The Future of European Competitiveness

Group Presentation

ENTREPRENEURSHIP & INNOVATION MANAGEMENT COURSE

Master GEEM – Global Entrepreneurship Economics and Management

University of Insubria

Outlines

1. Part 1: A new Landscape for EU
2. Part 2: Three transformations ahead for Europe
3. Part 3: Challenges faced by EU
4. Part 4: Three main areas for action

Part 1: A New Landscape for EU

1

The EU's Economic Foundations

Europe has the foundations in place to be a highly competitive economy.

2

Slowing Growth and Productivity Challenges

Yet growth in the EU has been slowing, driven by weakening productivity growth, calling into question Europe’s ability to meet its ambitions

3

Changing External Conditions:

Three external conditions – in trade, energy and defence – that supported growth in Europe after the end of the Cold War have been fading.

4

The Need for Enhanced Competitiveness

Raising the EU’s competitiveness is necessary to reignite productivity and sustain growth in this changing world

The EU's Economic Foundations

Open Economy

The EU model embraces an open economy, fostering international trade and investment.

Market Competition

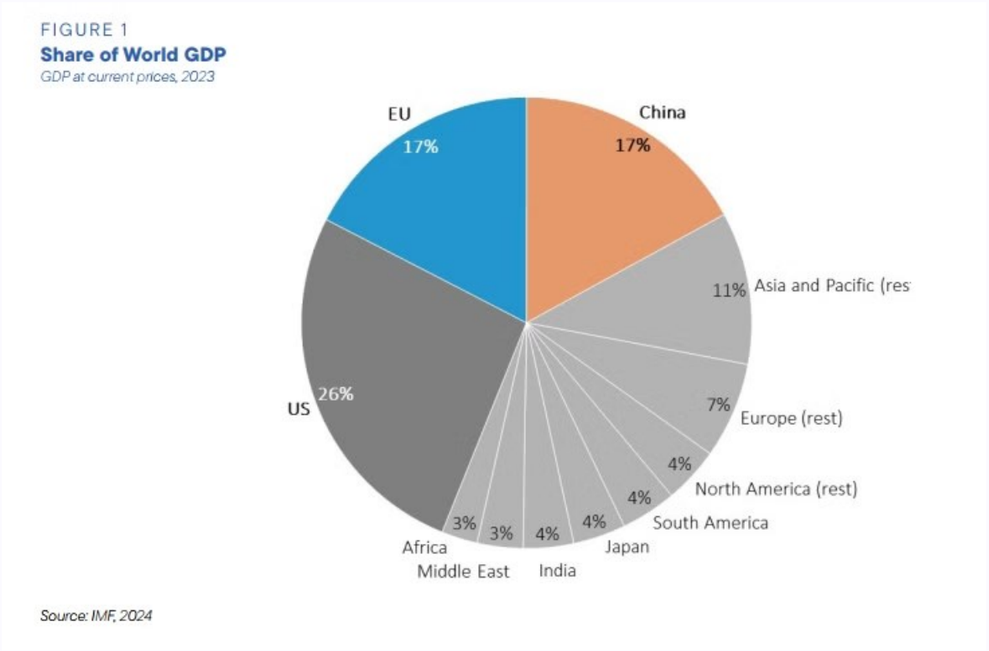
A high degree of market competition drives innovation and efficiency within the EU.

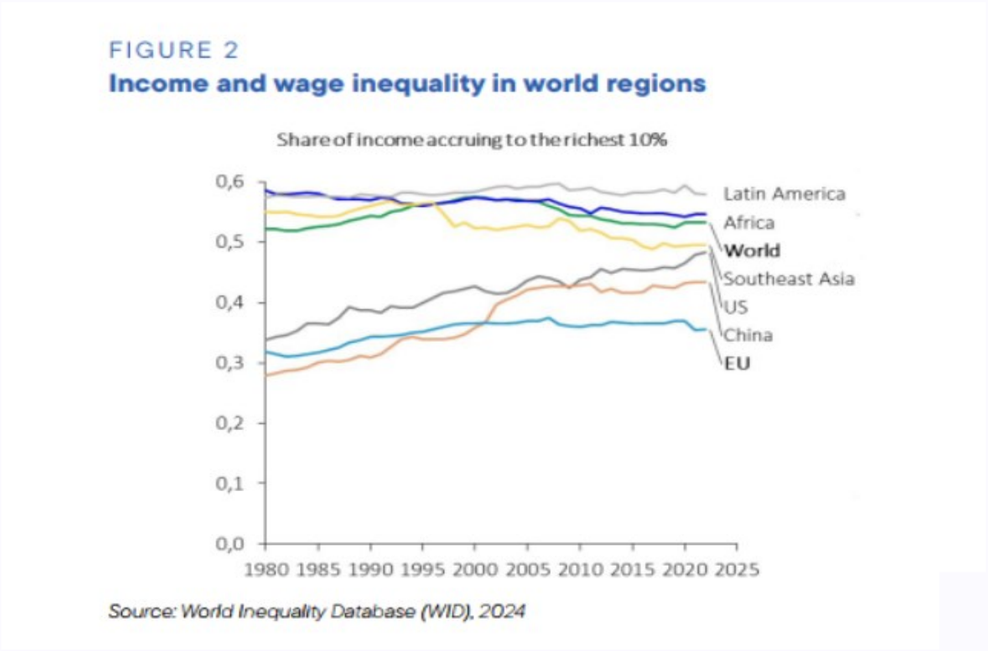
Strong Legal Framework and Active Policy

The EU maintains a robust legal system and active policies to fight poverty and redistribute wealth.

