Securing European biomanufacturing means anchoring both upstream and downstream capabilities in Europe

Key value drivers - to be retained in Europe

KEY BIOLOGICAL INPUTS

- Microorganisms (eg. bacteria, yeasts)
- Mammalian / human-derived cells
- Viral systems
- Biological components (eg. enzymes, DNA/RNA templates, nucleic acids)
- Media, buffers, reagents

Drug substance production



Upstream Biomanufacturing
Biological preparation & cultivation of production system (eg. cell banking, cell engineering)



Downstream Biomanufacturing
Active substance recovery, extraction and purification



Final Processing
Formulation of the drug product

MULTIPLE PRODUCTION PLATFORMS



Microbial fermentation



Mammalian cell culture



Cell processing



Biocatalysis / enzymatic conversion

PRODUCT OUTCOMES

- Enzymes
- Recombinant proteins
- mRNA
- Viral vectors
- Gene therapies
- Cell therapies
- Small molecules
- Antibodies / mAbs / antibody-based

Products may fall under different regulatory classifications.

ENABLERS – SUPPORTING EVERY STAGE

Research & Development | Process Development | Scale-up & Tech transfer | Supply Chain Raw materials | Regulatory | Engineering / Utilities | Digital / Data | Analytics / Quality Control | Sustainability

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