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The digitalisation of science

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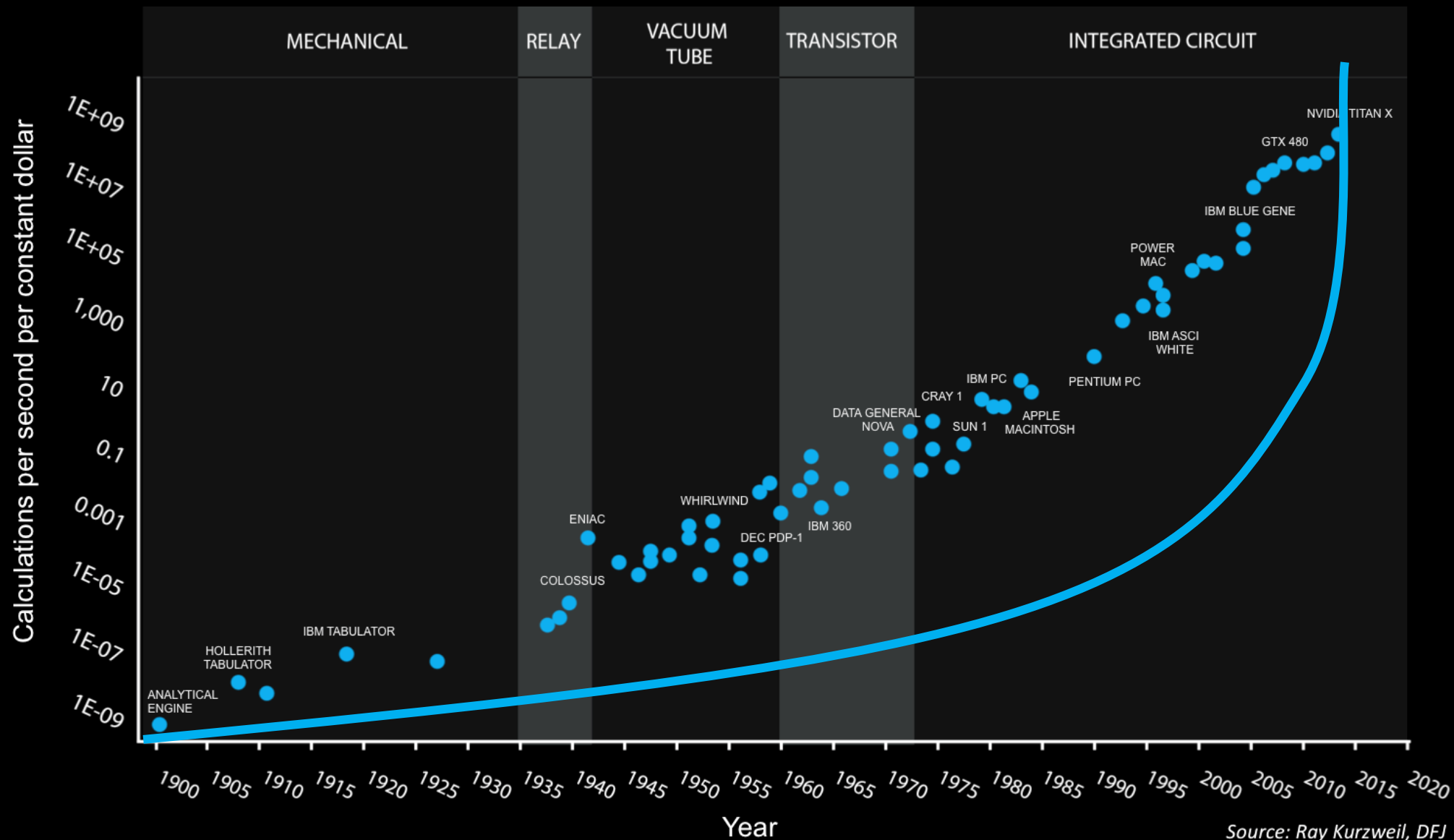
Trusted science for safe food



"Your life does not get better by chance, it gets better by change."

Jim Rohn

#singularity



Source: Ray Kurzweil, DFJ

- Technology forces arising 1990-2010 driving human behavioural change
- Convergence and mutual reinforcement of forces driving massive societal change 2008-2019

