

How EIT food fosters bioeconomy entrepreneurship: From policy to people – and back

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Representatives of EIT Food Education discuss the importance of entrepreneurship education in advancing Europe's bioeconomy, highlighting that a sustainable economy relies on bio-based solutions and overcoming skills gaps

Why entrepreneurship education is essential for a competitive European bioeconomy

Europe's shift towards a sustainable, resilient, and competitive economy depends heavily on the bioeconomy. With increasing pressures on natural resources, food security, and climate, advancing biotechnology and bio-based solutions are vital. The European Commission's 2024 report on Boosting Biotechnology and Biomanufacturing in the EU ⁽¹⁾ highlights the sector's potential but also urgent skills gaps. Challenges include regulatory complexity, fragmented value chains, and low public awareness.

The Draghi, ⁽²⁾ Heitor, ⁽³⁾ and Letta ⁽⁴⁾ reports and the EU Competitiveness Compass all position skills as a crucial issue for innovation and competitiveness. They highlight shortages in green and digital skills, brain drain, and education systems that do not match the challenges ahead. In response, the European Commission launched the Union of Skills policy in March 2025, calling for industry-backed EU Skills Academies to tackle specific skills gaps.

The food system is highly fragmented, with production, processing, distribution, and consumption often siloed. Four megatrends reshape skills needs: technological advances, climate change and the green transition, an aging workforce with few new entrants, and globalised value chains. These forces demand a comprehensive, dynamic approach to workforce development.

Entrepreneurship is no longer optional in the bioeconomy – it's a strategic priority. Realising this potential requires coordinated action across policy, funding, infrastructure, and talent development. Education systems must go beyond employability metrics to foster entrepreneurial mindsets, sustainability competencies, and systems thinking.

With nearly 40% of Europe's workforce having to radically update their skills in the coming years, ⁽⁵⁾ lifelong learning, adaptability, and creativity are at the core. EIT Food leads this transformation by embedding innovation, entrepreneurial and systems thinking into agrifood learning.

This paper explores how entrepreneurial learning can accelerate the bioeconomy transition through talent development, start-up support, and stronger alignment between education and industry.

Building a coherent talent pipeline for Europe's Bioeconomy

The EU supports bioeconomy entrepreneurship through funding instruments like Horizon Europe and the Circular Bio-Based Europe Joint Undertaking ([CBE JU](#)), which de-risk innovation. Policy initiatives, such as the Biotech and Biomanufacturing Initiative by DG GROW, and broader frameworks like the Pact and the Union of Skills, signal a growing focus on talent as a strategic asset.

Yet, despite these efforts, the ecosystem remains fragmented, especially in bridging the gap between education and industry. The share of highly qualified workers in the bioeconomy is expected to grow from 16% in 2020 to 24% by 2030, with mid-skilled roles declining. This shift demands agile, on-the-job learning pathways, yet current training offerings lag behind technological progress.

In food biotechnology, for example, EIT Food identified 301 courses across 29 countries, mostly at the Master's level. However, industry stakeholders note that graduates often lack the entrepreneurial, interdisciplinary, and systems-thinking skills needed for innovation and start-up success.

To address this, EIT Food calls for greater coherence: integrate entrepreneurship and systems thinking into technical curricula (i.e., via its Competency Framework), ⁽⁶⁾ strengthen academia-industry collaboration, and invest in long-term strategies such as a Biotech Academy. ⁽⁷⁾ These efforts can help build a future-ready talent pipeline aligned with sectoral innovation goals.

Talent as infrastructure: EIT food's skills academies and entrepreneurial pathways

EIT Food, supported by the European Institute of Innovation and Technology (EIT), connects education and entrepreneurship to tackle food system challenges. Its new EU Skills Academies ⁽⁷⁾ offer sector-led up- and re-skilling in biotechnology and resilient agriculture, co-designed with industry, academia, and policymakers to meet real workforce needs. The Food Biotech Academy exemplifies this approach, embedding entrepreneurship, sustainability, and digital skills through EIT Food's Competency Framework and micro-credentials. Delivered as a blended, distributed learning model across academic, vocational, and industry settings, it uses innovative e-learning technologies and a blended funding model to build on existing partner expertise throughout Europe.