These pillars have allowed the EU to marry high levels of economic integration and human development with low levels of inequality, accounting for 17% of global GDP.
The Single Market of 440 million consumers and 23 million companies provides a vast arena for economic activity.

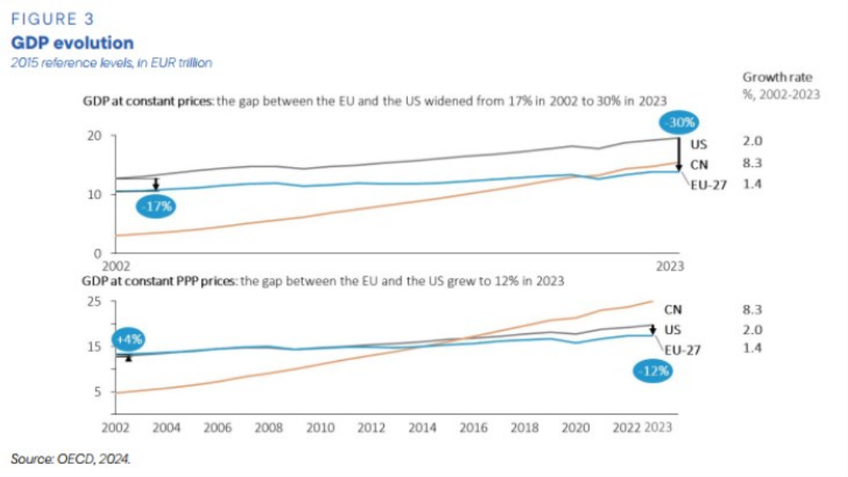
Notably, the EU has achieved lower income inequality rates compared to the US and China, with a difference of around 10 percentage points according to some measures.





Slowing Growth and Productivity Challenges

Despite its strong foundations, the EU has experienced a concerning trend of slowing growth, primarily driven by weakening productivity growth. This slowdown raises questions about Europe's ability to achieve its ambitious goals in social inclusion, carbon neutrality, and geopolitical relevance.



1 — 2002

EU-US GDP gap at 15% (2015 prices)

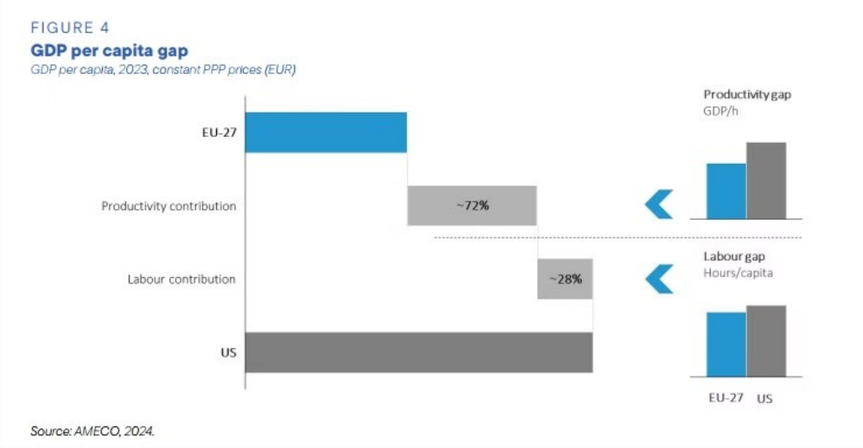
2 — 2002-2023

Persistent slower growth in EU compared to US

3 — 2023

EU-US GDP gap widens to 30% (2015 prices)

The widening economic gap between the EU and US is primarily driven by productivity differences.



1 — 70% GDP Gap Explanation

Lower productivity in the EU accounts for about 70% of the per capita GDP gap with the US in PPP terms.

2 — Slower Income Growth

Real disposable income per capita has grown almost twice as much in the US as in the EU since 2000.

3 — Weaker Domestic Demand

Slower productivity growth in the EU has been associated with weaker domestic demand compared to the US.

Changing External Conditions

Trade

1 2000-2019 Growth

EU trade as share of GDP rose from 30% to 43%; compared to a modest rise from 25% to 26% in the US

This openness allowed Europe to import necessary goods and services while exporting specialised manufactured goods, particularly to growing Asian markets

2 Crisis in Multilateral Trading

End of rapid world trade growth era

3 IMF Projections

IMF projects 3.2% world trade growth, down from 4.9% average from 2000-19

Energy

1 Pre-2022

The normalisation of relations with Russia had previously allowed Europe to satisfy its energy demand with ample pipeline gas,

accounting for around 45% of the EU's natural gas imports in 2021

2 2022 Onwards

Loss of cheap Russian energy source

3 Current Situation

The EU has lost over a year of GDP growth and redirected substantial fiscal resources to energy subsidies and LNG infrastructure, significantly impacting its economy and energy security.

Defence

1 Post-Cold War Era

The era of geopolitical stability that followed the Cold War allowed the EU to largely separate economic policy from security considerations.

2 Current Geopolitical Flux

Russia's aggression against Ukraine, deteriorating US-China relations, and rising instability in Africa have disrupted the previous stability.