A NEXUS OF FORCES



Gartner

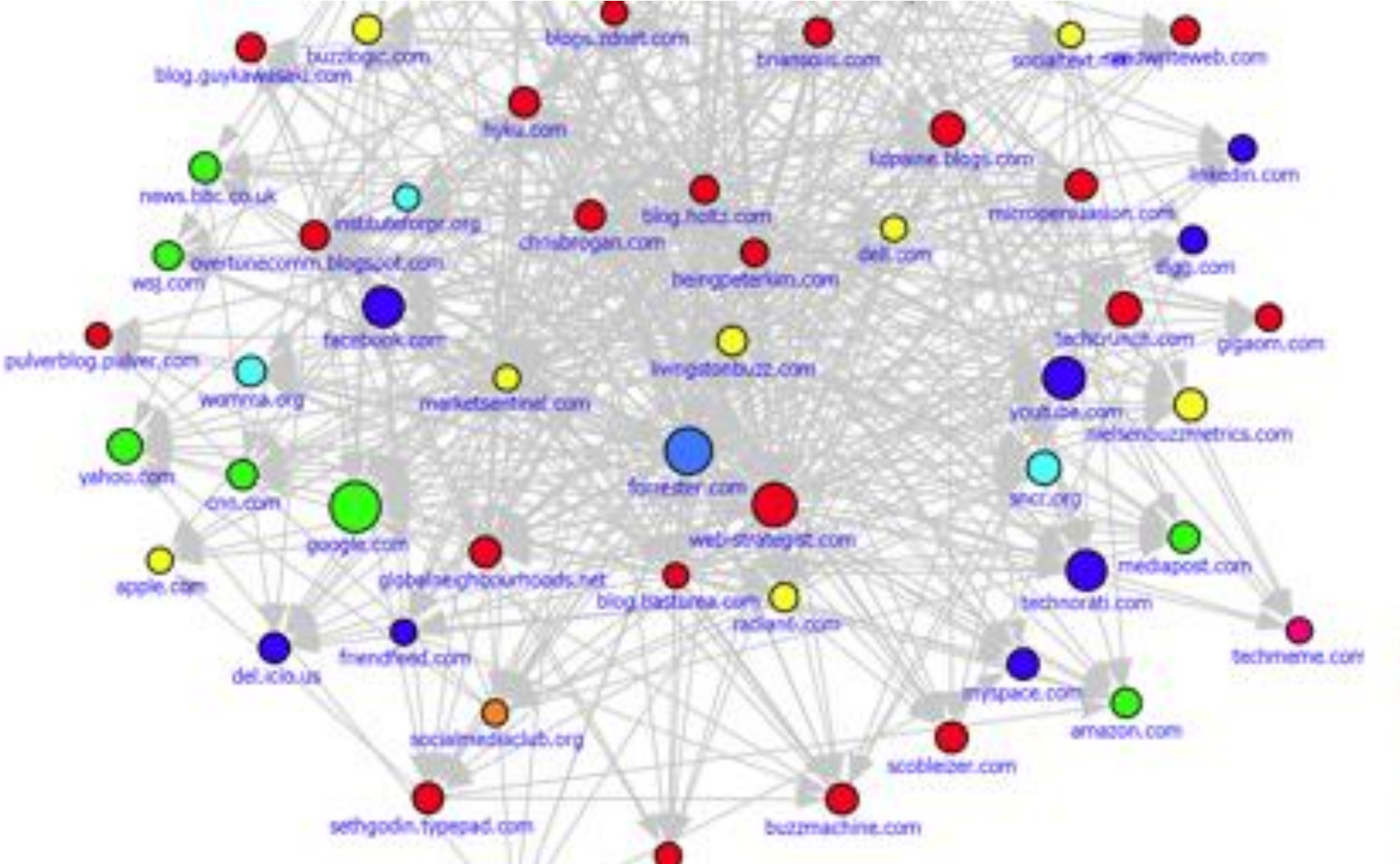
#nexusofforces



#social



one millisecond of conversation



- People #connect with one another and interact continuously with a wealth of #information at their fingertips



- The seamlessness of people's experience relies on being able to access anything from anywhere

