

O Admirável Mundo Novo:

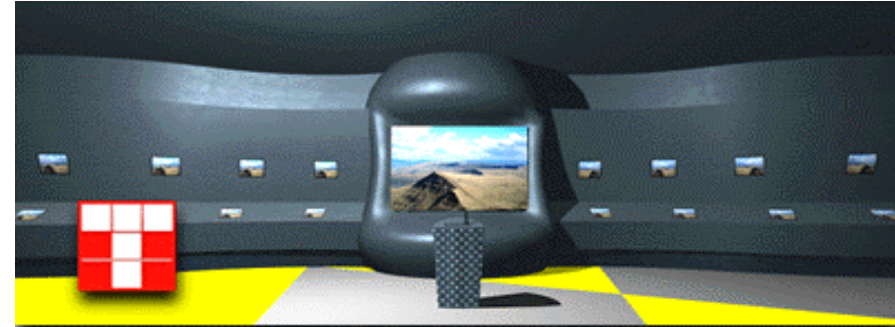
Fertilização Cruzada de Conhecimento e
Tecnologias

António Câmara

22 de Janeiro, 2019

Antonio Camara

Professor na FCT-UNL



Chairman, YGroup

<http://ygroup.eu>

<http://ydxinnovation.com/>

www.ynvisible.com

<http://azorean.eu>



@TheStoicEmperor

For a few centuries man has tried to make himself like a machine

He's learned to arrive on time

He's learned to repeat after teacher

He's learned to do repetitious tasks reliably

Machines are now better at being machines than man is

Man must now relearn how to be man