3 Economic Impact

With the end of the 'peace dividend' from reduced defense spending, the EU must reassess its security and economic priorities

The Need for Enhanced Competitiveness

Boost Productivity

Focus on raising productivity growth as the key driver of long-term economic growth.

Foster Innovation

Promote competitiveness through knowledge and skills rather than wage repression.

Level Playing Field

Address asymmetries in regulation and subsidies to ensure fair competition globally for productive companies

Enhance Security

a modern competitiveness agenda must also encompass security. Recognise security as a precondition for sustainable growth in the face of geopolitical risks.

Part 2: Three Transformations Ahead for Europe

1

Accelerating Innovation and Finding New Growth Engines

The need to accelerate innovation and find new growth engines

2

Decreasing energy prices, Decarbonising and Shifting to a Circular Economy

Decreasing energy prices and Decarbonising and shifting to a circular economy

3

Managing Dependencies and Strengthening Defence Investment

A plan to manage dependencies Strengthen defence investment

Accelerating Innovation and Finding New Growth Engines

This shift underscores the urgent need for Europe to accelerate innovation and discover new growth engines to maintain its competitive edge in the global market.

EU's Challenges

- Increased competition from China
- Falling share of world trade
- Deteriorating position in advanced technologies

Global Technology Revenue Share

EU: 22% (2013) to 18% (2023)

US: 30% (2013) to 38% (2023)

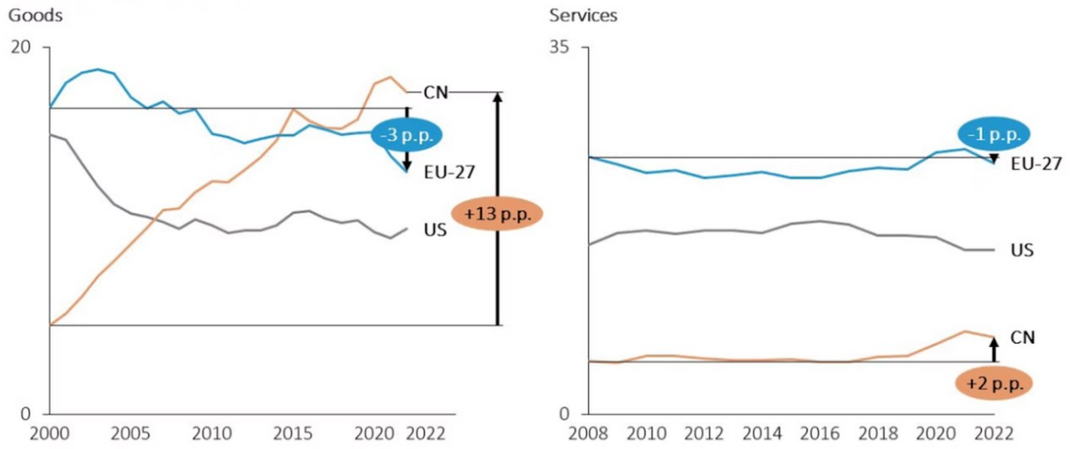
EU's Position

Only 4 of the world's top 50 technology companies are EU-based

FIGURE 5

Share in world trade in goods and services

% of global trade, excluding intra-EU trade



Note: The data refers to goods trade (lhs) and services trade (rhs), excluding intra-EU. The global total is the net of intra-EU trade.

Source: European Commission (JRC). Based on WTO.

Decreasing energy prices, Decarbonising and Shifting to a Circular Economy

Europe is grappling with electricity prices that are 2-3 times higher than competitors, highlighting the urgent need for energy transformation. Decarbonisation presents an opportunity for the EU to take the lead in new clean technologies and circularity solutions,while shifting power generation towards secure, low-cost clean energy sources.

To achieve these goals, policies must be in sync with the EU's decarbonisation objectives, forming a coherent strategy that addresses all aspects of decarbonisation, including energy and industry sectors.

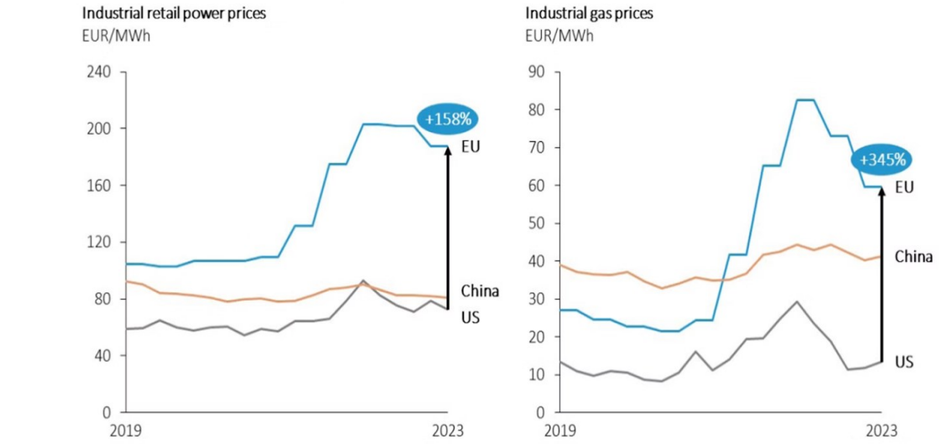
1 **Current Challenge**
Facing electricity prices 2-3 times higher than competitors

2 **Opportunity**
Decarbonization is an opportunity
Take the lead in new clean technologies and circularity solutions

3 **Energy Shift**
Move towards secure, low-cost clean energy sources

4 **Policy Alignment**
To achieve these goals, must be in sync with the EU's decarbonisation objectives
Develop coherent strategies for all aspects of decarbonisation

FIGURE 6
Gas and retail price gap for industry



Source: European Commission, 2024. Based on Eurostat (EU), EIA (US) and CEIC (China), 2024.

