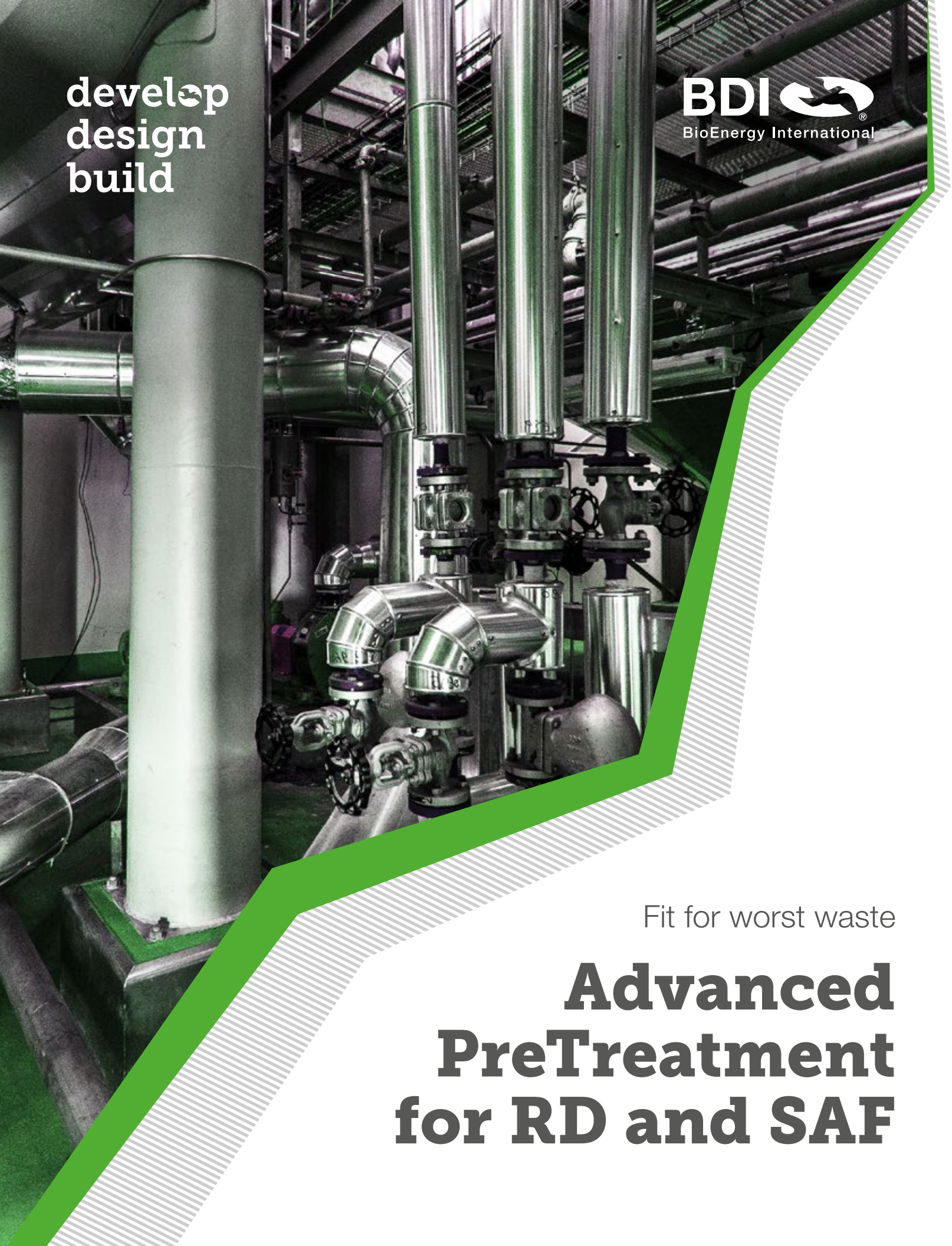
develop
design
build

BDI
BioEnergy International



Fit for worst waste

Advanced PreTreatment for RD and SAF

Renewable diesel (RD) and **sustainable aviation fuel (SAF)** in the form of hydroprocessed oils and fats (HVO and HEFA) are becoming increasingly important as biofuels. To avoid negative impacts on subsequent process steps, strict requirements regarding the contained impurities are imposed on the feedstock used. Therefore, pretreatment is a crucial step for an efficient and economical production of hydrogenated biofuels, especially when processing waste materials.