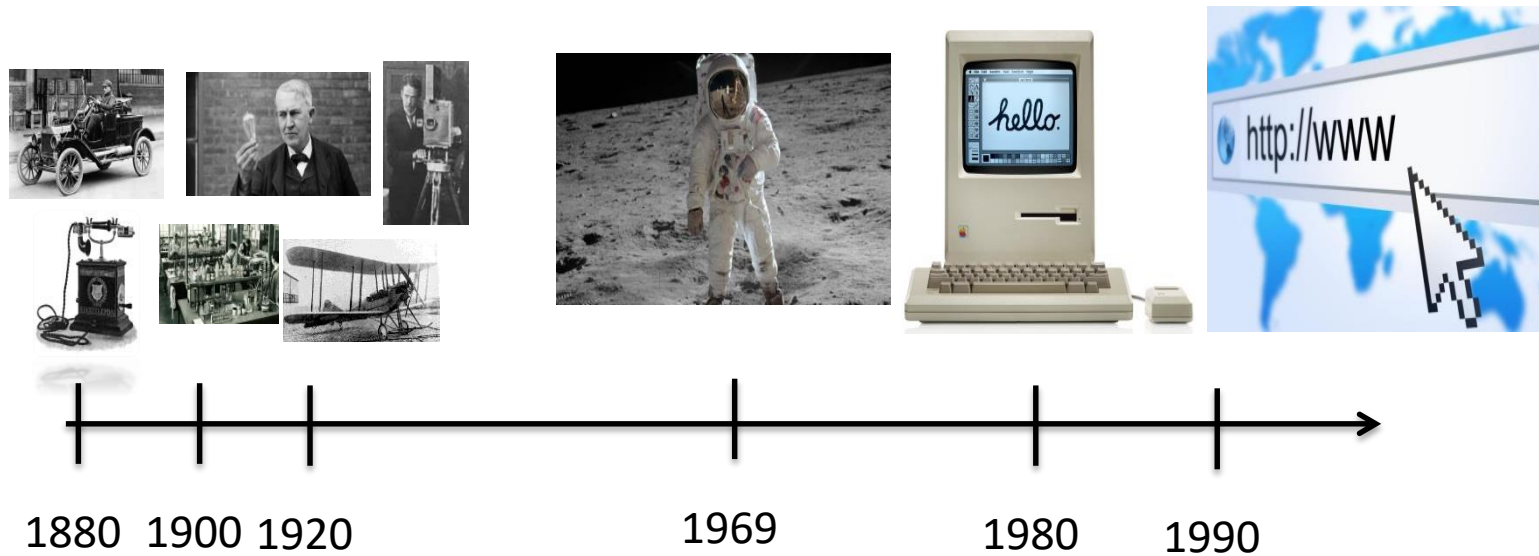
O Mundo de Hoje

Fertilização Cruzada de Conhecimento e Tecnologias

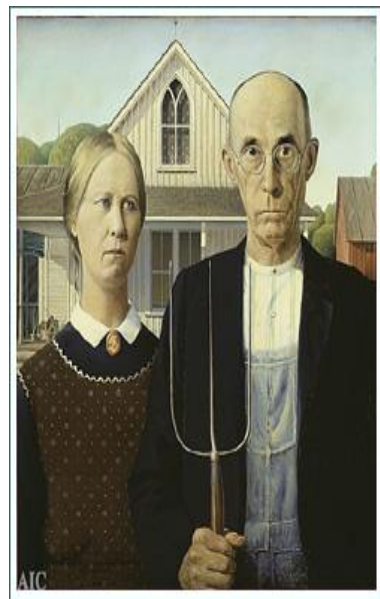
Geração de Ideias

O Mundo de Hoje

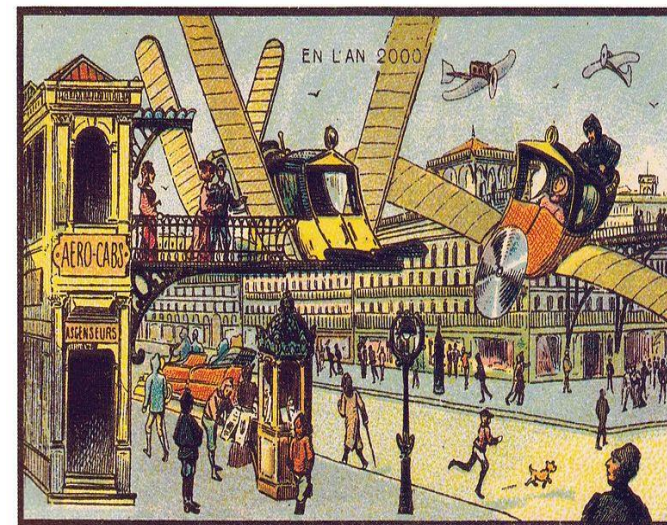
“A Grande Estagnação”



A perspectiva de um jovem de 1900



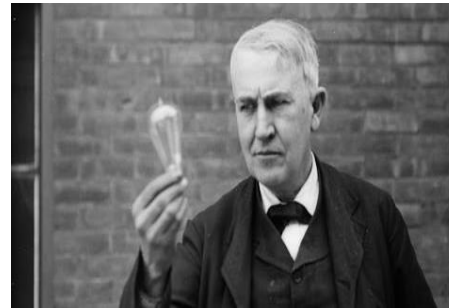
O Mundo dos pais



Aero-Cab Station

O Mundo do Futuro

O inventar do Mundo que conhecemos



1880

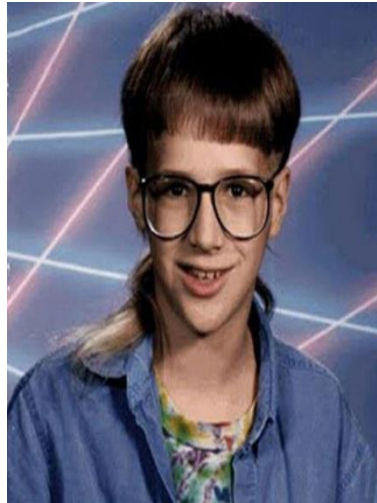
1900

1920

A perspectiva de um jovem de 1970-2000



O Mundo dos Pais



O Mundo do Futuro

Hoje: um novo “boom” tecnológico?

