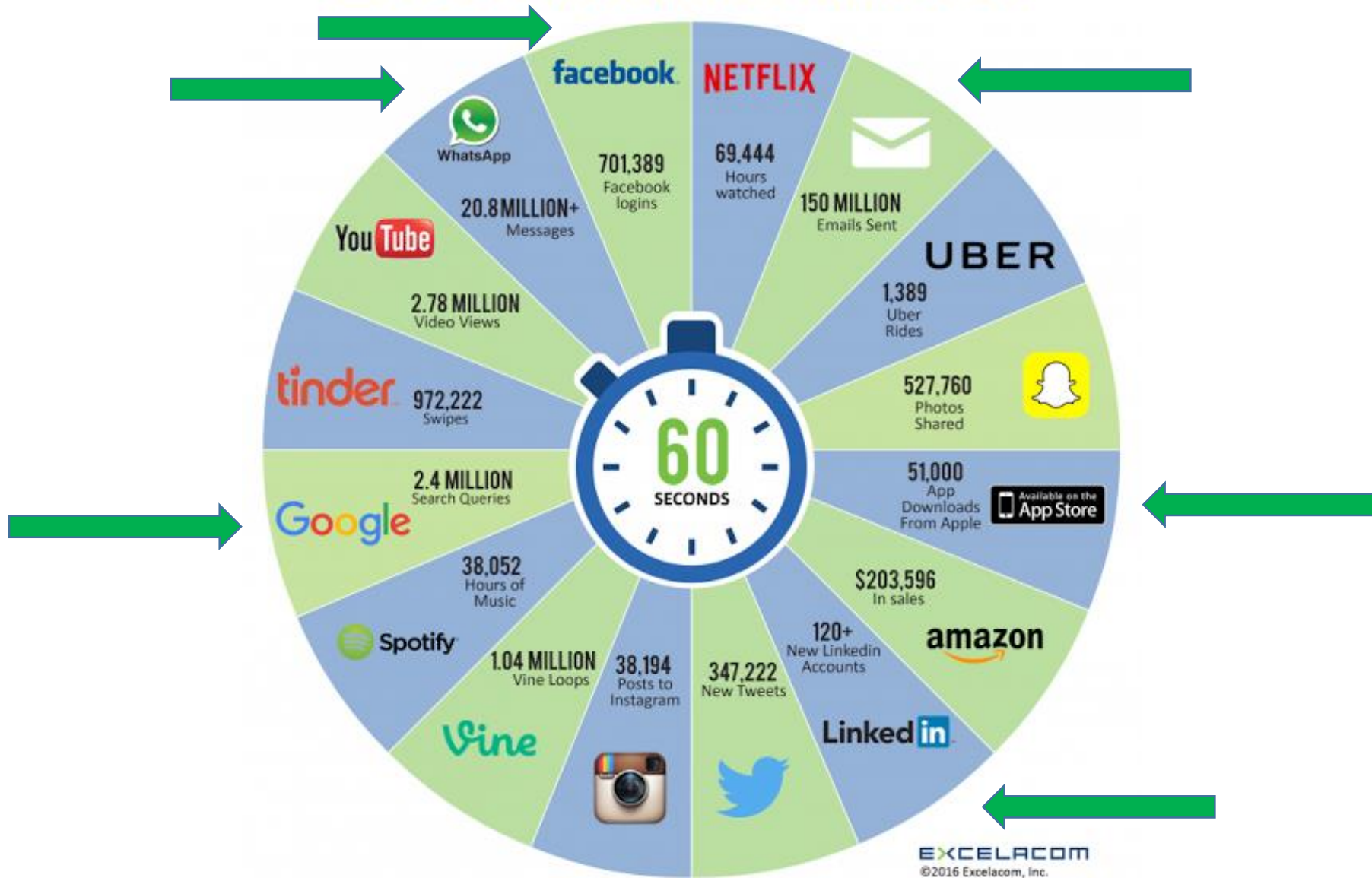
Dra Ana Ripoll

Catedrática de Arquitectura y Tecnología de Computadores
Rectora de la UAB (2008-2012)
Fundadora y Presidenta del BIB en el 2015

