POSITION PAPER

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Cefic policy proposals to accelerate the industrialisation of the bioeconomy

The European chemical industry is at a pivotal moment, with the bioeconomy and biotechnology recognised as essential drivers for EU competitiveness and the achievement of net-zero goals. Cefic welcomes recent EU initiatives, including the Bioeconomy and Life Science Strategies, Startup and Scale-up Strategy, Chemical Industry Action Plan, the proposal for the new Framework Program 10, and the proposal for a new European Competitiveness Fund, which collectively emphasise the need for coordinated action across the value chain.

However, the sector continues to face significant challenges:

- Fierce global competition and difficulties scaling up in Europe
- Fragmented R&I ecosystem and delayed valorisation of technological breakthroughs
- Complex, non-harmonised regulatory frameworks that hinder innovation and market access

To address these challenges and support the industrialisation of the bioeconomy, Cefic calls for:

- **Enhanced coordination** - Greater alignment and coordination among EU institutions and Directorates-General to avoid competing solutions and ensure coherent policy implementation.
- **Focused support for industrialisation and evolution of the CBE-JU, towards a CBE-JU 2.0** - Cefic supports CBE-JU as a successful example of public-private cooperation, driving the industrialisation of the bioeconomy. Targeted updates and increased resources are essential to ensure Europe remains at the forefront of sustainable innovation. The future CBE-JU should exclusively support high-TRL projects (≥ TRL 6), with a broader scope that includes the conversion of existing industrial assets.
- **Increased Funding** - Allocate additional funding to enable a higher number of projects and cover a greater share of project costs, particularly for scale-up and demonstration phases.
- **Dedicated commercialisation instrument** - Establish a new funding instrument tailored to the commercialisation and replication of scaled-up facilities (TRL 9), bridging the gap between innovation and market deployment.
- **Skills and Workforce Readiness** - Integrate a skills and training pillar to support (bio)process, regulatory, and digital manufacturing competencies.

Focused support for industrialisation and the evolution of the CBE-JU

We propose focusing the future CBE-JU solely on TRL 6-8 and introducing specialized development platforms that can better account for the end market at an earlier stage, thereby increasing the likelihood of a successful market entry. Such platforms would provide:

- Specific expertise and tools tailored to the sector
- Specific regulatory expertise (e.g., GMP vs non-GMP, EHEDG, …)
- Specific technical expertise
- Specialized support towards industrialization

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Specialized development platforms could be tailored on the basis of the typical application areas of products from CBE-JU's past projects. Figure 1 provides an example extracted from a recent CBE-JU report. Details on the characteristics of different TRLs can be found in Annex 1.

Figure 1 - Application areas for products from past CBE-JU projects

Furthermore, we emphasize the necessity of coordination between lower and higher TRL and the role that open-access testing facilities can play as a fundamental bridge between the mentioned TRLs. The proposed updated structure is summarized in Figure 2.