Managing Dependencies and Strengthening Defence Investment

1

Geopolitical Instability
Adapting to a less stable world where dependence is a weakness

2

Global equilibrium Shift
Major economies reducing dependencies and increasing independent action with the US investing in domestic capacity for semiconductor and clean tech production, and China striving for technological autarchy and vertical supply chain integration.

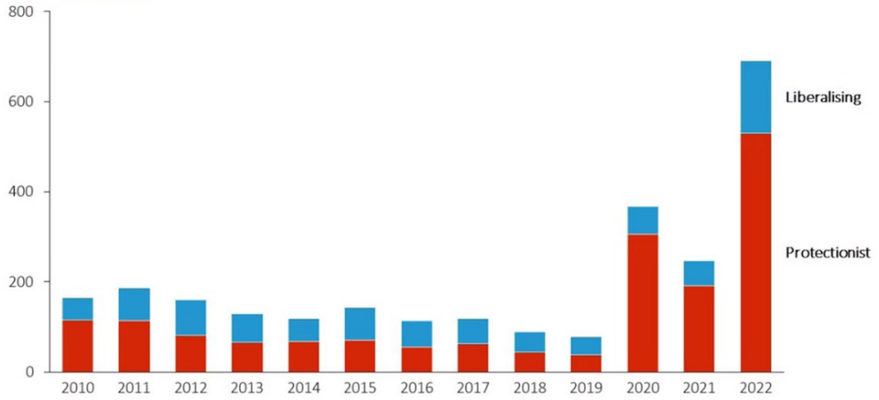
3

Security Challenges
Responding to changed security environment at EU borders

4

Defence Investment
Addressing underinvestment and depleted stock in EU defence industry

FIGURE 7
Trade policy interventions



Note: Measures include tariffs, export-related measures, subsidies, contingent trade-protective measures, and trade-related investment measures.

Source: Global Trade Alert, 2024.

Part 3: Challenges Faced by the European Union

There transformations cause EU face significant challenges in maintaining its economic competitiveness and innovation leadership on the global stage.

Innovation

- Challenges of productivity
- Key barriers to innovation

Security and dependencies

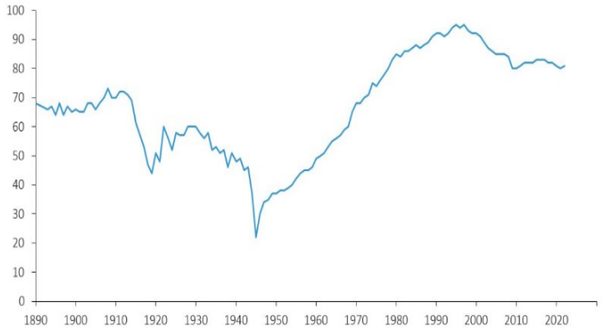
- Security fragmentation
- Dependencies reduction

Decarbonisation and Competitiveness

- Challenges of high energy prices
- Threats to clean tech sector
- Challenges of asymmetric decarbonisation

Europe's Productivity Challenge

FIGURE 1
EU versus US labour productivity 1890-2022
Index (US=100)



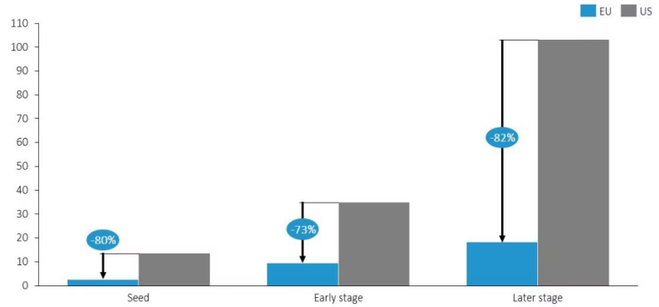
1 Economic stagnation due to falling productivity and shrinking workforce

Post-WWII Growth
- EU's growth surged due to rising productivity and population.

Recent Years
- EU labor productivity has fallen below 80% in recent years. High debt
- Raising spending needs

Future Concerns
- Shrinking workforce projected to further impact economic growth
Making public debts unsustainable.

FIGURE 3
Venture capital investment by development stage
USD billion, 2023



Source: Pitchbook data. Accessed 20 November, 2023.

2 Lack of investment leads to lack of innovation

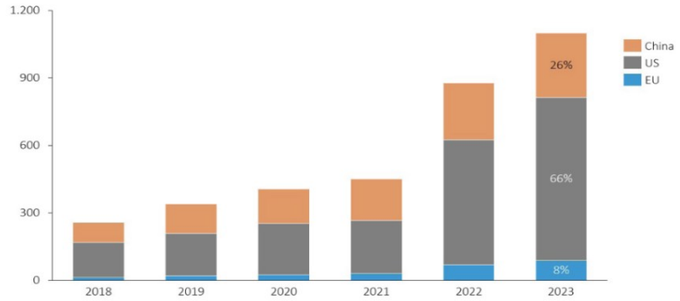
Venture capital Investment in the EU is significantly lower than in the US at all stages

Seed Funding
80% lower than US

Early Stage
73% lower than US

Later Stage
82% lower than US

FIGURE 5
Active unicorns



Source: Pitchbook. Accessed 2024.