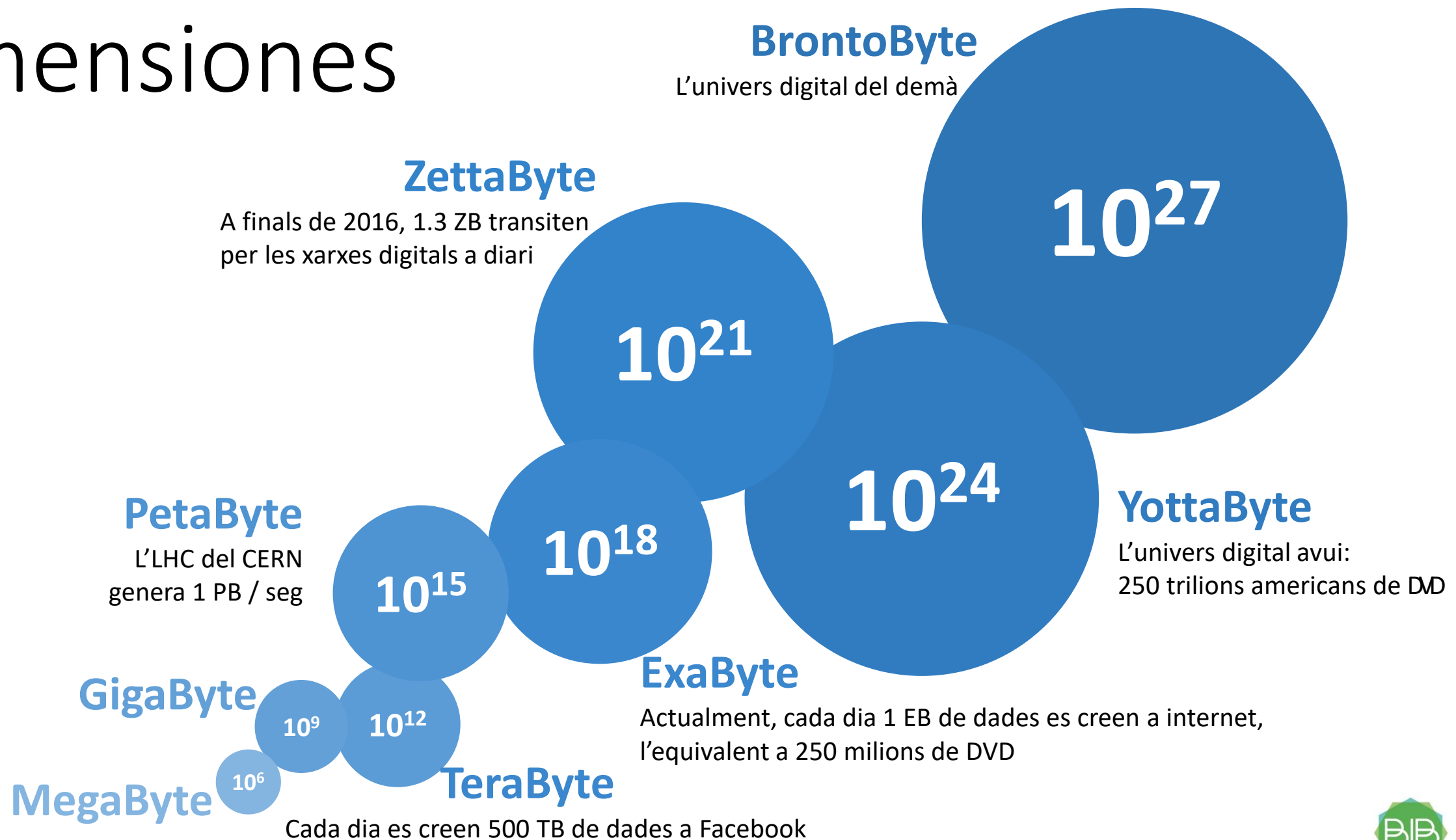
ASSOCIACIÓ BIOINFORMATICS BARCELONA



2016 What happens in an INTERNET MINUTE?



Dimensions





BIG DATA

Big data es un concepto que hace posible la recopilación, almacenamiento, gestión, análisis y la visualización, en condiciones de tiempo real, de grandes volúmenes de datos con características heterogeneas.

Image source: https://raspberrypiandcubietruck.files.wordpress.com/2015/06/abstract-binary_00373618.jpg