The **BDI Advanced PreTreatment process** is modular, allowing it to be adapted to the requirements of raw materials, based on the core modules of pre-purification, drying and adsorption. This includes additional modules such as polyethylene reduction with a special process patented by BDI, or the separation or conversion of free fatty acids from raw material. Drawing upon extensive experience in managing diverse oils and fats, BDI provides comprehensive support throughout the entire project, from initial raw material analyses to operational support.

Expertise in Waste Oil Processing

BDI-BioEnergy International specializes in processing waste-based oils and fats, tailoring processes and constructions specifically to the characteristics of the raw materials. This expertise extends to the demanding requirements of biological crude oils and fats, which pose challenges due to their high contamination variations compared to fossil crude oil. BDI‘s commitment to solving these challenges has led to a wealth of knowledge crucial for the efficient utilization of waste oils and fats in the production of renewable fuels.

Challenges and Solutions in Waste Oil Treatment

The complexity of purifying waste oils and fats is linked to the nature of the raw materials especially as the sticky properties of waste oils increase with progressing degradation. The integration of distinctive centrifuge technology during the initial processing stage of BDI Advanced PreTreatment successfully tackles these challenges. The robust process equipment design not only prevents fouling and simplifies cleaning, but also ensures a stable process with significant tolerance to fouling.

Modular Concept and High Yield

The modular approach of BDI’s Advanced PreTreatment allows for flexible adaptation to individual customer requirements regarding raw materials and product characteristics. BDI is committed to finding the optimal solution for each specific inquiry. The core technology of the BDI PrePurification unit, the initial processing step, is based on a special centrifuge. The unique design of the centrifuge for waste oils is built on extensive experience in waste oil processing. The robust machine maximizes the yield within the process step, minimizes downtime in cleaning processes and therefore ensures high plant availability.

Flexible Plant Operation and Analytical Management

Flexibility in plant operation emerges as a key theme, highlighting BDI PreTreatment‘s adaptability to changing feedstock properties and composition. The modular concept allows seamless adjustments to operation modes and parameters without the need for specialized expertise. BDI‘s commitment to training operators to adjust parameters based on analytical results showcases a proactive approach. This analytical management method proves crucial in maintaining high product quality despite varying feedstock parameters, providing a strategic advantage in the evolving landscape of waste oil processing and biofuel production.

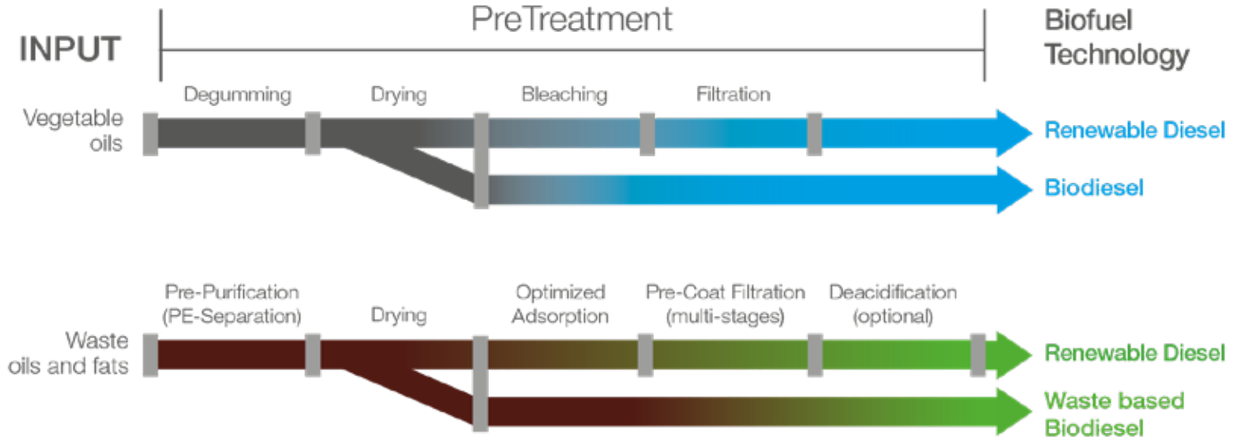
Customer benefits

Robust and efficient 3 phase decanter-based PrePurification unit to reduce oil losses and to increase availability compared to conventional degumming units