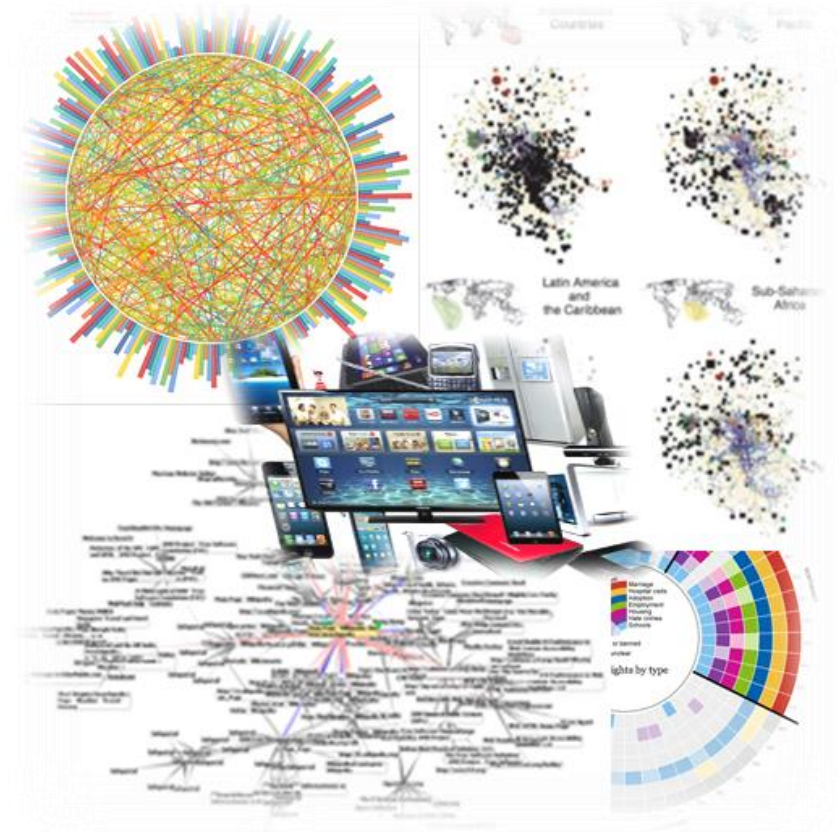


- People expect prolific interactivity and information access for all of their roles

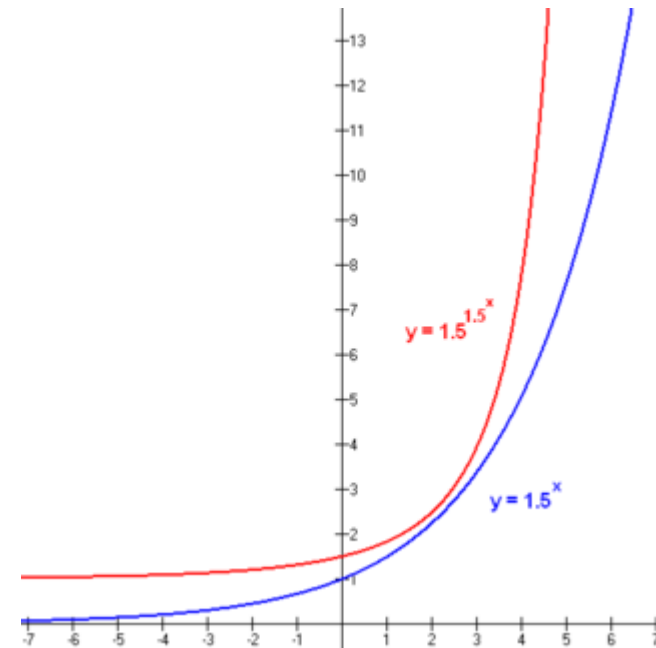




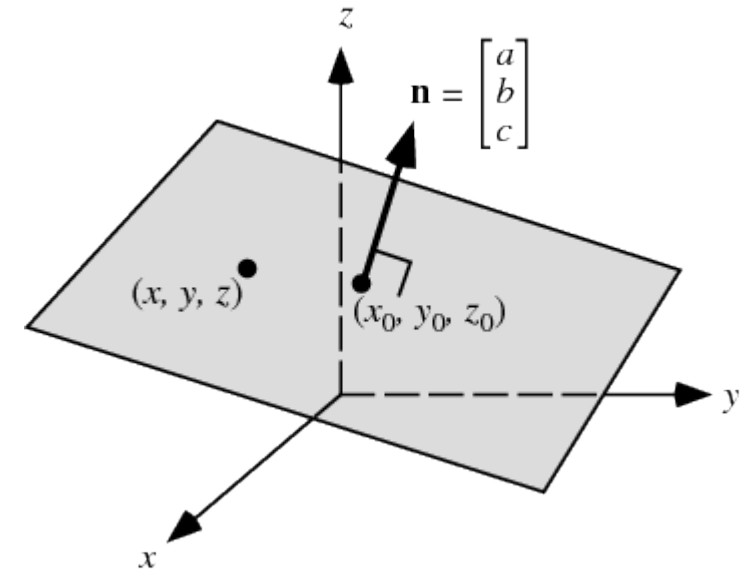
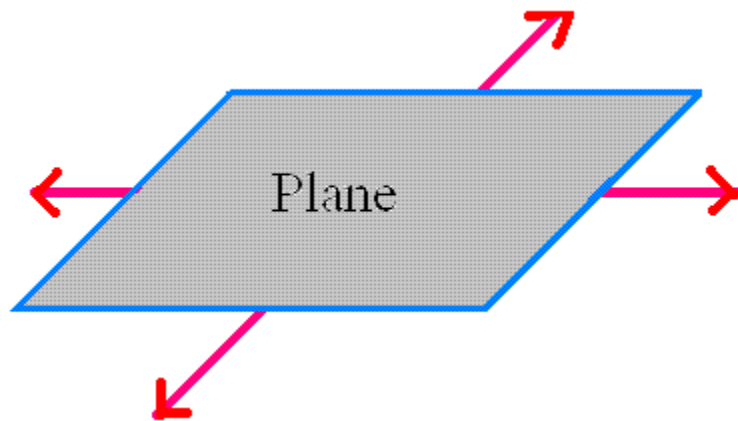
- Information and information access is doubly exponential