Internet das Coisas

Interfaces Cérebro - Computador

Automação Industrial

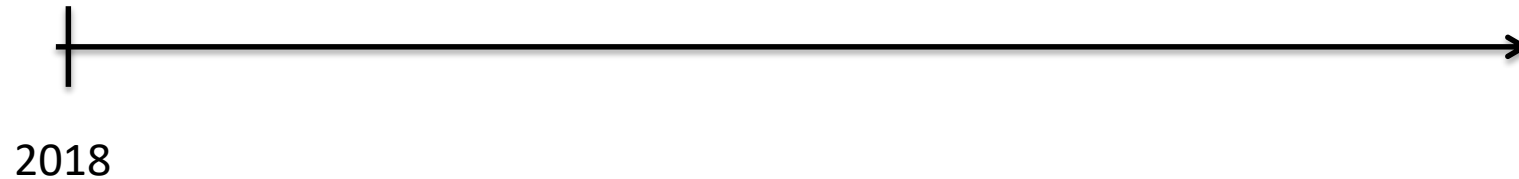
Veículos Autônomos

Computação Quântica

Inteligência Artificial

Energias Renováveis

Realidade Virtual e Aumentada



Fertilização Cruzada de Conhecimento e Tecnologias

Manuais do KOFAC para estudantes do ensino secundário

- 1 [Artificial Intelligence](#)
- 2 [Driverless vehicles](#)
- 3 [Internet of things](#)
- 4 [Virtual reality](#)
- 5 [CRISPR](#)
- 6 [Space launch vehicles](#)
- 7 [Natural disasters](#)
- 8 [Smart medicine](#)
- 9 [Game engines](#)
- 10 [Sports statistics](#)

Ver ainda <http://theinventors.io>

Realidade aumentada, virtual e inteligência artificial



YDreams (hoje YDX): informática, robótica, matemática, design de experiências e interfaces, design industrial

<https://www.youtube.com/watch?v=CmphF7SMkK4>

<https://www.youtube.com/watch?v=gQt6Vw8nCjY>

<https://www.youtube.com/watch?v=bzDIJ6TTc6w>

YVision mathematics

- 3D Rendering: Linear Algebra - Differential Geometry - Geometry (Projective Transformations)
- Physics Simulation: Linear Algebra - Differential Calculus - Integral Calculus - Numerical Analysis (for approximating continuous mathematics)
- Computer Vision: Linear Algebra - Geometry (Homographies, Projective Transformations) - Cellular Automata - Convolutions - Fourier Analysis
- Synthesis and Transform Audio: Fourier Analysis, Synthesis and Transform
- Machine Learning: Statistical Analysis - Artificial Neural Networks - Principal Component Analysis - Regression - Function Approximation
- Evolutionary Computation Core Framework: Lambda Calculus (root of functional programming) - Turing Machines - Theory of Computation