Big Data / Industrial sectors

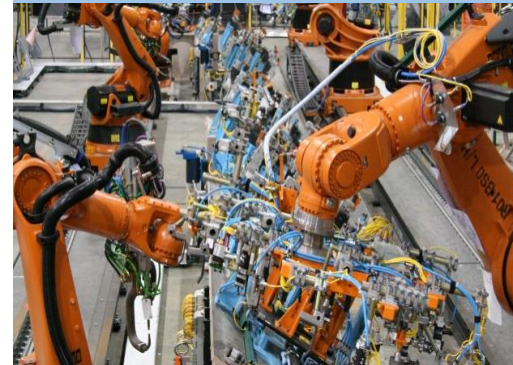
SMARTER HEALTHCARE



PRECISION MEDICINE High Performance Computing



MANUFACTURING



TRAFFIC CONTROL



TRADING ANALYTICS



MULTICHANNEL SALES



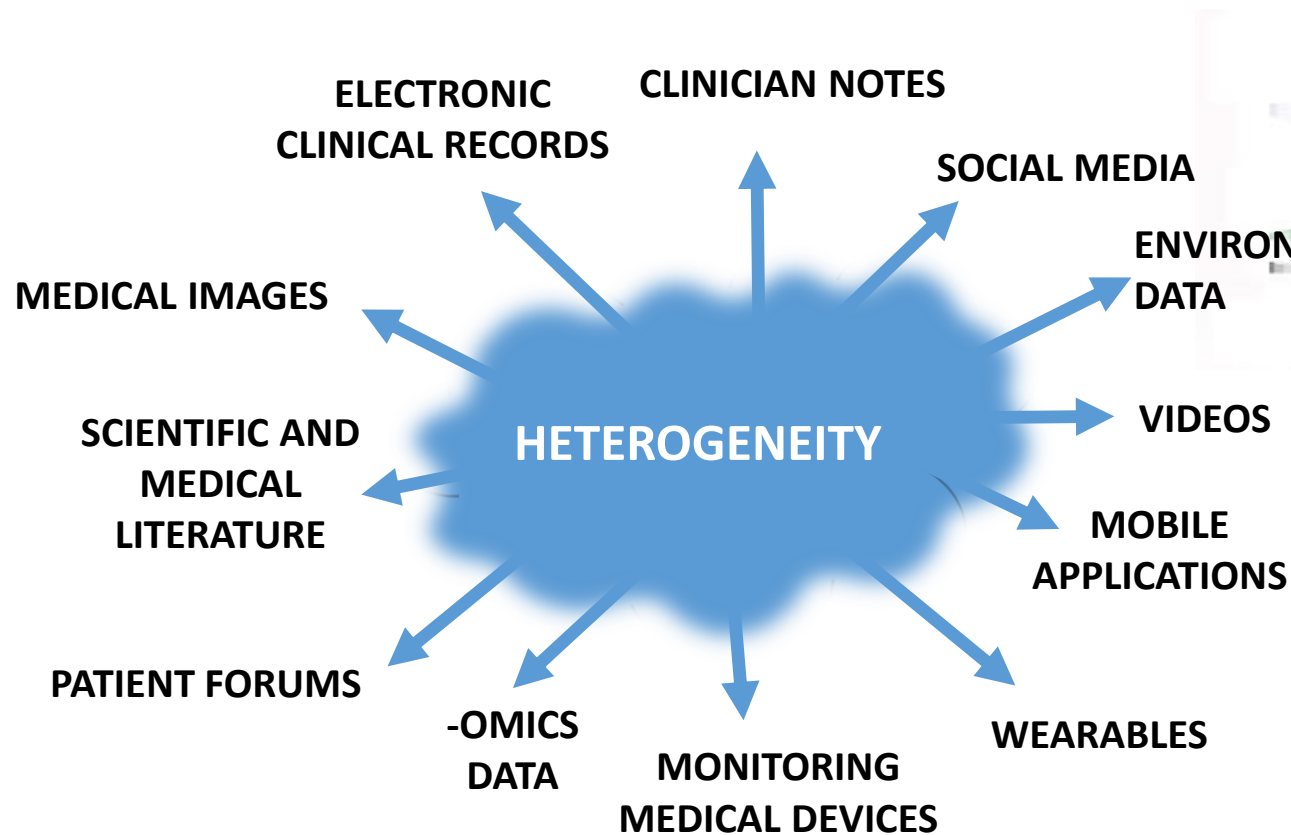
TELECOM



BRAIN-INSPIRED COMPUTING







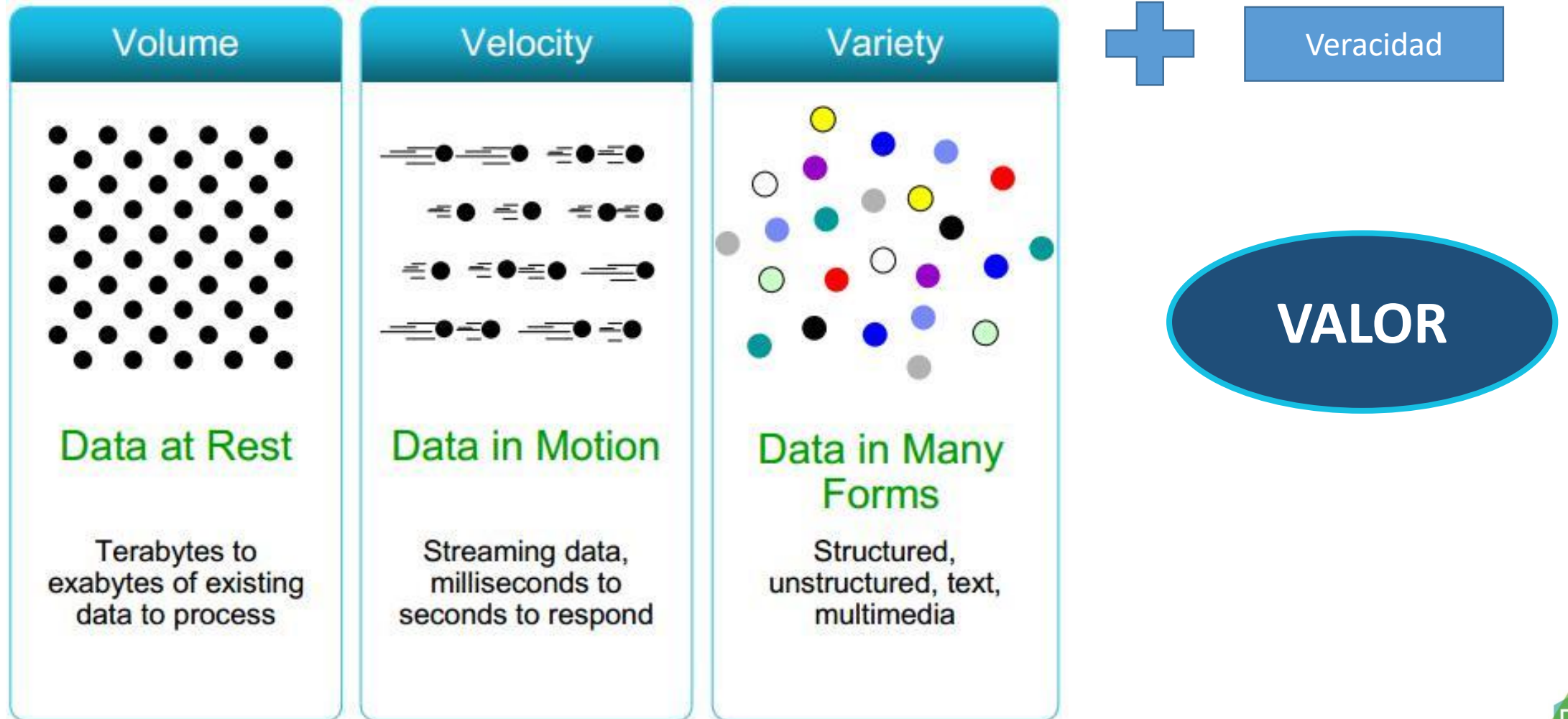
INTEROPERABILITY IS BECOMING THE MOST RELEVANT CHALLENGE IN COMPUTER SCIENCE

Different data representations
Different programming languages
Different operating systems
Different hardware platforms
Different network infrastructures