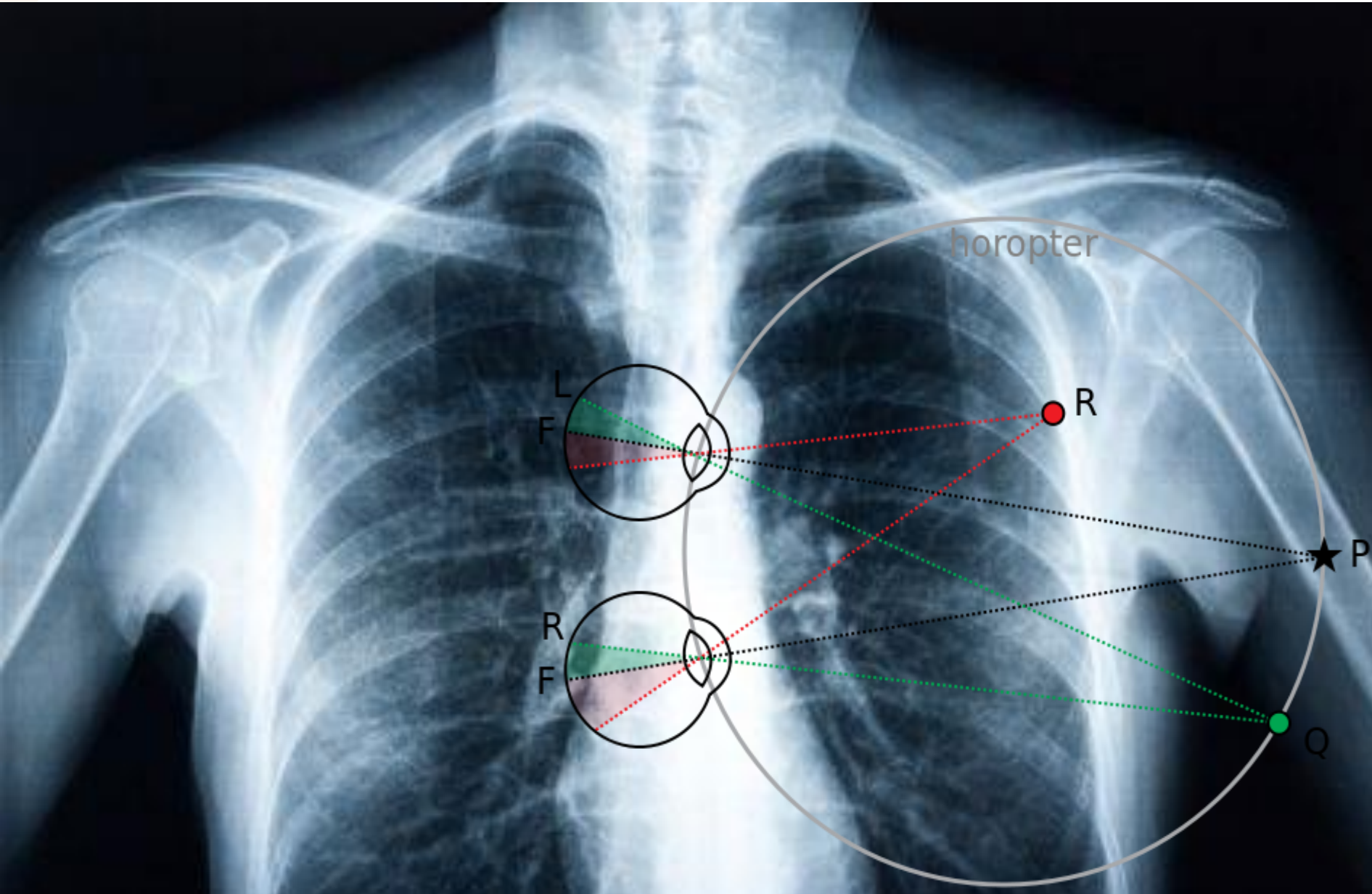
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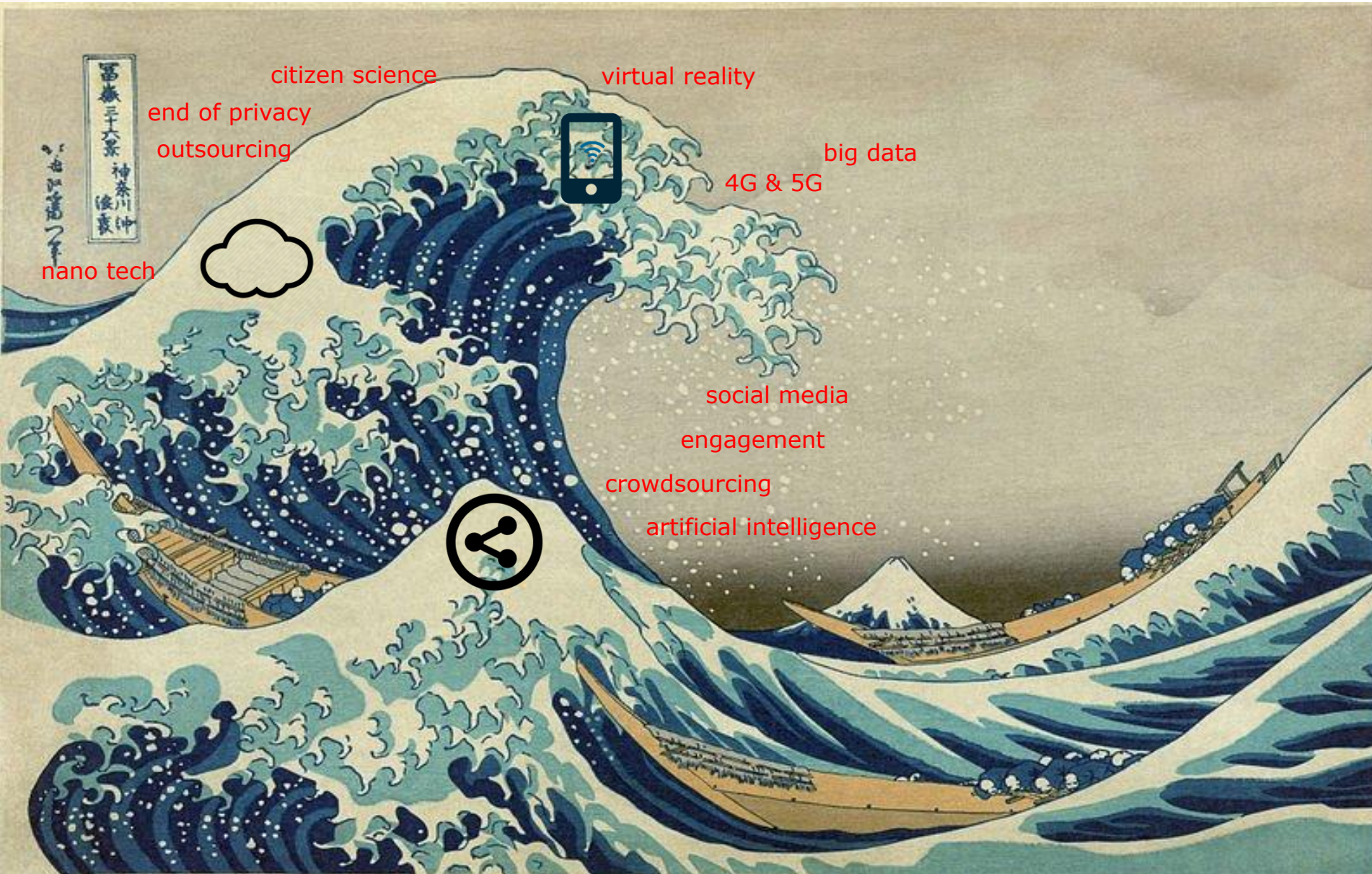
- Big data is not just more data
- Big data is about a new dimension