Internet das Coisas



Ynvisible: química, materiais, electrónica, informática, ambiente, design

<https://www.youtube.com/watch?v=hpLE3NekkP0>

<https://www.youtube.com/watch?v=rF0AbVtxidc>



ynvisible

Mobilidade



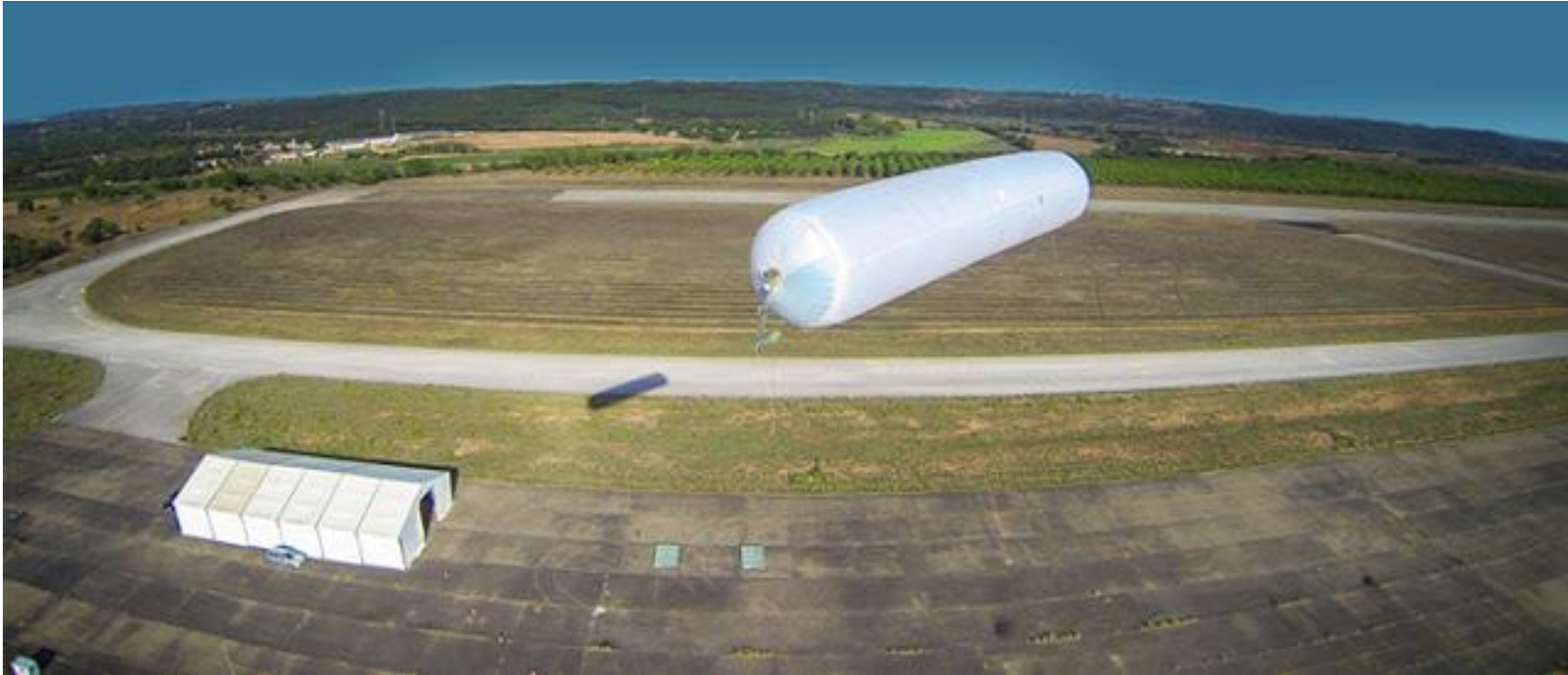
Mobilidade



NewVehicle Co: engenharia mecânica, electrónica, química, informática, design industrial, investigação operacional

<https://www.youtube.com/watch?v=7VImnXmDq6I>

Espaço e energias renováveis



Omnidea: engenharia aeronáutica, mecânica, electrónica, informática, materiais, design industrial

<https://www.youtube.com/watch?v=4yFz-zWnFTk>

Silicon Valley Model

Angel funded start-ups



User Traction
VC Backing



Billions of revenue
Winners



Picture Credits: [Ludwig Gatzke](#)

“Smart Cities”



Geração de Ideias

Visualizações ficcionadas do futuro

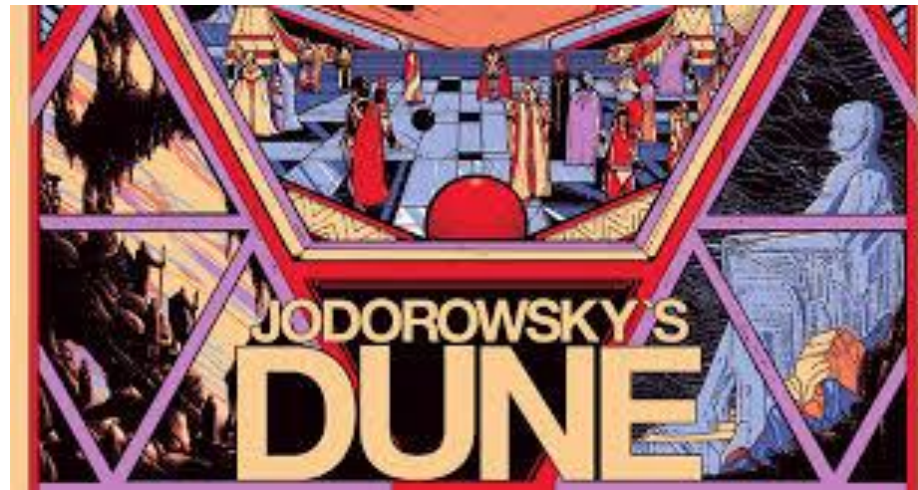
Literatura e filmes de ficção científica (<http://www.filmsite.org/sci-fifilms.html>)

Singularity Hub (<https://singularityhub.com/>)



Visualizações ficcionadas do futuro

The Dune, o melhor filme Sci Fi que nunca foi realizado,
a obra prima de Jodorowski



