

# **DRIVING COMPETITIVENESS THROUGH INNOVATION:**

Insights from an Entrepreneurial  
Perspective

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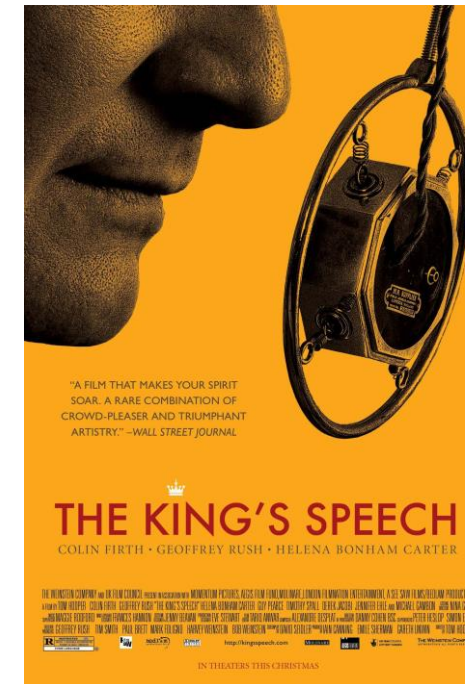
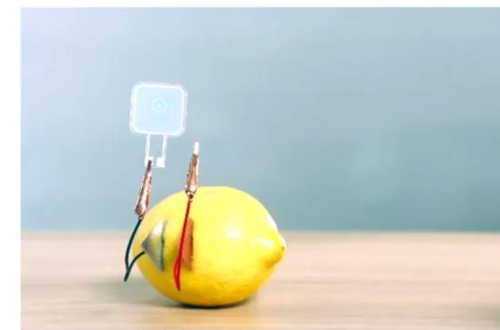