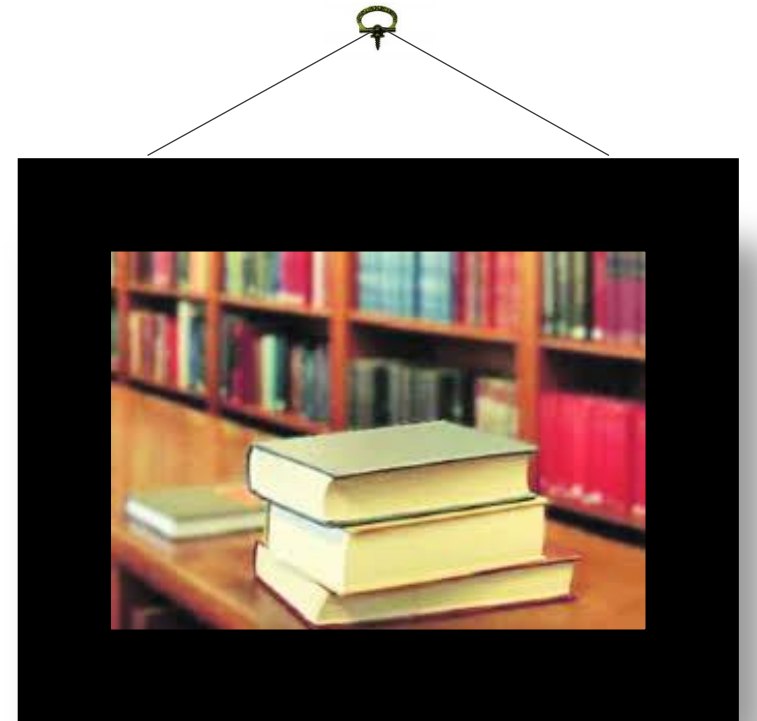
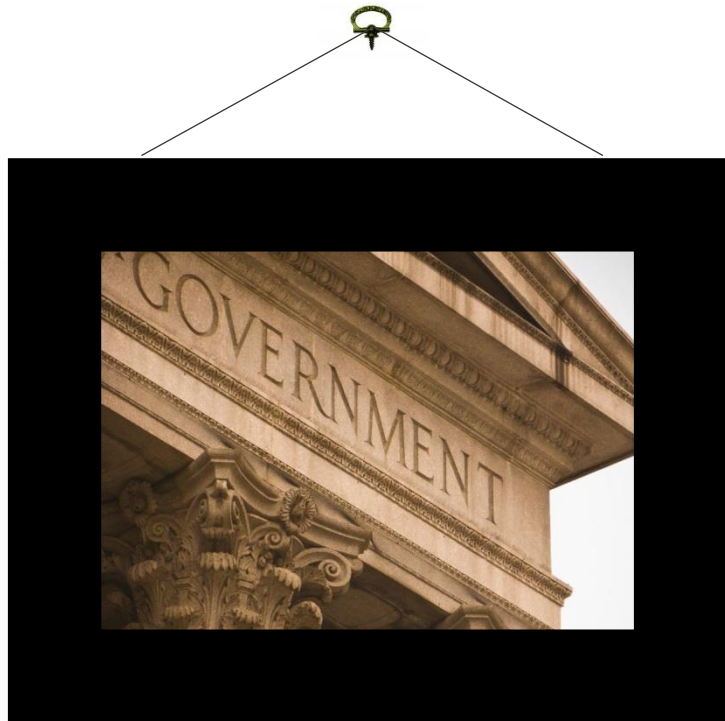
#bigdata