INTEROPERABILITY

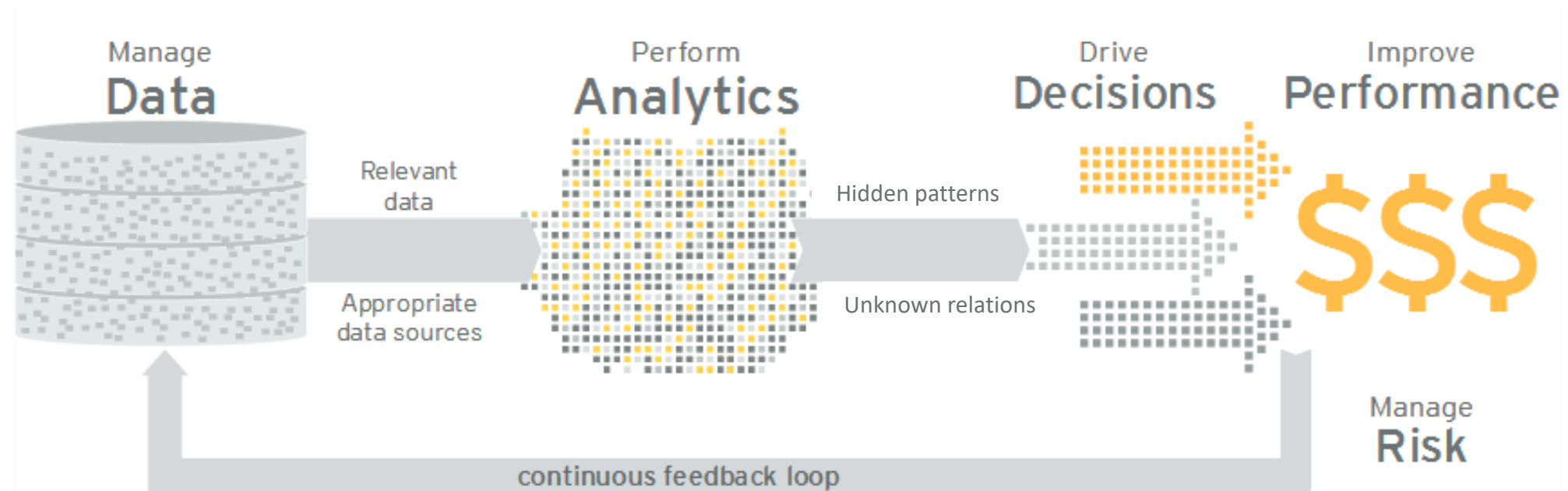
- ❑ The ability of independently-developed components to interact and cooperate with each other
- ❑ The ability of components to exchange data and services

Características del Big Data



BIG DATA VALUE CHAIN → NEW KNOWLEDGE

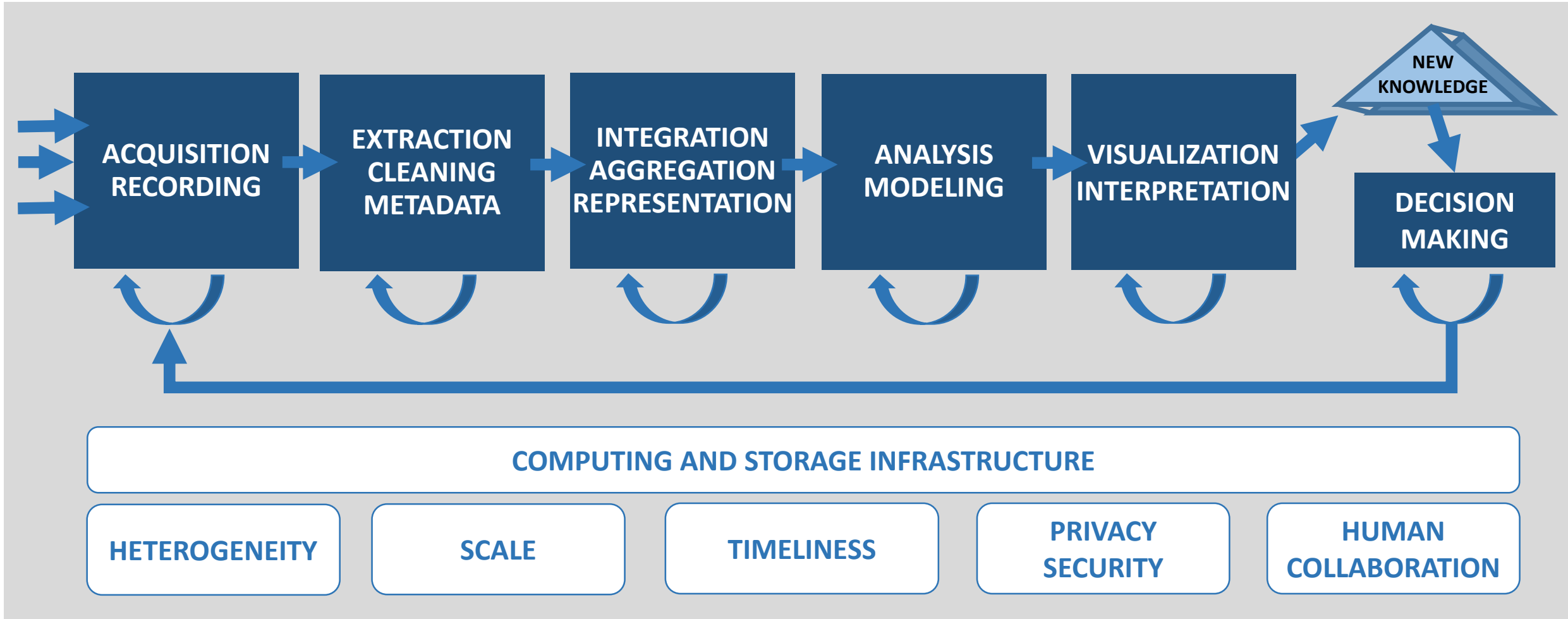
To drive better decisions, we must first ask the right questions and then seek the answers in the data.



Big Data helps you find the questions you don't know you want to ask.