The Academy wants to address critical technological skill gaps in:

- Artificial Intelligence
- Advanced materials

- Industrial biotechnology
- Data literacy
- Scientific data management
- Sustainable resource management
- Circular food chains
- Bioprocessing
- Cell line development

These capabilities are taught alongside entrepreneurial mindset development, ensuring that learners not only acquire technical expertise but are also equipped to turn innovation into scalable impact.

EIT Food's broader portfolio, including WE Lead Food and degree-labelled master's and PhD programmes, incorporates entrepreneurial thinking from the outset. A standout initiative is the Global Food Venture Programme (GFVP), which supports PhD students in translating cutting-edge research into viable business solutions. With over 200 alumni, the GFVP includes modular training, coaching, and industry exposure. From ideation to commercialisation, PhD students develop viable business models and understand the impact of their work. Alumni-led ventures like Cinsoil and Viva la Faba demonstrate the role of EIT Food Education programmes in building a pan-European network of entrepreneurial science leaders.

As an alumnu, Dr Marine Valton, CEO and co-founder of NouriSol, reflects: "The programme gave me the chance to train my entrepreneurial skills and develop a business mindset with a more global perspective. This is crucial in what I'm doing today. I still benefit from that support and the network." Alumni ventures such as Revo Foods, Orbem, and Cano-ela further showcase the GFVP's role in nurturing a new pan-European generation of entrepreneurial science leaders.

From education to entrepreneurship: Lessons from the ground

One of the persistent barriers to innovation in the bioeconomy is the disconnection between academia, industry, and market realities. EIT Food bridges this gap by creating learning pathways that lead directly to entrepreneurial outcomes.

The GFVP empowers PhD candidates to apply their research beyond academia. Participants gain skills in market validation, pitching, and collaboration – crucial for entrepreneurship and intrapreneurship – while enhancing their employability. By embedding career services, (8, 9) and venture creation training, EIT Food ensures doctoral candidates graduate not just as scholars but as career-ready innovators in the agrifood sector.

To scale this model, universities and research centres must be incentivised to work more closely with start-up ecosystems. A 'circular innovation ecosystem' approach is needed – aligning research, education, and entrepreneurship through shared infrastructure (e.g., living labs), co-funding mechanisms, and feedback loops from start-up insights into curricula.

Diversity and inclusion are central to EIT Food's education model. Programmes such as WE Lead Food, EWA, Girls Go Circular, and Supernovas support women's professional development. Flexible formats and fee waivers (e.g. Inspire and Master's in Food Systems) enable access for carers and vulnerable groups. Alumni storytelling and the Young Professional Platform ⁽¹⁰⁾ contribute to maintaining a diverse and forward-looking innovation pipeline.

Experiential challenge-based learning through Inspire ⁽¹¹⁾ and Food Solutions further embeds skills in real-world challenges, supported by EU mobility and co-funding tools.

Recommendations and conclusion

Talent is the strategic resource that will turn ambition into action in the European bioeconomy – innovation needs good policies coupled with good investments.

We propose the following actions for key actors.

For policymakers:

- Expand certified entrepreneurial learning through micro-credentials.
- Align innovation funding with skills development.
- Foster public-private partnerships linking VET, academia, and industry.
- Scale proven models, such as EIT Food's GFVP and Skills Academies.

For industry:

- Co-invest in placements, mentoring, and training.
- Communicate future skills needs to education providers.
- Promote intrapreneurial culture within organisations.

For academia and training providers:

- Integrate entrepreneurship and systems thinking into science and biotech curricula.
- Offer flexible, work-integrated learning pathways.
- Partner more actively with start-ups and small to medium-sized enterprises (SMEs).

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