“trailer” em <https://www.youtube.com/watch?v=jg4OCeSTL08>

**THE FOLLOWING PREVIEW HAS BEEN APPROVED TO
ACCOMPANY THIS FEATURE
BY THE MOTION PICTURE ASSOCIATION OF AMERICA, INC.**

THE FILM ADVERTISED HAS BEEN RATED



www.filmratings.com

www.mpaa.org

Geração de ideias

Explorar diferentes campos científicos

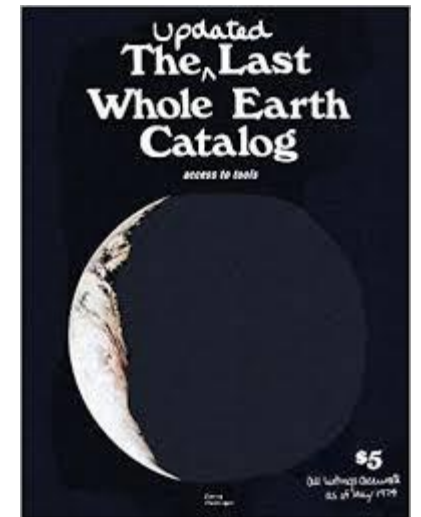
Persi Diaconis, <https://arxiv.org/pdf/1306.3039.pdf>

Explorar “half-baked ideas”

I.J. Good, https://projecteuclid.org/download/pdf_1/euclid.ss/1032209661

Explorar intersecções de arte, ciência, cultura e tecnologia

Stephen Wilson, <http://userwww.sfsu.edu/infoarts/links/wilson.artlinks2.bio.html>



Geração de ideias

“Where is the Pain School”

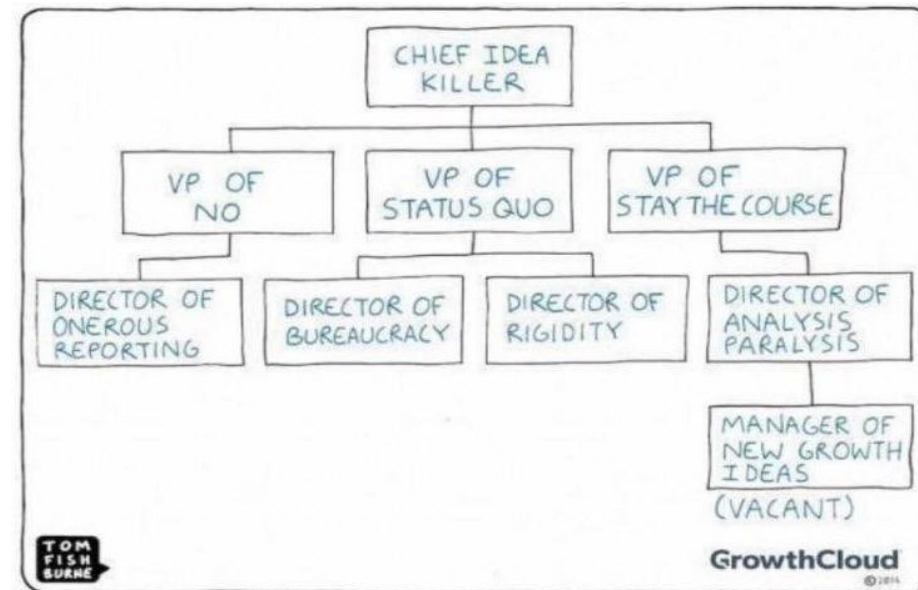
<https://www.shopify.com/guides/what-to-sell/where-to-look-for-product-ideas>

[How to get Startup Ideas – Paul Graham](#)

[Peter Thiel’s CS183: Startup – Class 1 Notes Essay](#)

[When Ideas Have Sex](#)

[Startup Playbook](#)