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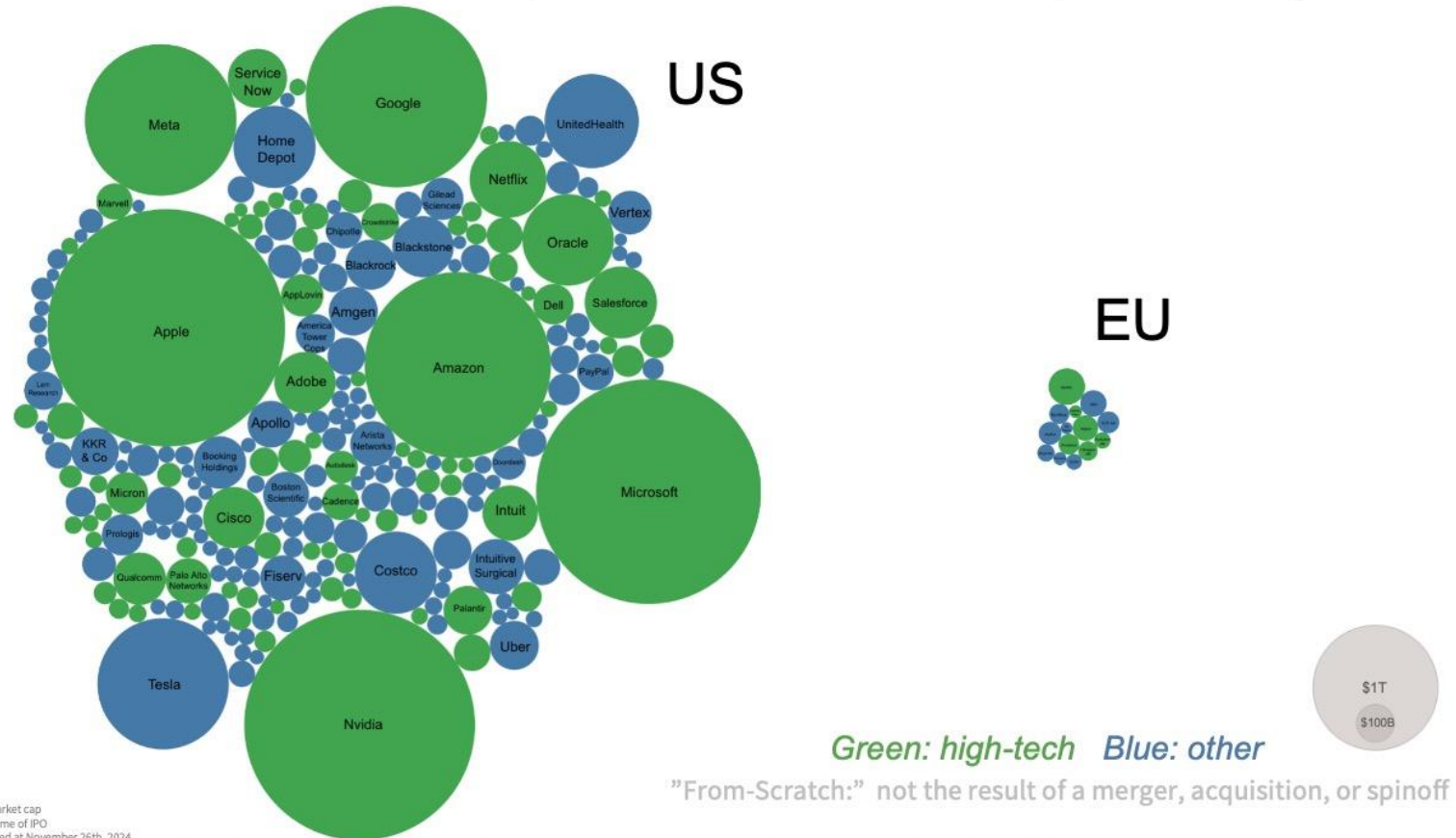
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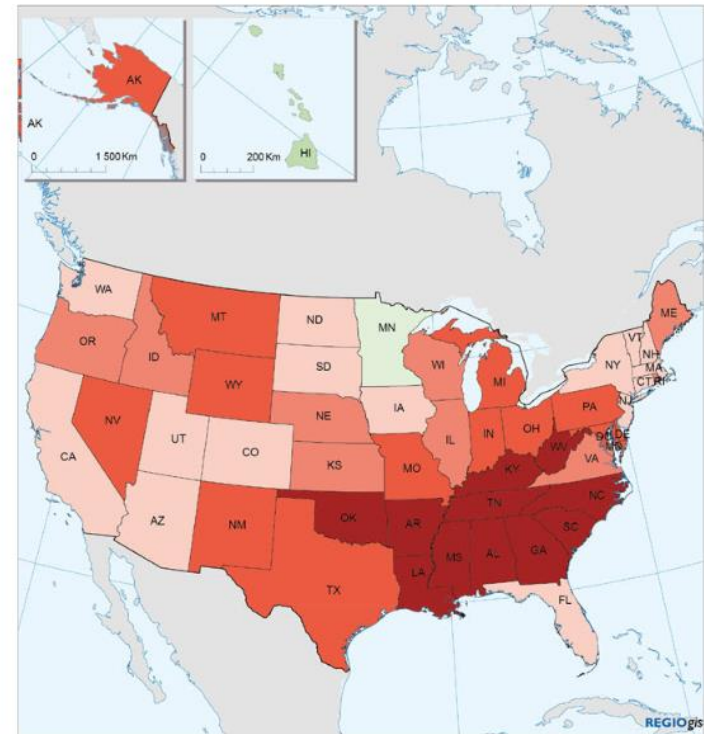
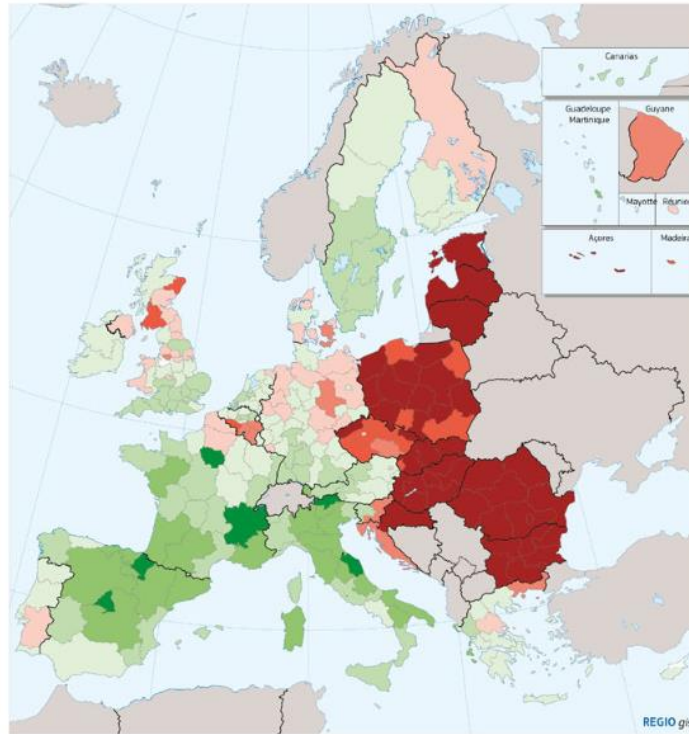