Eric D. Brown

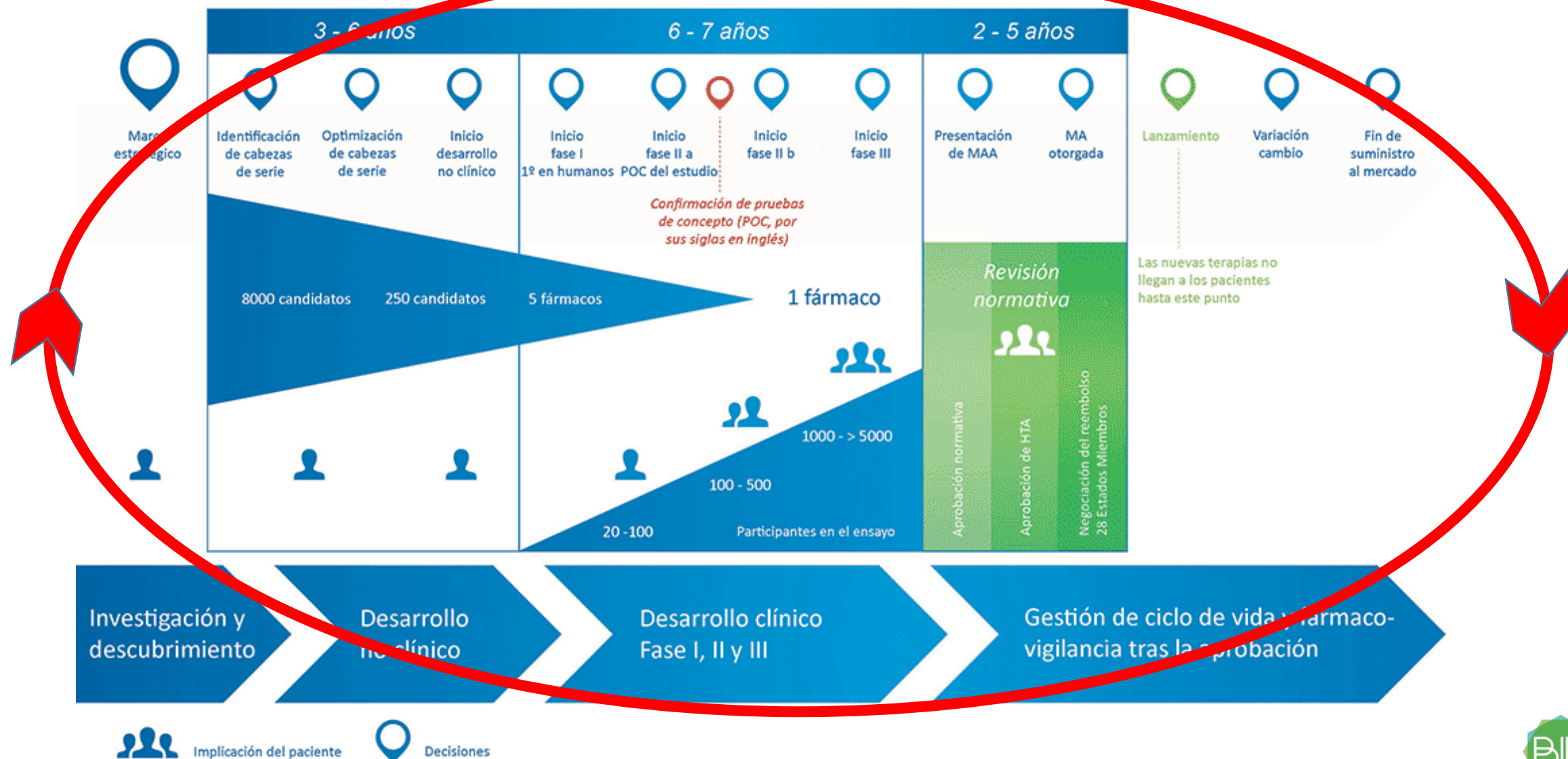
Pipeline



Impacto del big data



Resumen de las decisiones y fases de desarrollo en la investigación y desarrollo





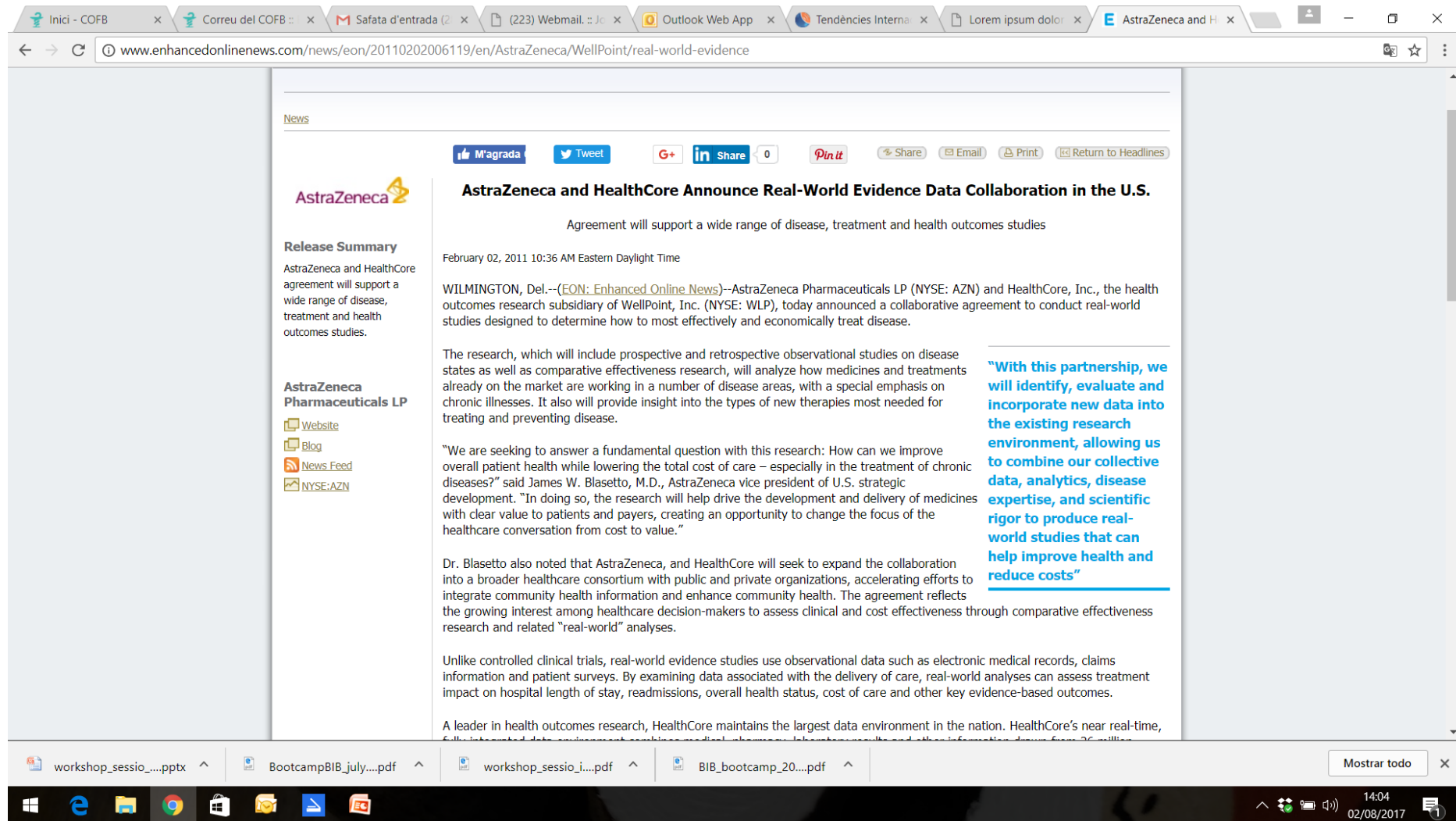
Capture the \$1B Opportunity

RWE is critical throughout the product lifecycle and quantifies the value of innovation and patient care:



*Selected operational opportunities only; excludes increased R&D pipeline throughput and better pricing