3 Lack of startups and lack of capital leads to difficulty in scaling

a comparative smaller startup ecosystem in EU

The EU's startup ecosystem lags significantly behind the US and China, in terms of global unicorn count

EU Unicorn Share: 8% in 2023

China: 26%

US dominance: 66%

Key Barriers to Innovation in Europe

Regulatory Hurdles

Complicated regulations and fragmented Single Market impede scaling of startups

Funding Challenges

Lack of capital
Entrepreneurs seek US funding, leading to brain drain

High Energy Prices: Electricity + Industrial gas

The EU faces a significant competitive disadvantage due to high energy prices.

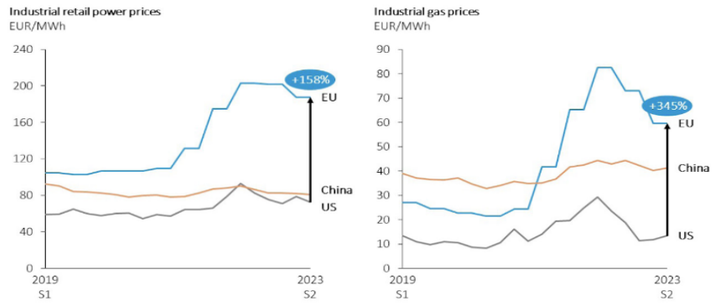
Industrial gas

EU gas prices 3.5 times higher than US
High gas prices affect energy-intensive industries

Electricity

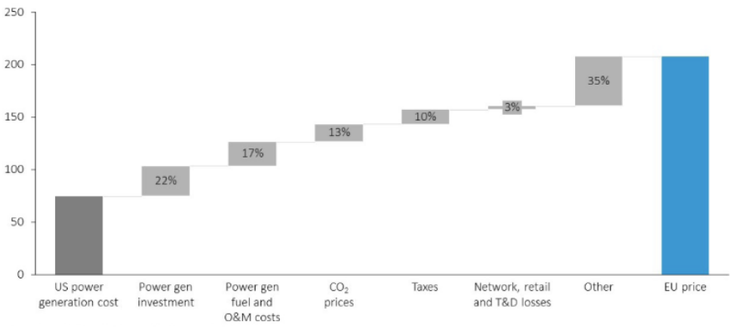
EU electricity costs 2-3 times higher than the US and China

FIGURE 1
Gas and retail price gap for industry



Source: European Commission, 2024. Based on Eurostat (EU), EIA (US) and CEIC (China), 2024.

FIGURE 12
Breakdown of the industrial electricity price gap compared to the US
EUR/MWh, % of the price gap, 2023



Root Causes

Factors	Impact on Price Gap
A reduction of pipeline supply from Russia	An increase in LNG (Liquefied natural gas) stock price
Energy tax	Revenue reduction => higher retail prices

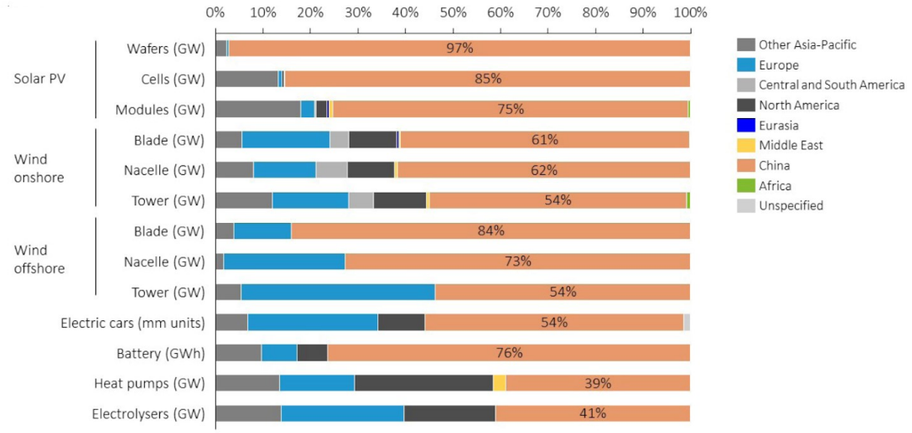
Threats to EU's clean technology

The competition from China: China has developed overcapacity in clean technologies

FIGURE 4

Clean technology manufacturing capacity by region

(% 2021)



Source: European Commission, 2024. Based on IEA, Bruegel, 2024.

Challenges of Asymmetric Decarbonisation

The process of decarbonization by shifting the auto industry from internal combustion engine vehicles to electric vehicles

1 — Increasing EV Imports

EU reliance on electric vehicles imports, especially from China, set to almost double from 250,000 in 2021 to 450,000 in 2022.

2 — Lack of Coherent Policy

EU has not synchronized its supply chain to meet EV targets, notably lacking in charging infrastructure.