# Comparative landscapes

Public From-Scratch US and EU Companies Less than 50 Years Old with \$10B+ Market Cap



# Comparative landscapes



# Driving Competitiveness through Innovation\*

*\* This presentation is focused on the impact of the policy mix associated to EU's cohesion funding programs on innovation. It does not cover compensation, taxes, legal and other relevant issues.*

1. **Efficiency** of the existing policy mix and instruments
2. **Skills** as part of the policy mix
3. **Priorities** for future investments
4. What would be the **most important reform** needed at national/sub-national level



# **1. Efficiency of the existing policy mix**

# Efficiency of the policy mix

“the well-behaved view”

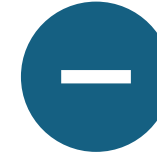


Well-established R&D tax incentives

Portugal 2020 and Recovery and Resilience Plan funds

Growing startup ecosystem with initiatives like Startup Portugal

Interface Programs strengthening industry-academia collaboration



Fragmented governance across multiple ministries and agencies

Complex bureaucratic processes slowing implementation

Insufficient focus on scaling companies

Overreliance on direct subsidies rather than market-creating policies

# Efficiency of the policy mix

“what we have”

**Academia, innovation & industry –  
traditional model**  
**(Francis Bacon; 1561 – 1626)**



## LINEAR TECHNOLOGY EVOLUTION

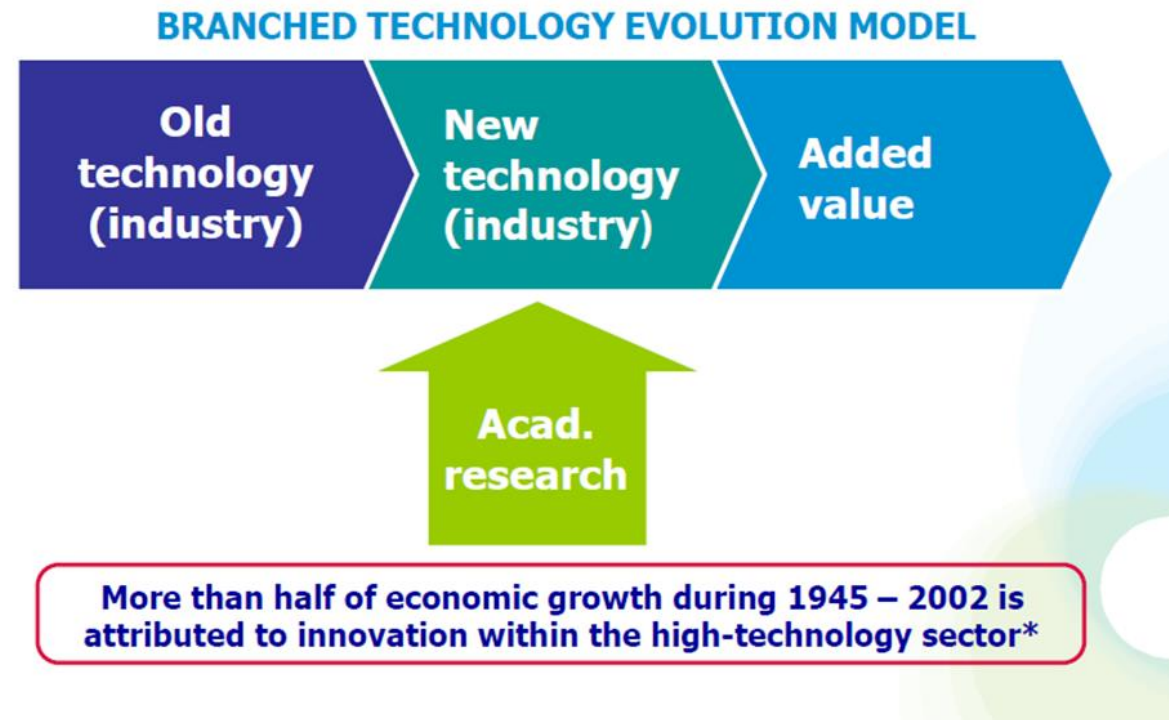


Alexander Von Gabain on EU's Innovation Model

# Efficiency of the policy mix

“what we should have”

## Academia, innovation & industry: the Californian model (Adam Smith; 1723 – 1790)

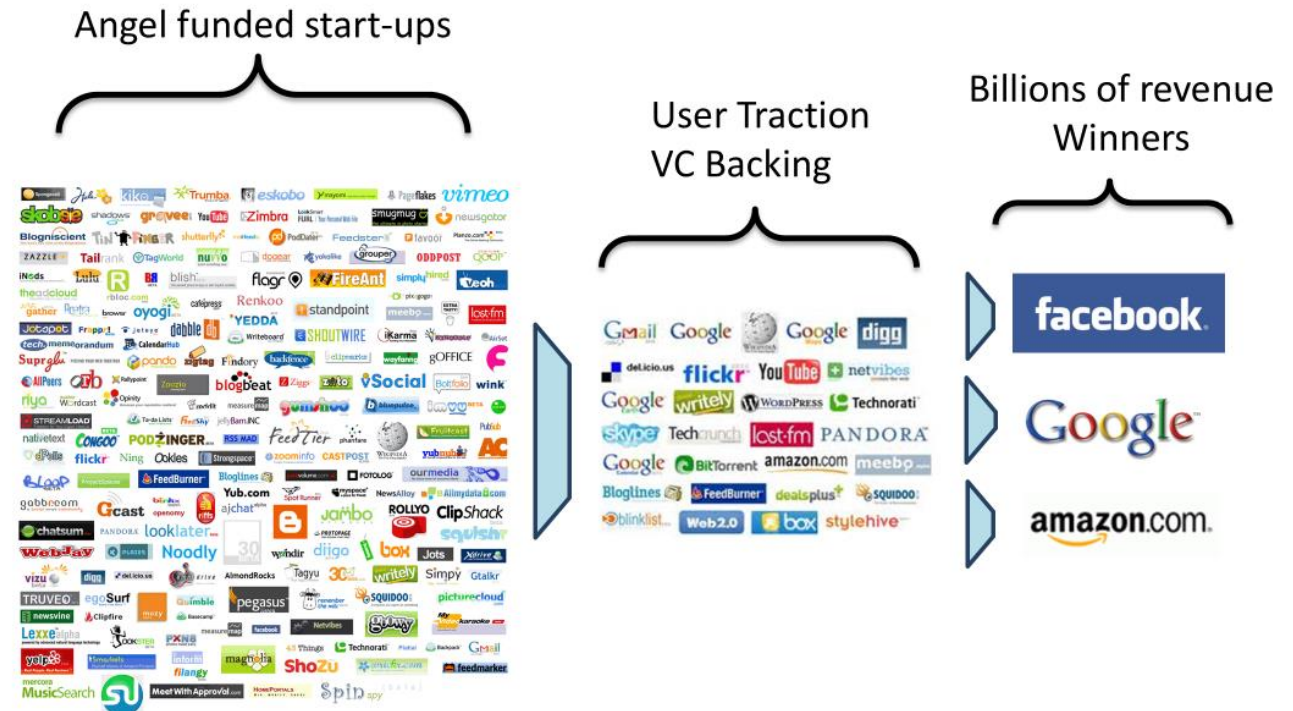




# Efficiency of the policy mix

“a model we should  
re-invent”