AstraZeneca-HealthCore



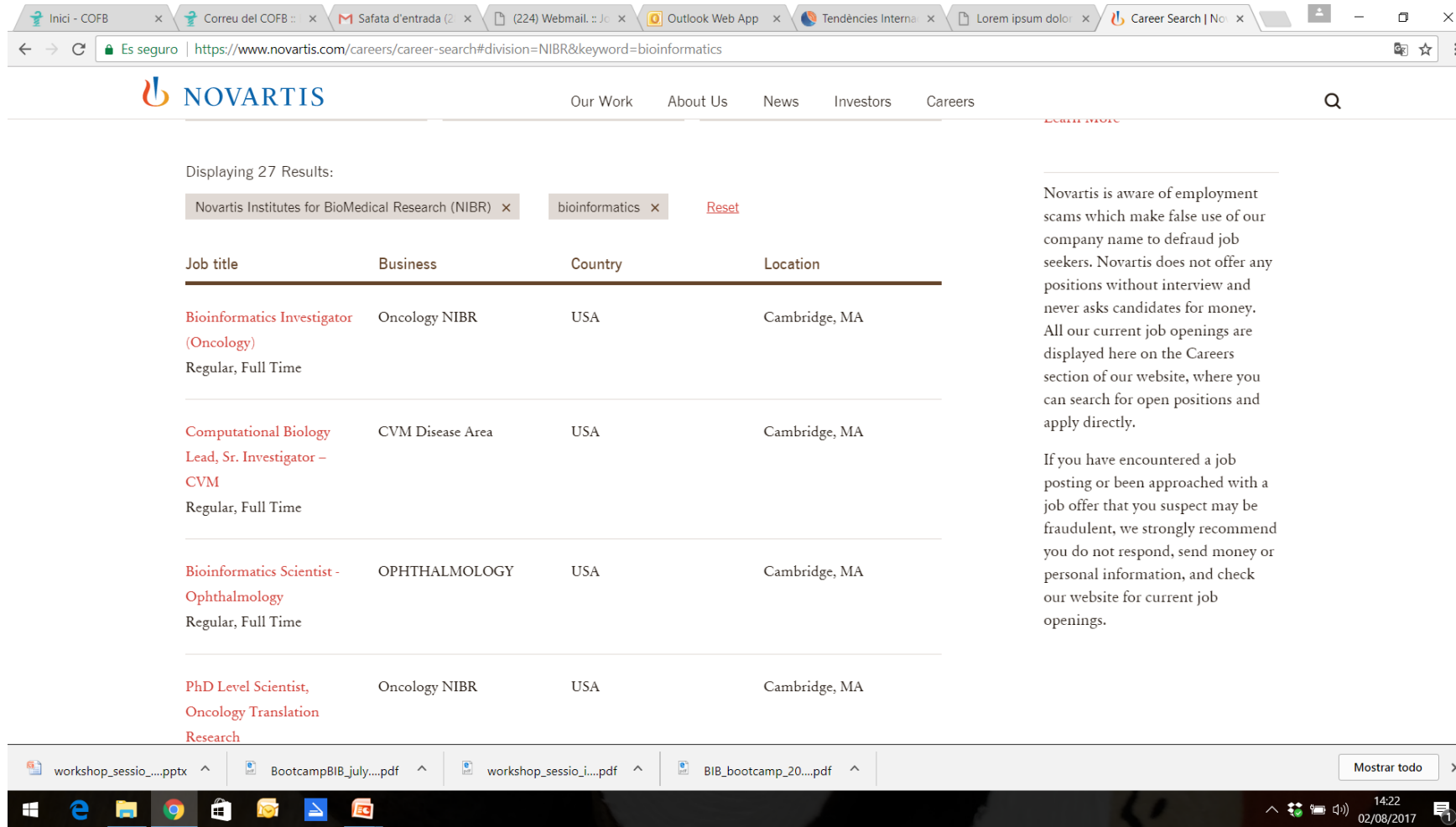
<http://www.businesswire.com/news/home/20110202006102/en/AstraZeneca-HealthCore-Announce-Real-World-Evidence-Data-Collaboration>

Novartis

“The hope is that if you have a well-designed experiment, a well-formulated hypothesis and a solid plan for analysis, then the needle pops out of the haystack when you query the data”.

