Process engineering

Chemical engineering support - from an operations perspective
Are you always confident that your process designs are safe to operate?

Are you sure that proposed process changes will integrate fully with your existing processes and equipment?

Do you find it hard to find process engineering support that is flexible and considerate of your valuable time?

ABB provides technical and engineering services to improve performance in the areas of compliance, operations and engineering to customers in the chemical, petrochemical, oil & gas, power and pharmaceuticals industries worldwide.

Process engineering is at the heart of all process industry operations: delivering safe, efficient and environmentally sustainable operations. Good process engineers play a vital role in improving operations business performance and managing risk; supporting all parts of the operations lifecycle.

A good engineer needs a very broad experience to independently investigate, analyse and provide pragmatic solutions for everyday operational problems. Good engineers also need to provide safe and compliant designs for new projects and plant modifications. Increasingly they are difficult to find, train and develop.

Capabilities
ABB has a very strong team of chemical engineers with a broad range of design and operational experience across all sectors of the process industry. This expertise allows ABB to offer practical and pragmatic advice to process operators and to turn recommendations into beneficial solutions. We can support all phases of operations; new projects and modifications, supporting and improving existing operations and the important area of improving the safety of operations.

In particular ABB offers:
- A deep operational understanding, based on our heritage and approach
- A broad experience of continuous and batch processes across all unit operations
- Specialist expertise in safety related aspects of process design and support
- The backup of a range of uniquely experienced engineers from other functions to support our process work - including rotating equipment, fired equipment, vessels, control, electrical & instrumental, integrity and safety specialists
Our experience
We work flexibly with our customers across a broad spectrum of process engineering tasks, either on a client’s site or in our offices.

Some examples of the services we can offer can be explained in 4 broad areas:

Process development and design - existing and new plants
- Inherent safety in design
- Concept studies
- Process option generation and screening
- Scale up and risk evaluation
- Technology economic assessment
- Process control philosophy
- Front End Engineering Design (FEED and FEEP)
- Detailed design
- Commissioning support and operating procedures
- Process modelling

Process plant operational improvement and support
- Plant investigations and analysis
- Design assessment and 3rd party review
- De-bottlenecking studies and design
- Process modelling and optimisation
- Process control assessments
- Energy and utilities assessments
- Troubleshooting
- Site engineering support
- Unit operations assessment

Process safety and environmental engineering
- Pressure relief
- Safety action close out
- Process safety verification
- Flare assurance
- VOC abatement
- Safety case support
- Dispersion and radiation assessments
- Dust explosion protection studies
- Electrostatics hazard protection
- Gas and vapour explosion protection studies
- Vent collection system safety
- Effluent and water treatment studies

Training and software
- PEL
- Pressure relief

Benefits
Working with ABB’s process engineering support brings a range of benefits including;

- Ready access to operationally focussed experienced engineers
- Link to specialists in other engineering disciplines
- Pragmatic approach
- Unparalleled experience in safety engineering
- Efficient and effective working supported by leading edge approaches and tools - including ABB’s PEL software for fast and reliable process calculations