## The Silicon Valley Model



Picture Credits: [Ludwig Gatzke](#)

**2.**

## **Skills as part of the policy mix**

# Skills as part of the mix

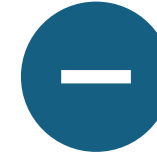
“the well-behaved view”



Strong engineering and  
technical education  
foundations

Growing international talent  
attraction

Competitive labor costs  
relative to skills



Limited management  
capabilities for scaling  
companies

Weak lifelong learning  
culture and infrastructure

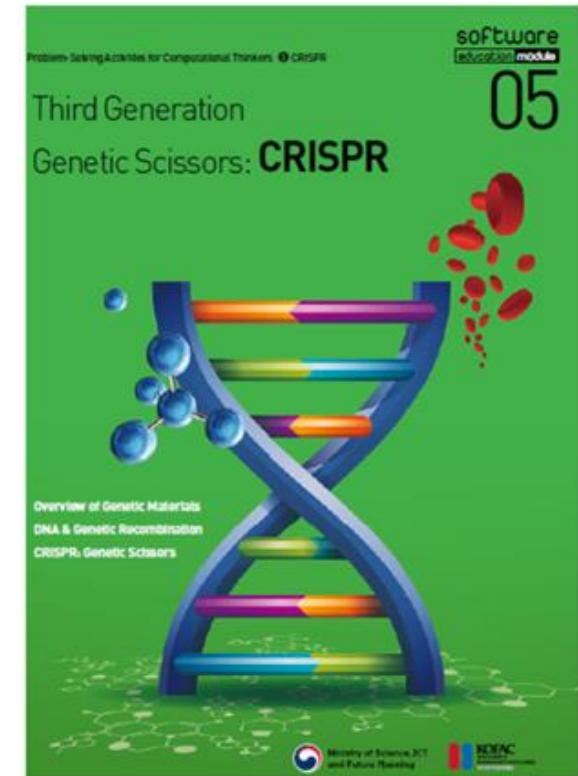
Brain drain of top technical  
talent

# Skills as part of the mix

“what we should have”

Learning from KOFAC (South Korea)  
program for 9th year students

- 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](#)



Our secondary school system needs an update

## Skills as part of the mix

“the game and the game  
on top of the game”



“

We blacks dominate basketball.

Then the whites developed a game on top of our game  
called NBA

”

# Skills as part of the mix

“the game and the game  
on top of the game”



The “game on top of the game” has not been our strength

# **3.**

## **Priorities for future investments**

# Priorities for future investments

“the well-behaved view”

- **Smart specialization in areas of competitive advantage:** Health tech, ocean economy, sustainable agriculture, renewable energy
- **Digital transition:** Invest heavily in AI, AR/VR, IoT, cybersecurity, robotics
- **Green transition:** Support green tech development and adoption (batteries, hydrogen, smart grids, nature-based solutions)
- **Tech transfer and commercialization:** Build a stronger bridge from universities to market (IP valorization, venture building)

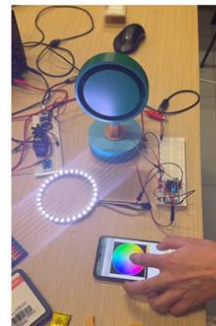
# Priorities for future investments

“what we should  
invest on”

- **Foster a culture of skunkworks** and moonshot projects since high school
- Develop **incentives** for “first clients”
- **Develop financing ecosystem** complementing the existing public and private sources: high net worth new residents, Euronext Start

Seixal Mundo

projetos de estudantes do concelho para o Mundo



WiseLamp



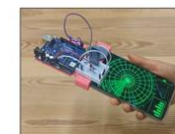
ErgoChair



Sonosphere



icupa



Cannarde



# Priorities for future investments

“Portugal Natural Capital  
Corporation (PNCC)”