Joseph Szustakowski, Head of Bioinformatics in Biomarker Development at the Novartis Institutes for BioMedical Research

Formación



The screenshot shows a web browser window with multiple tabs. The active tab is 'Career Search | Novartis'. The address bar shows the URL: <https://www.novartis.com/careers/career-search#division=NIBR&keyword=bioinformatics>. The Novartis logo is at the top left, and navigation links (Our Work, About Us, News, Investors, Careers) are at the top right. A search bar is also present.

Displaying 27 Results:

Novartis Institutes for BioMedical Research (NIBR) x bioinformatics x [Reset](#)

Job title	Business	Country	Location
Bioinformatics Investigator (Oncology) Regular, Full Time	Oncology NIBR	USA	Cambridge, MA
Computational Biology Lead, Sr. Investigator – CVM Regular, Full Time	CVM Disease Area	USA	Cambridge, MA
Bioinformatics Scientist - Ophthalmology Regular, Full Time	OPHTHALMOLOGY	USA	Cambridge, MA
PhD Level Scientist, Oncology Translation Research	Oncology NIBR	USA	Cambridge, MA

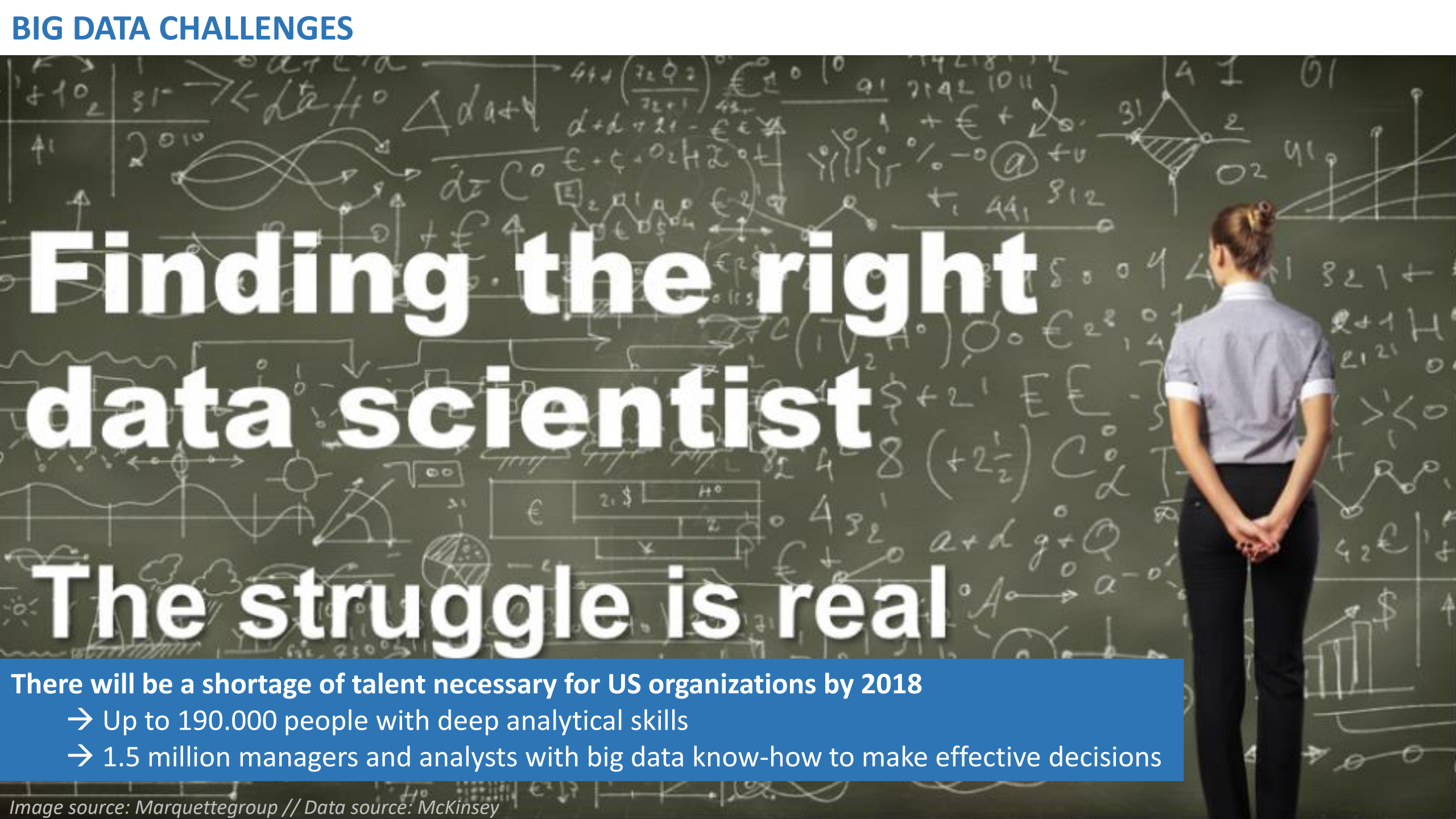
Novartis is aware of employment scams which make false use of our company name to defraud job seekers. Novartis does not offer any positions without interview and never asks candidates for money. All our current job openings are displayed here on the Careers section of our website, where you can search for open positions and apply directly.

