High-Volume Chemicals from Biomass – By Means of a Unique Fractionation Technology and Enzymatic Reactions

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Annikki is addressing environmental and human health challenges caused by today's chemical manufacturing head-on via two primary groundbreaking technologies. The first is cell-free redox biocatalysis. By deploying enzymes from a collection of over 2,000 distinct redox enzymes in cascade reactions, Annikki eliminates the need for costly intermediary isolation widely used in traditional chemical manufacturing, significantly reducing energy usage and process cost. The company's biocatalytic processes combine multiple reaction steps in a single reactor, streamlining production, and lowering capital and operational expenditures.

The second core technology is in biomass fractionation. Leveraging a unique pulping process, Annikki transforms lignocellulosic biomass (such as corn stover and wheat straw) into highpurity chemical components. This efficient method extracts maximum value from biomass, achieving high yields and purity that traditional pulping processes cannot match.

With the company's bio-based solutions, Annikki is at the forefront of tackling one of the largest sources of industrial GHG emissions.