**Develop PNCC:** Atlantida (Ocean) and Lusitania (Land) as pioneer projects based on State assets, research centers and private companies fostering the development of an Internet of Nature

- Sovereign Nature Digital Models and Twins (Ocean and Land)
- High-Integrity Carbon/Biodiversity Credits
- Biotech and Natural Products
- Controlled Premium Eco-Tourism
- Launch platform-as-a-service models for monitoring, certification, and trading

**Nature is the largest market in the World, worth 9 trillion Euros**

# Priorities for future investments

“Portugal Natural Capital  
Corporation (PNCC)”

ECOSYSTEM SERVICES*				
	<b>Supporting</b> Necessary for the production of all other services  <b>Soil Formation</b> <b>Biodiversity</b> <b>Primary production</b> <b>Habitat</b>	<b>Regulating</b> Benefits obtained from regulation of ecosystem processes  <b>Climate/Carbon</b> <b>Pollination</b> <b>Water and Air purification</b> <b>Flood Control</b>	<b>Provisioning</b> Products obtained from ecosystems  <b>Food&amp;Fiber</b> <b>Wood</b> <b>Water</b> <b>Medicinals</b>	<b>Cultural</b> Non material benefits obtained from ecosystems  <b>Inspiration</b> <b>Recreation</b> <b>Education</b> <b>Aesthetic</b>
<b>Motive for Investing</b>	<b>Exchange</b>	<b>Exchange</b>	<b>Exchange</b>	<b>Psychic</b>
	<b>Regenerative</b>	<b>Regenerative</b>	<b>Extractive</b>	<b>Regenerative</b>
<b>Existing &amp; Potential Markets</b>	<b>Offset&amp; Derivative</b>	<b>Offset &amp; Derivative Carbon-linked</b>	<b>Intrinsic</b>	<b>Embedded &amp; Derivative</b>

\*Ecosystem Services Table: Millenium Ecosystem Assessment, 2005

**4.**

**The most important reform needed  
at national / sub-national level**

# The most important reform at national/sub- national level

“The only view”

- Portugal should **streamline its innovation governance** through the creation of a centralized innovation agency such as Finland’s [Business Finland](#) and Sweden’s [Vinnova](#)
- It shall also **empower regional ecosystems** with **strategic autonomy**
- Portugal should **replicate Finland’s parliament strategic exercise**. See [Societal Transformation 2018-2037: 100 anticipated radical technologies, 20 regimes, case Finland](#)

**Summing up**

# Summing up

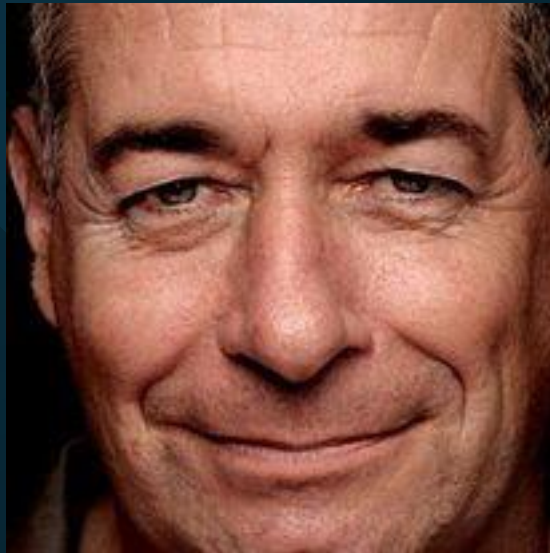
Portugal and most of Europe needs to **ABANDON** the XVII century innovation model of our universities

Europe must **develop an alternative model** to the Silicon Valley: It needs to become A **TRULY SINGLE MARKET**, provide similar access to investment and exits

Portugal needs to **OVERHAUL ITS EDUCATIONAL system** to become more creative and aware of how the World works

**PORTUGAL SHOULD BE BOLD.** We can create the Internet of Nature (the largest market in the World)

We should look up to Northern European **EXAMPLES OF GOVERNANCE AND STRATEGIC VISION**



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[Cornell Systems Engineering Conversations](#)

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