



TECHNOLOGIES

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Novolen Licensing



Lummus Novolen Technology offers full solutions for polypropylene plants. This includes technology, integration with upstream technologies, basic engineering, training services, pre-marketing, catalyst and product off-take. Our commitment is comprehensive support from the planning phase through plant start-up and on to day-to-day business.

Pre-Marketing

For new polypropylene manufacturers starting sales activities, Novolen offers pre-marketing assistance. This typically comprises arrangements for supply of the intended Novolen product slate prior to the manufacturing start-up of the new licensee's plant.

The new licensee's customers will learn about the benefits of the Novolen grades before the start-up of the new plant. As an additional support, Novolen can prepare a market study for the respective area.

Integration with upstream technologies

CB&I, as the worldwide leader in the licensing of the Lummus ethylene technology, offers a unique propylene strategy with four processes aimed at producing or maximizing propylene from upstream refinery and petrochemical units. They can be considered for an integrated petrochemical complex.

Basic Engineering

Novolen provides a comprehensive basic engineering package, and as part of CB&I, we can provide you with the optimal integrated solution at an early stage.

In addition, we are well experienced in plant revamps, thus increasing the production capacity and/or the products portfolio of your Novolen PP plant.

Training

Novolen offers a broad array of staff training to licensees to meet specific and individual requirements. This includes classroom training in conjunction with practical experience.

Training for Shift Supervisors and Operators: Classroom training guided by a comprehensive training manual, followed by work on a dynamic process simulator. The Operator Training Simulator (OTS) was developed by Novolen for training purposes. Hands-on opportunities in one of our reference plants educate staff on the operation of the new plant in accordance with our advanced technology.

Maintenance Training: Training of maintenance procedures concerning key equipment is provided to the licensees' maintenance staff through the equipment manufacturers. This training can either be held at the manufacturers' facilities or during construction at the new plant site. This helps to minimize downtime and thus operational costs.

Laboratory Training: This includes a review of the laboratory procedure manual and practical applications in our laboratories. The training allows the licensees' laboratory staff to perform quality assurance and minimize off-spec product during operation.

Application Technology Training: A detailed know-how transfer on product application knowledge will be given to the product R&D and marketing staff. This training ensures that the manufactured product slate always meets the requirements of the envisaged markets, thus providing maximum economic benefits.

Off-take

In order to provide and assure good rates of return to any polypropylene project, a good product off-take strategy is always needed. The heart of this strategy can be a "bankable" pre-project product off-take agreement.

Unique to Novolen, we offer direct licensing with off-take being handled through several smaller companies and trading firms with direct access to local markets worldwide. As a part of its project development services, Novolen provides contacts with potential off-takers and assists its clients in the evaluation of the relevant firms.

Catalyst

For the Novolen gas-phase process, a Ziegler-Natta catalyst system is available that is fully proven in commercial polypropylene operations around the world. This catalyst system is capable of covering the whole product range.

In addition, Lummus Novolen Technology is one of the leading companies in the field of metallocene products with its Novocene® technology, Novolen's proprietary metallocene technology is the ideal complement for added value applications and can be introduced as drop in technology without further investment. The Novocene® technology is also available for other PP technologies.

Use the links below to explore the Novolen process.

- [Novolen Technology](#)
- [Novolen Gas-Phase Polypropylene Process Description](#)
- [Metallocene](#)
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