Plant revamping, optimization, maintenance work and staff training are integral parts of our extensive services. Revamp, capacity increase or plant modernization is in many cases the right solution to re-establish competitiveness and comply with market demands. We are offering tailor-made solutions for the revamping of existing polycondensation plants. We will eliminate existing bottlenecks and identify the optimal investment costs and plant output with regards to quantity and product quality.

EPC PETvantage® is the most cost-effective alternative to investing in a new plant. Depending on the plant configuration, a return on investment can be achieved in less than two years.
Revamp is in many cases the right solution to re-establish competitiveness and comply with new market demands. During the first step, a plant assessment will be carried out as the basis for a feasibility study, to identify the bottlenecks and potentials of the plant. Taking into consideration the local conditions and future market demands, various revamp concepts will be created.

A Technological Feasibility Study shall lead to the creation of a business-technological concept of possible scenarios, targeting:

- Best market-driven retrofit-strategy for the client
- Very competitive production cost
- High flexibility to adapt to market changes
- Most feasible Return on Investment (ROI)
- Minimum plant shut-down time during implementation of revamping scope

Polycondensation capacity lift is a “Must” to stay competitive through the “Economics-of-Scale”.

- Capacity lift potential: 50 – 100 % of name plate capacity
- Reasonable investment cost requiring no change of existing reactors
- Short project execution: Pre-Assembly of new equipment and plan downtime <= 4 weeks
- Plant conversion for alternative raw materials, or production of new polymers (e.g. from textile to bottle-PET, or PET-G).
- Flexibilization through polymers modification for specialities application
- Flexibilization of direct spinning to produce specialities in fibres/ filament yarns

The feasibility study will also consider the operation costs before and after the revamp, a significant reduction of the fix costs can often be realised. The comparison of these various scenarios will help to determine the optimal investment costs, plant output and operation costs after revamp.

The following features are integrated:

- Real-time process material balancing
- Sophisticated IV-control
- COOH end groups & reactivity control
- Reactive molar ratio control & correction
- Plant throughput control

Customized Solution:

- Consistent Product Quality
- Compensation of raw materials fluctuation
- Simplified PET Plant Operation
- All Process Parameter = f (throughput)

- Real-time process material balancing
- Sophisticated IV-control
- COOH end groups & reactivity control
- Reactive molar ratio control & correction
- Plant throughput control

EPC PETvantage® – Techno-economic objectives

- Capacity lift potential: 50 – 100 % of name plate capacity
- Reasonable investment cost requiring no change of existing reactors
- Smart project execution: Pre-Assembly of new equipment and plan downtime <= 4 weeks
- Plant conversion for alternative raw materials, or production of new polymers (e.g. from textile to bottle-PET, or PET-G).
- Flexibilization through polymers modification for specialities application
- Flexibilization of direct spinning to produce specialities in fibres/ filament yarns

Selected references of our Revamp Conceptions

Trevira®
Debottlenecking of existing esterification unit to reach 175% of its capacity before. Integration of second polycondensation line for a capacity of 125% (additional). Special polymer melt line distribution for direct spinning of end-user specifications.

IBN Rushd (a SABIC affiliate)
Process- and mechanical re-design and installation of EPC sophisticated upgrade technology, including the most modern process control software, special reactors for change of production for direct spinning of end-user specifications.

ARTENIUS HELLAS
Process and mechanical re-design and supply of a new finisher and agitator, sophisticated hydraulic drive system, vacuum system, agitator, special reactors for change of production for direct spinning of end-user specifications.

Yanbu / Saudi Arabia | 2007-2009

Volos / Greece | 2003-2005

You would like to learn more about our services? Let us know! We are looking forward to helping you.