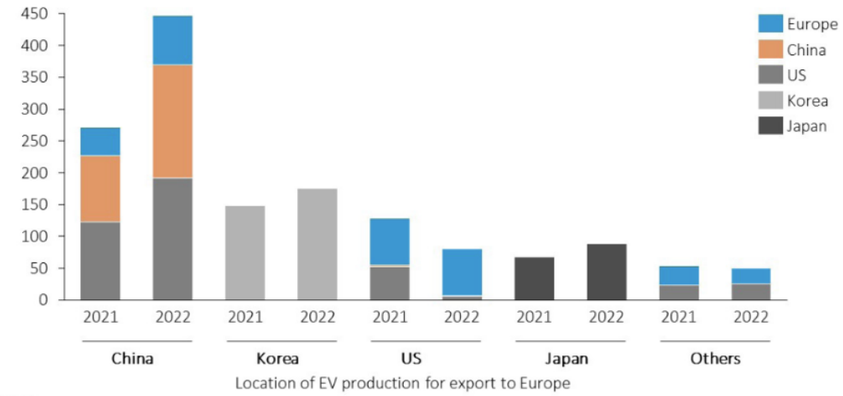
3 — Grid Challenges

Increased demand for EVs and charging infrastructure not matched by sufficiently robust electricity grid.

FIGURE 9

Electric car imports to Europe by country of production and manufacturer headquarters

Thousand vehicles, 2021-2022



Source: IEA, 2023

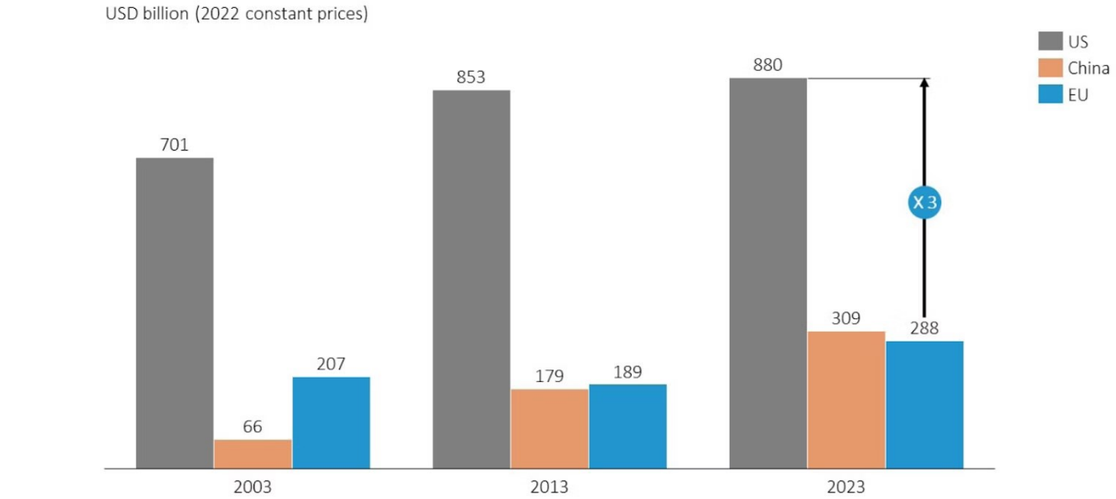
Security and Dependencies

Defense Spending

EU defense spending increased from 207 billion USD in 2003 to 288 billion USD in 2023, but remains significantly lower than US spending.

FIGURE 2

EU-27 defence spending compared to the US and China



Source: SIPRI. Accessed 2024.

Digital Dependencies

Over 80% of EU's digital products, infrastructure, and IP sourced from non-EU countries, with significant reliance on semiconductors from a few global players.

Advanced Technologies

Dependencies extend to other advanced technologies, such as AI, highlighting the need for strategic autonomy.

Part 4: Three main areas for action

1

Closing innovation gap

Europe needs to redress its slowing productivity growth by closing the innovation gap.

2

A joint plan for decarbonization and competitiveness

To lower energy prices and capture the industrial opportunities of decarbonisation,

Europe needs a joint plan for decarbonisation and competitiveness.

3

Increasing security and reducing dependencies

Europe needs to increase security and reduce dependencies.

Closing the innovation gap
A programme to tackle the innovation deficit

Improving the EU’s research and innovation framework

Reforming the European Innovation Council (EIC)
Improving effective governance
Increasing funding

1

Launching a new Tech Skills Acquisition Programme

Attracting tech talent from outside of the EU

3

2

Close Skills Gaps

Redesigning EU programs for education and skills
Focusing on lifelong learning and vocational training

Addressing the Innovation Deficit

1 Reform the European Innovation Council (EIC)

Transform EIC into an "ARPA-type agency" supporting high-risk projects with breakthrough potential.

2 Improve Governance

Manage program governance with project managers and individuals with proven innovation track records.

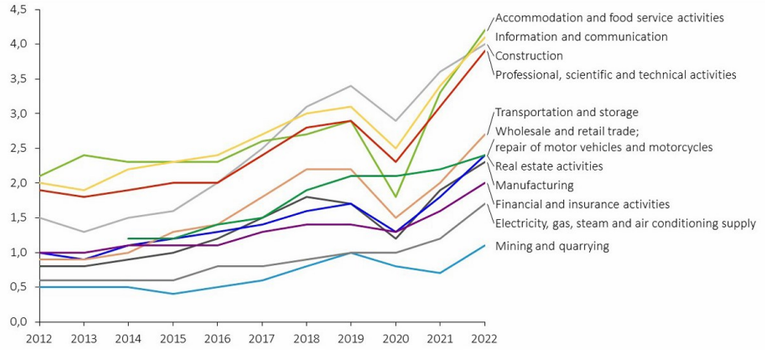
3 Increase Funding

Double the budget of the new Framework Programme to EUR 200 billion per 7 years.