Modular system offers a choice of process units – tailor-made for the particular impurities in raw material and output specifications

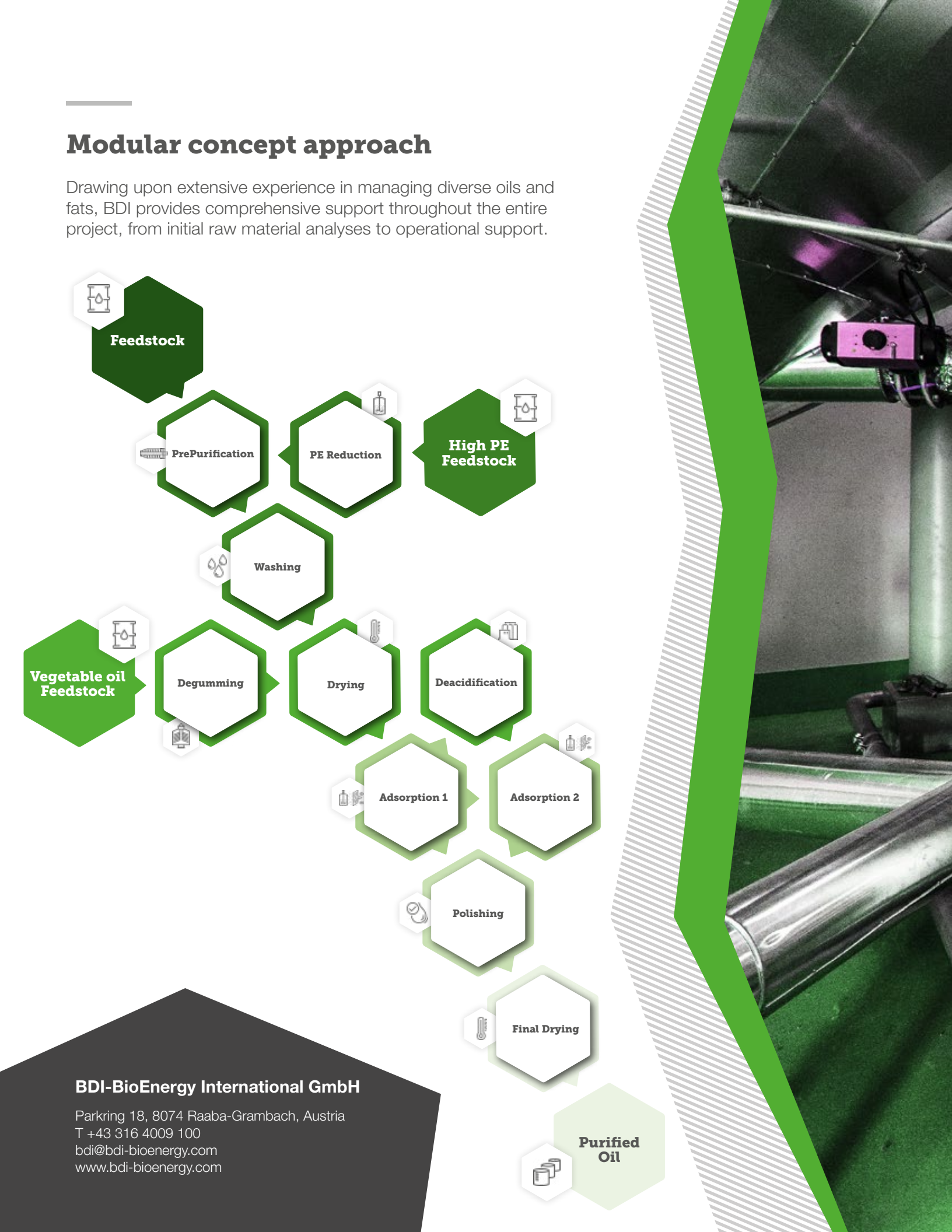
No filtration is required in this unique patented system to reduce polyethylene from raw materials

The PreTreatment Process



Modular concept approach

Drawing upon extensive experience in managing diverse oils and fats, BDI provides comprehensive support throughout the entire project, from initial raw material analyses to operational support.



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