# framatome



# PROCESS CONSULTING SERVICES

Independent consultants supporting the following industries:

Bulk and Specialty Chemicals | Paints and Coatings | Cosmetics and Personal Care Food and Drink | Pharmaceuticals | Petrochemicals | Agrochemicals | Water and Wastewater









With a proven track record in using in-depth engineering knowledge coupled with expertise in both physical and computational modelling, Framatome BHR can provide support in the following areas:

## Equipment

- Batch and continuous reactors
- Process intensification and application of alternative manufacturing strategies
- · Rotor stators and other high intensity mixing equipment
- Pipelines, pumps and valves
- · Heat exchangers
- · Industry specific specialist processing equipment

## Technology

- Single and multi-phase mixing
- Chemical reactions, emulsification, crystalisation
- Powder wetting and dispersion
- Complex fluid characterisation
- Pump selection and pipeline design
- · Pressure and fatigue testing
- · Insulation and thermal performance

Our key areas for consultancy services:

#### **Process Development**

- Support in scale up from lab, to pilot, to full production
- Reactor performance characterisation
- · Process performance validation testing
- Interpretation of process performance data
- Transfer processes from batch to continuous operation

## **Process Optimisation**

- Review of existing systems to increase throughput and yield
- · Reduce operating costs
- Avoid equipment failures
- Reduce downstream separation costs
- Ensure productivity when using the same plant to produce multiple products
- Prioritisation of improvement opportunities

#### **Process Troubleshooting**

- Improve reliability
- · Identify failure mechanisms
- Recommend and rate practical process improvement options
- Ensure product quality across multiple manufacturing runs

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