Skills Shortages in the European Economy

25% of European companies	Face difficulties finding employees with right skills
77% of EU companies	Report newly recruited employees lack required skills
850 STEM graduates per million inhabitants	EU's annual output, compared to 1,100+ in the US
60% of EU companies	Report lack of skills as major barrier to investment

FIGURE 10
Skills shortages in the EU
Job vacancy rate (% of total posts)



Source: Eurostat

Solutions for Addressing Skills Gaps

Enhance Skills Intelligence

Utilize data to understand and act on existing skills gaps.

Redesign EU Programs

Improve efficiency and scalability of skills investments with stricter accountability and impact evaluation.

Targeted Interventions

Address critical shortages in technical fields and STEM, focusing on lifelong learning and vocational training reforms.

Tech Skills Acquisition Programme

Attract Global Talent

Draw tech talent from outside the EU to address skills shortages.

EU-Wide Adoption

Implement program across all EU member states for maximum impact.

Co-Funded Initiative

Joint funding from the Commission and Member States to ensure broad support.

Retention Strategy

Offer academic scholarships and internship contracts to retain talent within Europe.

A Joint Plan for Decarbonization and Competitiveness

1

Market Growth

The global market for critical minerals for energy transition doubled in the past five years, reaching €300 billion in 2022.

2

Demand Surge

From 2017 to 2022, global demand for lithium tripled, while demand for cobalt rose by 70% and nickel by 40%.

3

Future Projections

IEA projects mineral demand for clean energy technologies to grow by a factor of 4 to 6 by 2040.

Lowering Energy Prices

EU gas demand is predicted to fall by 8%-25% by 2030, contributing to lower energy costs.

1 Stabilizing Natural Gas Prices

Reinforcing joint procurement, establishing long-term partnerships, and reducing exposure to the spot market will help reduce price volatility.

2 Decoupling Gas from Clean Energy

Utilizing tools like Power Purchase Agreements (PPA) and Carbon Price Support Contracts (CfD) to separate natural gas prices from clean energy costs.

3 Energy Tax Reduction

Implementing a common cap on surcharges across the EU to lower overall energy taxes.

Accelerating Cost-Efficient Decarbonization

1 Embrace Technology Neutrality

Leverage all available solutions including renewable energy, nuclear, hydrogen, bioenergy, and carbon capture, utilization, and storage.

2 Implement Existing Legislation

Systematically apply current regulations, such as the Article 122 Emergency Regulation, which has led to significant increases in onshore wind permits in several Member States.

3 Focus on Clean Tech Manufacturing

Support technologies where the EU has an advantage or strong growth potential, such as batteries.

4 Develop Automotive Industrial Roadmap

Consider horizontal convergence (electrification, digitalization, circularity) and vertical convergence (critical raw materials, batteries, transport, charging infrastructure) within the automotive ecosystem value chain.

Increasing security and reducing dependencies

Developing a strong and dependent defence industrial capcity

Europe needs to develop a robust, independent defense industry to meet growing military demand and stay at the forefront of defense technology.

Reducing external vulnerabilities

In the short term, the EU needs to implement the Critical Raw Materials (CRMs) rapidly and fully. Strategic dependencies also extend to critical technologies for the digitalisation of Europe’s economy

European Defense Industrial Capacity

Current State

The European defense industry is globally competitive with annual revenues of €135 billion in 2022.
However, EU defense spending is only one-third of that of the United States, indicating a significant gap.

Challenges

The industry faces fragmentation, with mainly national players operating in small domestic markets. This leads to a disparity in scale between U.S. and European defense companies.

