

Process Development and Scale Up

- You have worked hard and just obtained the most desirable performance under uniform and well-controlled conditions in your lab setup. Now you want to scale up your process.
- Here is the bad news: it is unrealistic to expect that you could replicate the same high performance at the large scale by simply building a larger version of the same reactor. Here are a few challenges on the way to scaling up to commercial plant size:
 - ✗ Most key phenomena such as mixing, turbulence, heat and mass transfer, multiphase flows... are highly complex and not directly scalable;
 - ✗ Lab conversion data are obtained in ideal conditions, most often ignoring mass, heat or other transfer-limited phenomena that prevail at large scale;
 - ✗ Large commercial plant footprint means huge investment costs, so beware of those convenient engineering design margins;
 - ✗ Your process may be unique, not fitting any off-the-shelf equipment;
 - ✗ Pilot plant testing is useful but has to be used with caution to prevent cost overruns.
- Here is the good news: You can do better, and we can help! Here is how:
 - ✓ By working with us, you will benefit from our extensive experience in pilot and commercial concept development, design, simulation and optimization in various industrial sectors;
 - ✓ We are deep believers in “Process Intensification” as a methodology to identify and enhance the key limiting steps in a given process, resulting in huge savings in plant size, energy consumption and significant increase in productivity and product quality.
 - ✓ We specialize in using Computational Fluid Dynamics (CFD) in simulating complex flow systems including multiphase flows, particulate flows, free-surface flows, chemically reacting flows, structure-induced turbulence, and more ...
 - ✓ We understand commercial constraints and are committed to deliver pragmatic, timely and cost efficient solutions that you can actually use!

Contact Us

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