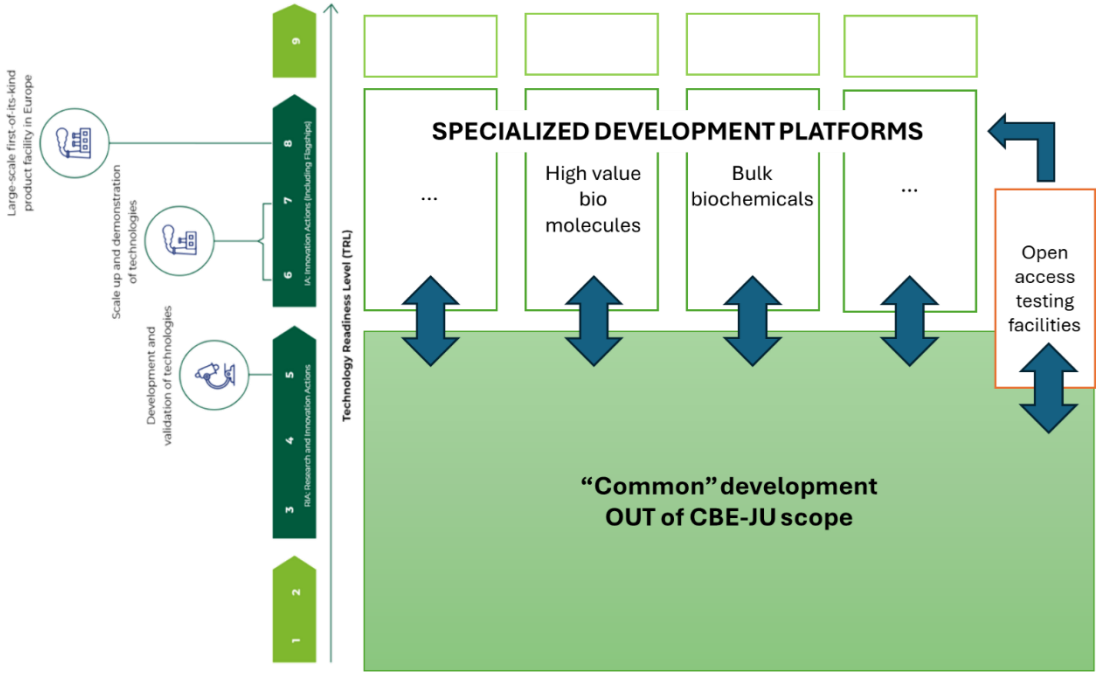

Figure 2 - Proposed structure for an updated CBE-JU

Boosting the role of open access testing facilities

In addition to what was already proposed in the Cefic's Bioeconomy paper, to boost open access testing facilities' role in the EU scale-up scene, we propose to take advantage of the recently proposed solutions in the Start-up and scale-up strategy. Namely, the proposed EU strategy on research and technology infrastructures could be linked to the scale-up and technology infrastructures needed, aiming to strengthen coordination and accessibility to these facilities. Furthermore, the link between research infrastructure, scale-up and technology infrastructures, announced for the Innovation Act, should build on existing mapping efforts like Pilots4U for testing facilities or platforms like the European Cluster Collaboration Platform for clusters

Easier access to testing facilities

To facilitate access to testing facilities and to further improve the services available to companies willing to scale up, we propose to introduce a voucher system following the example of Canadian Innovation Voucher Fund or Micro Voucher Program. Such a system can help companies to design and/or develop innovative technology solutions by providing funding in the form of vouchers covering certain qualified activities. The latter could be:

- Design, industrial engineering/process engineering services, and prototype development
- Product testing and refinement
- Patent development
- Advanced market assessment or segmentation analysis
- Certifications
- Advanced business and/or marketing strategies

The approach to projects

To rebalance the current approach, based primarily on feedstock availability, we suggest giving additional consideration and weight to which applications need to be developed, regardless of the type of biomass.

The focus on the end-use application would also widen the type of feedstocks used and the type of facilities eligible to be covered by the CBE-JU projects (including the conversion of existing industrial assets). As the bioeconomy integrates many industrial sectors and technologies, in this way, it would be possible to make more structured use of biotechnologies and feedstocks that are not necessarily biomass related, like CO_2 or CH_4. This is already the direction in which the JU is moving, as some of the recently awarded project grants cover more biotech and different sources of C (e.g., Synoprotein project).

Increased funding & dedicated commercialization instrument

In line with the recent announcement that *Horizon Europe and the Competitiveness Fund will offer support for the entire investment journey of a project (from the conception phase to scale-up)*, we propose that:

- The funding for the TRL 6 and 7, being scale-up and demonstration, would be covered by dedicated funding under Pillar II of FP10.
- TRL 8 (large-scale first of its kind) and 9 (commercialization) are the most capital-intensive steps in the development, with required investments that are very often in the range of hundreds of millions. As reported in the start-up and scale-up strategy, *a clear funding gap persists when it comes to the scale-*

up financing of high-risk capital-intensive technologies requiring investments above EUR 100 Mi. To tackle this issue[1]:

- TRL 8 would be funded by using the dedicated ECF funds for Health, Biotech, Agriculture, and Bioeconomy, and additional funding from a dedicated chapter in the Scaleup Europe Fund.
- TRL 9, which would be outside of the CBE-JU scope, would be funded by the Scaleup Europe Fund*, in close cooperation with* [the ECF] *investEU, and in complementarity with the EU tech champions initiative and other instruments of the EIB group*. The European Circular Bioeconomy Fund, being one of the latter, could constitute a basis from which to build such a fund, with a dedicated chapter/section dedicated to bioeconomy scale-up, particularly for biomass-derived chemicals.

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About Cefic

Cefic, the European Chemical Industry Council, is the forum of large, medium and small chemical companies across Europe, accounting for 1.2 million jobs and 13% of world chemicals production.

[1] The solution proposed in the Start up Scale up Strategy is a European scaleup fund (defined in the CID as TechEU ScaleUp fund) with critical mass, operating at market conditions, [...] to fill this gap and strengthen the EU's economic security and tech sove reignty.

Annex 1 – Technology Readiness Levels

Currently, CBE-JU focuses on projects ranging from TRL 3 to 8. TRL 3 to 5 usually present the following features:

- More of “lab type” development
- Assistance is more oriented towards the fundamentals
- “Proof of concept” style
- Differentiation between different applications is present, but less marked

Developing a process at this scale is very often done in small-scale multi-purpose installations that do not need to take into account sectoral differences (regulatory, facility, ...) related to potential market introduction since these TRLs are still far from deployment. In our proposal, TRLs 3 to 5 are excluded from the scope of CBE-JU and are covered by other instruments.

From TRL 6 and above, particularly 7 and 8, projects are closer to the end-use application and to market introduction, and it is therefore necessary to take into account the related specific needs. Namely, the required expertise becomes more specialized, and - depending on the field of application (pharma, chemicals, food, ...) - different regulatory aspects become applicable, and differences in the actual manufacturing facilities need to be considered.