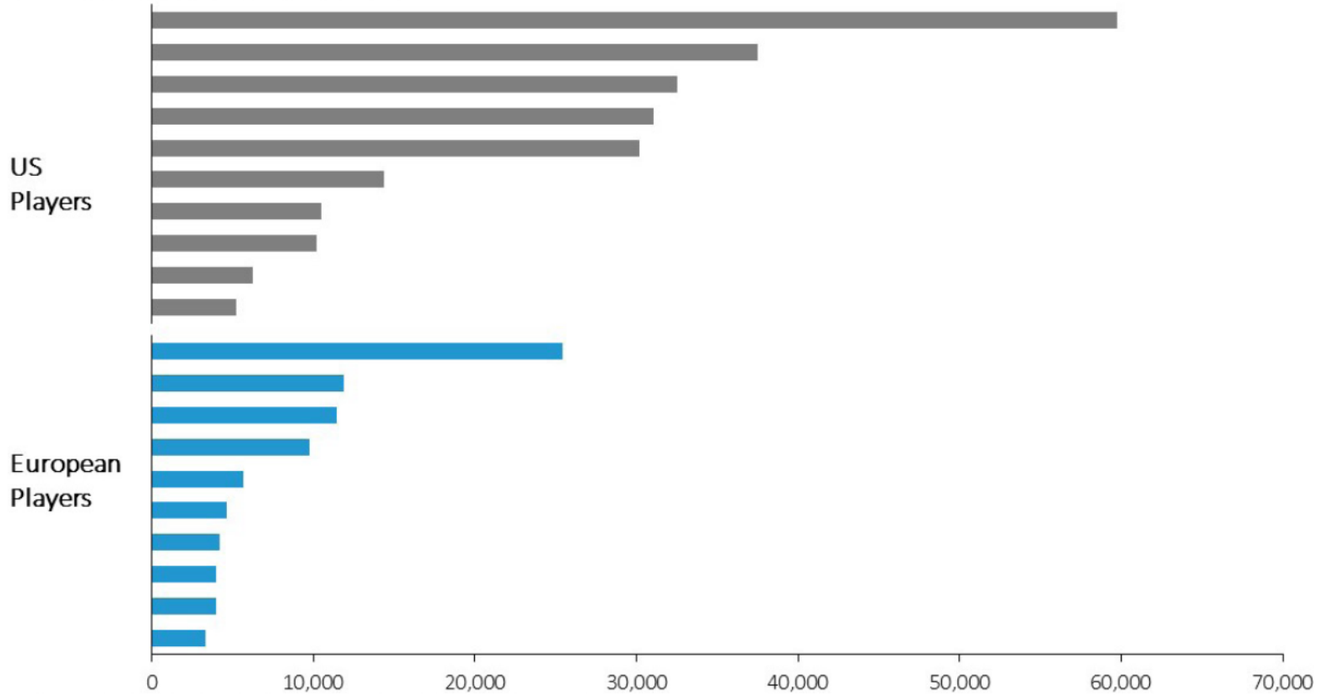
Strengths

Some EU products and technologies are superior or on par with those of the United States, particularly in main battle tanks, conventional submarines, naval shipbuilding technology, and transport aircraft.

FIGURE 4

Comparison of major European and US players

Defence revenues, EUR million, 2023



Source: Elaboration on Defence News Top 100. European players include European non-EU companies

Critical Raw Materials (CRMs) Challenge

1 Market Growth

The global market for critical minerals for energy transition doubled in the past five years, reaching €300 billion in 2022.

2 Demand Surge

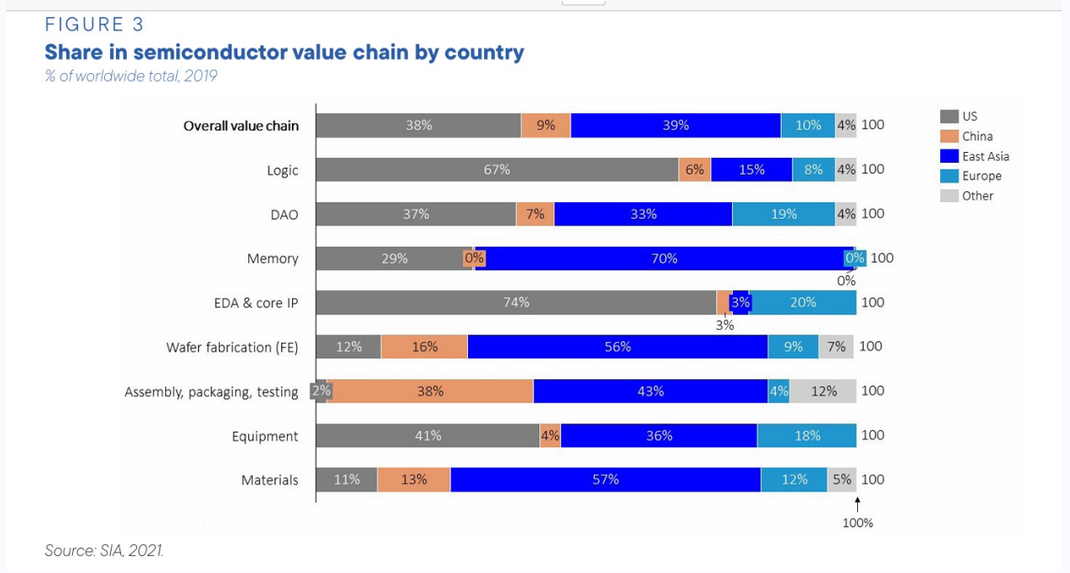
From 2017 to 2022, global demand for lithium tripled, while demand for cobalt rose by 70% and nickel by 40%.

3 Future Projections

IEA projects mineral demand for clean energy technologies to grow by a factor of 4 to 6 by 2040.

Digital Dependencies

The EU faces significant dependencies in the digital sector, relying on foreign countries for over 80% of digital products, services, infrastructure, and intellectual property.



Global Semiconductor Value Chain

The chart shows the specialization of different countries in the semiconductor industry, highlighting the need for a more balanced approach in Europe.

Solution: Resource Diplomacy for CRMs

1

Upgrade Global Gateway

Focus the EU's investment promotion in third countries on strategic needs related to critical raw materials.

2

Develop Joint Strategies

Collaborate with strategically aligned countries to create unified approaches for securing critical raw materials.

3

Establish G7+ Critical Raw Materials Club

Form a coalition including Japan, South Korea, and Australia to coordinate efforts in securing and managing critical raw materials.

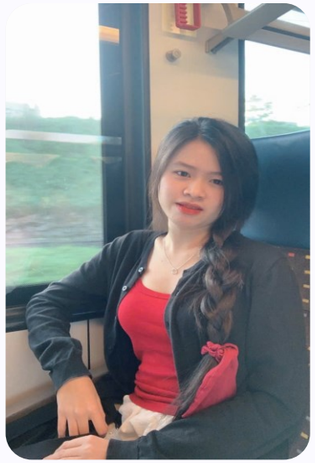
Authors

Phan Nguyen Chau

Le Van Phu Truong

Nguyen Cong Duc

Tran Phuong Dinh



Nguyen Hanh Quyen