If you have encountered a job posting or been approached with a job offer that you suspect may be fraudulent, we strongly recommend you do not respond, send money or personal information, and check our website for current job openings.

workshop_sessio_...pptx ^ BootcampBIB_july_...pdf ^ workshop_sessio_i_...pdf ^ BIB_bootcamp_20_...pdf ^ [Mostrar todo](#) x

14:22 02/08/2017

<https://www.novartis.com/careers/career-search#division=NIBR&keyword=bioinformatics>



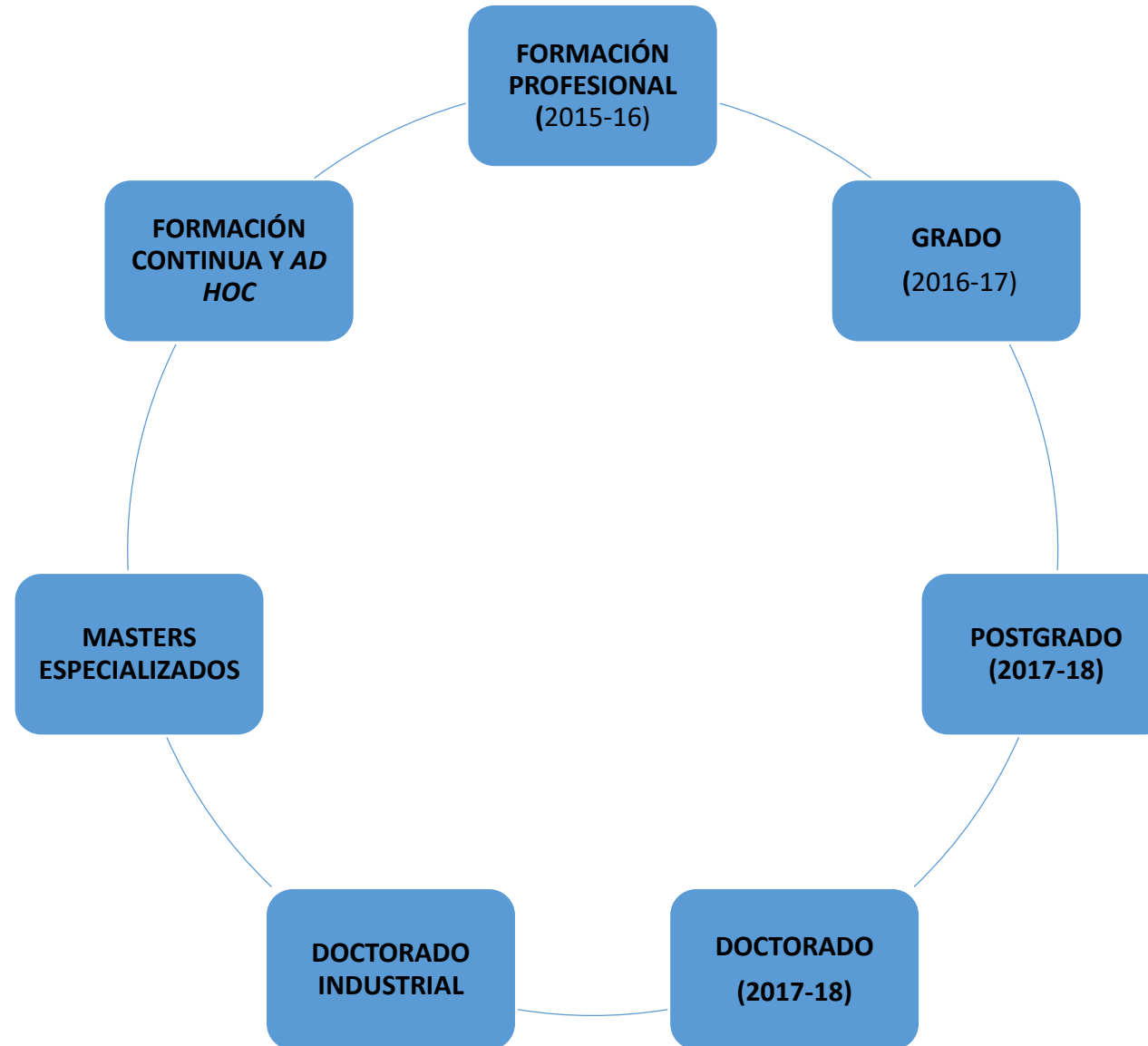
Finding the right data scientist

The struggle is real

There will be a shortage of talent necessary for US organizations by 2018

- Up to 190.000 people with deep analytical skills
- 1.5 million managers and analysts with big data know-how to make effective decisions

IMPULSO DE LA FORMACIÓN EN BIOINFORMÁTICA



3,686 %

BIOINFORMATICA: UNA HISTORIA DE WIN-WIN

CIENCIAS DE LA VIDA



CIENCIAS DE LA
COMPUTACIÓN Y
TECNOLOGÍAS DE LA
INFORMACIÓN Y
COMUNICACIÓN

Gracias

Montserrat Alavedra Farell
Coordinadora Sector Salud BIB
montserrat.alavedra@bioinformaticsbarcelona.eu



Segueix-nos a **twitter** @BiBcn

Uneix-te al nostre grup a **LinkedIn** <https://www.linkedin.com/groups/Bioinformatics-Barcelona-4777363>

Visita la nostra web i subscriu-te a la **llista de distribució**: activitats, cursos, seminaris, conferències, ofertes de feina...