

PROCESS INTENSIFICATION: IMPACT ON COST, FACILITY FOOTPRINT AND SUSTAINABILITY MATRIX

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As current biological product pipelines become more diverse, product demand and cost pressures are increasing. To meet these demands, manufacturers are moving towards process intensification. By making changes to unit operations, or indeed the full process, our industry can identify areas for process efficiency gains that shorten timelines, reduce process and thus facility footprint, reduce energy & utility requirements, lower cost of goods, and/or unlock additional manufacturing flexibility.

Miriam Monge, Head of Marketing Single-use technologies at Sartorius, will demonstrate intensified processing design options using a decision criteria matrix to choose the optimal intensified strategy according to product demand. The presentation will illustrate through industry case studies how Process Cost of Goods analysis can be used to select the optimal intensified design based on single-use technologies providing deep insight into the impact of an intensified strategy on overall facility throughput, with the potential of achieving up to 50% more product throughput within a given facility. Process modelling including a PMI index * will demonstrate how given intensified process design strategies will directly impact CO₂(Kg/kg product), water and electricity usage

*PMI - Process Mass Intensity - Measures kg of different components like consumables – materials used per kg of drug produced

Presentation Objectives:

- Obtain a general overview of upstream and downstream Process Intensification with single-use
- Understand cost implications of selecting various process intensification scenarios
- Discuss how selection of given process strategies directly impacts sustainability in terms of CO₂, water and electricity usage
- Facility footprint implications when moving towards an intensified process

Example:

