

Scale-Down and Process Intensification: Two Key Opportunities for Integration and Cost Reduction

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Since their initial introduction into the therapeutic portfolio available to fight cancer and severe cases of autoimmune disease, monoclonal antibody (mAb) production technology has seen two major improvement waves: in a first wave the productivity of mammalian cells used to synthesize the mAbs has been increased to a level that (finally) supports cost efficient manufacturing, and the subsequent purification and filtration steps have been developed to match the upstream productivity. In a second, more recent wave those processes are being intensified and a transition to partially continuous processing can be observed.

The presentation will discuss relevant technology aspects for these improvements from cells and cell culture to downstream processing and will look at integration opportunities including ways to remove “downstream bottlenecks” and smart approaches to apply automated links both between process steps and between each step and the step preparation activities in a plant. The discussion of technical and process design opportunities will be concluded with an analysis of cost reduction opportunities coming from those improvements.