#digitalwaveofdisruption



#notimmune



the future is now/reality is science fiction

A Europe in crisis



Irrational populism



Orwellian surveillance



Killer Drones



Nanotech repairs heart cell wall



GOV endorses the end of privacy



Superhuman AI



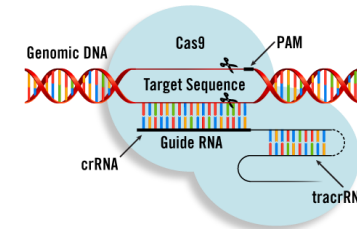
Landing on a comet



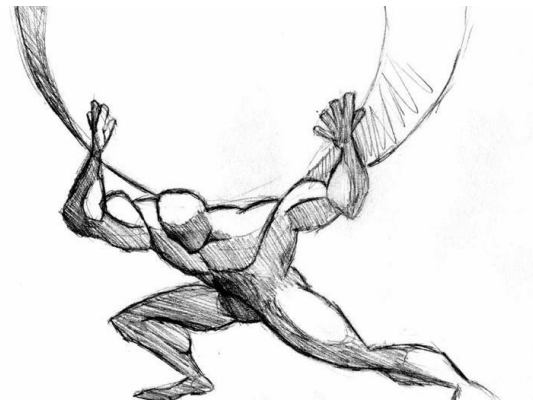
Autonomous cooperative bots



Cheap targeted DNA modification



Assetless revenue



All driven by the « nexus of forces. »

What is happening out there?

