



From Research to Impact

Strengthening Knowledge Deployment in Portugal within the EU Innovation System



Executive Summary

European Union invests heavily in research, yet much of this knowledge does not translate into widespread innovation in firms, particularly SMEs. This “knowledge deployment gap” reflects fragmentation of innovation actors, misaligned incentives, information asymmetries, and high transaction costs. The result is reduced return on public R&D investment and slower productivity growth.

Portugal mirrors this pattern. National R&D intensity reached 1.7% of GDP in 2023 (below the EU average of ~2.2%), with business R&D expanding. However, productivity growth remains modest, and SME collaboration with research institutions is uneven.

In the context of global competition, green and digital transitions, and EU strategic autonomy objectives, improving knowledge deployment is now a competitiveness priority.

This brief evaluates four policy options and recommends a combined approach centred on:

- Strengthening and networking Technology Transfer Offices (TTOs)
- Streamlining collaborative financial incentives
- Piloting a National Digital Knowledge Marketplace

- Gradually evolving toward a hybrid public–private knowledge infrastructure

This approach can be implemented incrementally while aligning with EU knowledge valorisation policy.

The Knowledge Deployment Gap

EU R&D expenditure reached approximately €403 billion in 2024 (~2.2% of GDP), still below the 3% target and trailing global competitors. While business accounts for two-thirds of R&D spending, structured collaboration between firms and universities remains uneven.

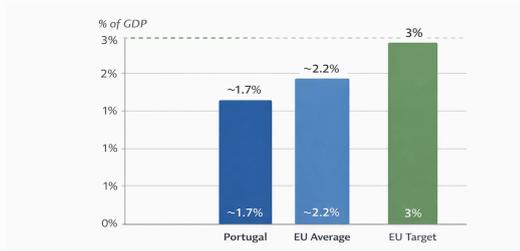
In Portugal:

- R&D intensity: 1.7% of GDP (2023)
- Business R&D share: ~63%
- SME innovation largely incremental
- Limited systematic collaboration with academia

Barriers include:

- Fragmented support systems
- Institution-centric technology transfer structures
- Limited visibility of academic capabilities
- Complex contracting and IP negotiations
- Lack of integrated digital interfaces

The result: knowledge diffusion is slower and more uneven than public investment levels would suggest.



Why This Matters Now

Productivity growth in the EU has been modest in recent years. At the same time:

- Global competition in AI, semiconductors, clean energy and advanced manufacturing is intensifying.
- The green and digital transitions require rapid technology diffusion.
- Strategic autonomy depends on effective domestic innovation systems.

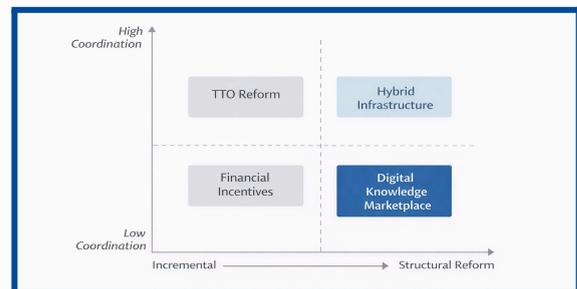
For Portugal, where SMEs dominate the productive structure, inefficient knowledge deployment constrains value-chain upgrading and long-term competitiveness.

Improving how research connects to firms is therefore an economic priority, not merely a research policy issue.

Policy Options Assessed

Option	Strengths	Limitations	System Impact
TTO Reform	Builds on existing structures; improves contract management	Fragmented uneven quality	Moderate
Financial Incentives	Scalable; reduces SME risk	Does not solve matching gaps; risk of deadweight	Limited structural change
Digital Knowledge Marketplace	Reduces information asymmetry; scalable	Requires critical mass; governance complexity	High potential
Hybrid Public-Private Infrastructure	Integrated support; strong alignment	Resource-intensive; complex governance	High but slower

No single instrument resolves fragmentation alone.



Recommended Strategic Direction

Portugal should adopt a combined and phased approach:

1. Strengthen and network TTOs with common standards and shared services.
2. Expand and streamline collaborative financial instruments, especially SME-targeted vouchers.
3. Pilot a National Digital Knowledge Marketplace as a structured, user-oriented intermediation layer.
4. Embed digital tools within a hybrid governance model, linking universities, innovation agencies, clusters and business associations.

This package balances feasibility with systemic ambition.

Implementation Snapshot

Governance:

Designate a national innovation agency as coordinating body; establish multi-stakeholder oversight.

Funding:

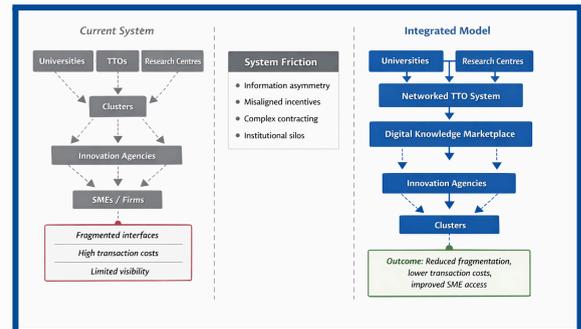
Combine multiannual public funding with modest service-based revenue streams.

Digital Architecture:

Interoperable, modular platform linked to existing institutional repositories.

Risk Mitigation:

Phased rollout (sectoral pilots), clear performance metrics, early stakeholder engagement.





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