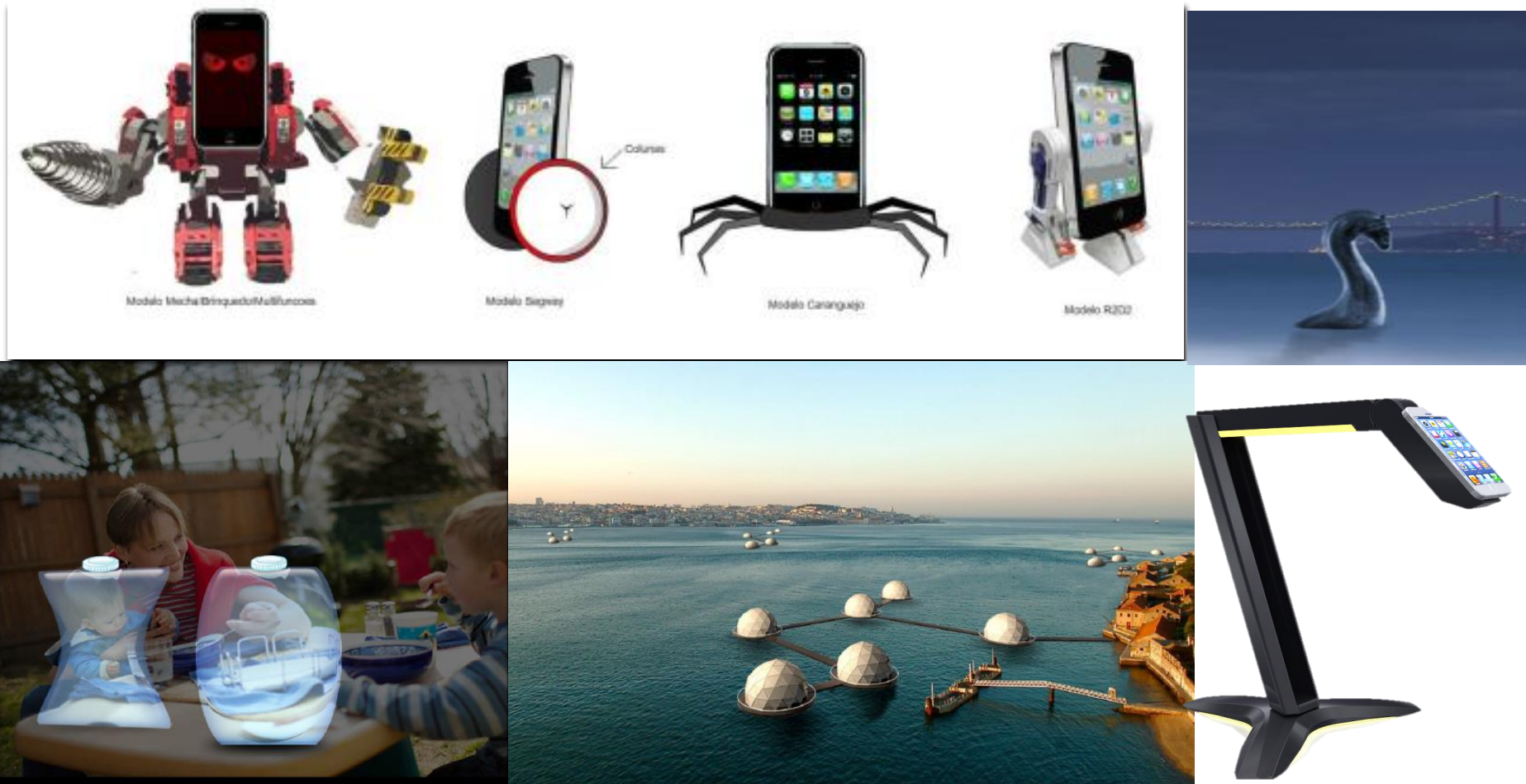


Inteligência colectiva

Grupos são excelentes para representar papéis, criar listas, resolver problemas, negociar, votar, calendarizar, jogar e imaginar

Preocupação fundamental: eliminar o poder de personalidades dominantes

Inteligência coletiva



Inteligência colectiva

Ferramentas em “Open Source” (“hardware” e “software”)

<https://opensource.org/>

<http://openmaterials.org/>

<http://opensourceecology.org/>

“Crowdsourcing”

<http://www.visualcapitalist.com/gig-economy-explained/>

asc@fct.unl.pt

<https://myexplora.live/>

<https://www.facebook.com/groups/183536175571026/>

<http://ydxinnovation>

www.ynvisible.com

<http://azorean.eu>

<http://theinventors.io>

www.aromni.com