Platforms



& Ecosystems

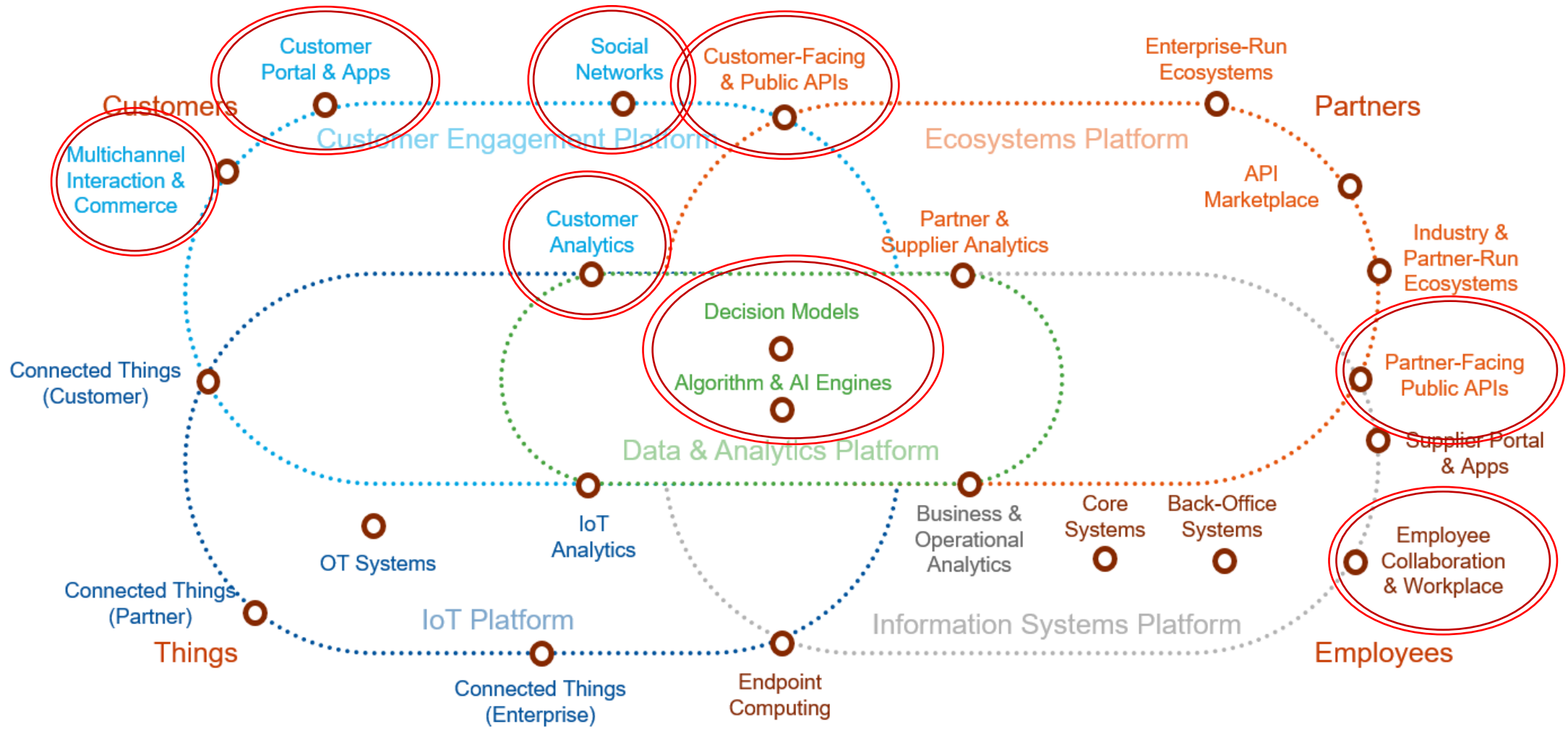


EU loses tech but wins science innovation



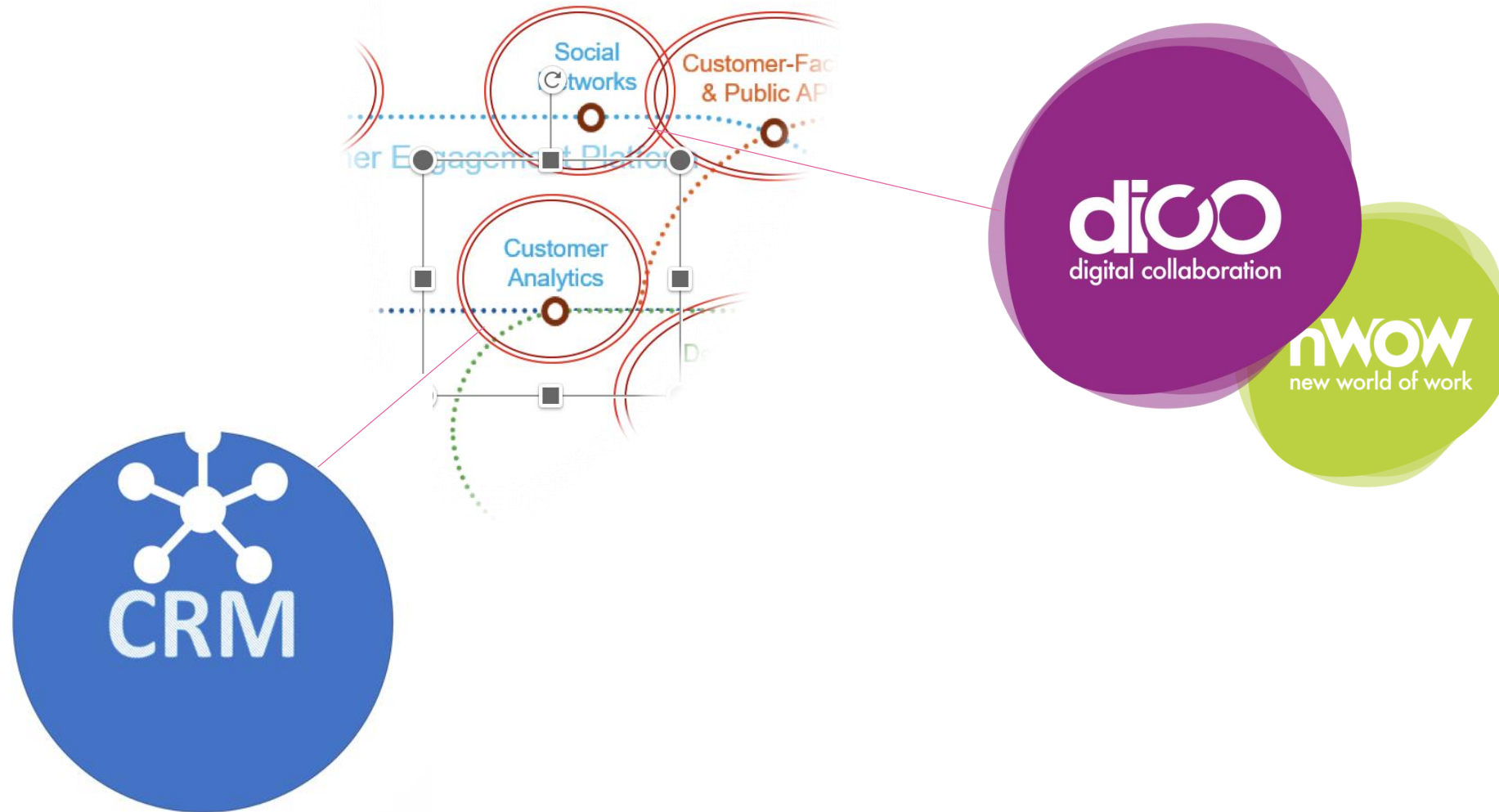
Platform Opportunities

Digital Business Technology Platform Capabilities



Platform Opportunities

Key Platform Capabilities



DIGITAL COLLABORATION



Pilot started with EFSA's Knowledge and Innovation Communities, with participating Member States

- Allows 24/7 continuous collaboration between experts
- Builds a knowledge base and thematic reference points
- Enables a more dynamic and efficient approach to capability building and expertise

RELATIONSHIP MANAGEMENT



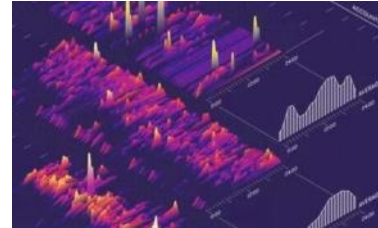
Pilot started with Article 36 competent organisations and automated cross-organisation workflow

- Single source of information on all organisations interacting with EFSA
- Single source of information on all organisations interacting with each other
- Single source of information on all the stakeholders inside the organisations (needs, requests)

The near future of risk assessment is digital



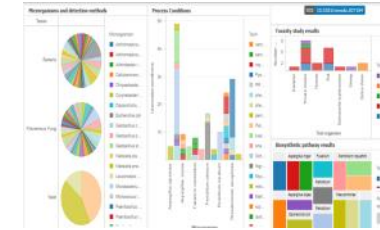
Massive



Quantitative



Distributed



Continuous

New knowledge and data streams and maximum automation between **massive** data sets, such as omics data, will provide the bulk of scientific risk assessment

Probabilistic risk assessment will drive shallow and fast, as well as deep and slow computationally intensive **quantitative** scientific evidence

An ecosystem of APIs will drive a **distributed** and multi-dimensional approach to collaborate RA and co-designed complex models

Risk assessment will produce **continuous** living opinions providing real time analysis and communication around the opinion with all stakeholders



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Points to Consider When Aligning WITH Digital Giants

1. **Be clear about the business model** — even if no money is exchanged with digital ecosystem leaders:
 - E.g., you may get something for free (technology and access to customer) but you will give up some of the customer relationship and data.
2. **Join multiple ecosystems** — although not all:
 - Go where your customers go (current and future). Pick the Top 2 ecosystems in your industry/geography.
3. **Set boundaries** for how far you will let the digital giants overlap your space:
 - E.g., currently GM MyLink only allows Apple CarPlay to handle phone and navigation functions. Will GM allow Apple to access telematics functions?

