

Market Study: Biobased Solvents



World Report (1st edition)

This brochure provides further information on the study “Biobased Solvents - World (1st edition)”

The Market Study in Brief

Water is the best solvent, but it can't do everything. Whether it's liquefying acrylic paints, removing nail polish or even removing asphalt residue, strong chemicals are often needed. Increasingly, industrial solvents are no longer made only from coal, crude oil or natural gas, but from renewable raw materials. To reduce the ecological footprint, biogenic components are also increasingly being added to conventional petrochemical solvents.

Ceresana's market report forecasts that the production will increase significantly: Analysts expect an CAGR of 3.4 worldwide, and more than 5% in Asia. Global sales are expected to rise to around USD 8.9 billion by 2032.

Biomass Utilization Possibilities

Solvents are used in many industries: The main consumers are manufacturers of paints and coatings, printing inks, cleaning agents, and pharmaceutical, care and cosmetic products. In addition, solvents are also needed for adhesives, chemical manufacturing processes, cooling circuits, degreasing agents, cleaning and de-icing agents. Alpha-pinene, a terpene derived from essential oils of conifers, is used as a solvent for household cleaners, perfumes and the extraction of food additives, for example. The coatings industry can use D-limonene as a solvent, which is obtained from orange peels, a waste product from the production of orange juice. Ethyl acetate, one of the most important solvents for plastics and adhesives, can be produced from whey, a waste product generated during milk processing.

Healthy Growth for Bioalcohols

Some petrochemical solvents are highly toxic. Volatile organic compounds (VOCs) are especially problematic. In contrast, sustainable solvents from biomass, while often more expensive, are ideally harmless and biodegradable.

Biogenic raw materials for solvents primarily include lignocellulose, starch and sucrose, but also terpenes, vegetable oils and animal fats. Natural oils, acids and complex sugars are converted into alcohols, esters, ethers and other solvents mainly through biotechnological fermentation. Alcohols are by far the most commonly used type of solvent.

Ceresana expects the largest revenue growth from biobutanol as well as dihydric and trihydric alcohols. Diols, which can be derived from fructose or cellulose, include ethylene glycol, for example. One triol that can be produced from waste cooking oil or other natural fats, and is produced in large quantities in the production of biodiesel, is glycerol. Another promising platform chemical is furfural.

The latest Ceresana market study:

Chapter 1 of the new study provides a comprehensive analysis of the global market for biobased solvents - including forecasts up to 2032: the development of consumption (in tonnes) and revenues (in USD and EUR) is detailed for 7 world regions. The consumption and revenues are further broken down by application area.

Revenues are reported for these product types: Ethanol, Butanol, Diols & triols, D-limonene, FAME, Ethyl acetate, and Other solvents.

In **Chapter 2**, 16 countries are considered individually. In each case, demand and revenues are broken down for these applications: Paints & coatings, Personal care & cosmetics, Printing inks, Cleaning agents, Pharmaceuticals, Adhesives, and Others.

Chapter 3 provides 37 company profiles of the most important manufacturers of biobased solvents, such as ADM, Corbion, Esun, Godavari, Nxtlevel, Esun, and Solvay.

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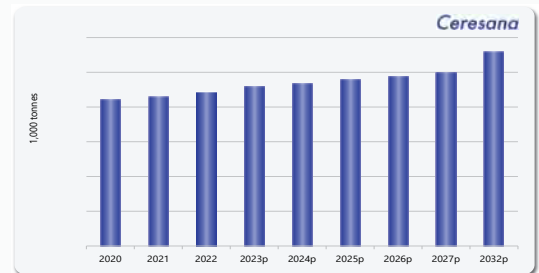
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In 2022, demand for biobased solvents in the USA was approx. X tonnes. We expect the market volume to increase to approx. X million tonnes by 2032. This corresponds to an average increase of X% per year compared to 2022.

Revenues generated from biobased solvents amounted to around USD X billion in 2022. By 2032, we expect this figure to increase to around USD X billion. This corresponds to an average growth rate of X% per year in relation to 2022.



Graph: Demand in the USA from 2020 to 2032

Revenues	2020	2021	2022	2023p	2024p	2025p	2026p	2027p	2028p	2029p	2030p	2031p	2032p	2022-2032
million USD	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
million EUR	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.

Table: Revenues generated in the USA from 2020 to 2032, in million USD and million EUR

In 1,000 tonnes	2020	2021	2022	2023p	2024p	2025p	2026p	2027p	2028p	2029p	2030p	2031p	2032p	2022-2032
Paints & Coatings	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
Personal Care & Cosmetics	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
Printing Inks	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
Cleaning Agents	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
Pharmaceuticals	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
Adhesives	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
Other	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
Total	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.

Table: Demand in the USA from 2020 to 2032 – split by applications

million USD	2020	2021	2022	2023p	2024p	2025p	2026p	2027p	2028p	2029p	2030p	2031p	2032p	2022-2032
Paints & Coatings	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
Personal Care & Cosmetics	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
Printing Inks	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
Cleaning Agents	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
Pharmaceuticals	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
Adhesives	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
Other	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.
Total	X	X	X	X	X	X	X	X	X	X	X	X	X	X% p.a.

Table: Revenues generated in the USA from 2020 to 2032 – split by applications

In 2022, the "Paints & Coatings" application area represented the largest submarket. Between 2022 and 2032, demand in the "Pharmaceuticals" application area is expected to increase the most in terms of percentages.

Market Study: “Biobased Solvents - World (1st edition)”

16 Countries, 37 Producers, 180 Pages, 55 Graphs, 120 Tables, 09/2023

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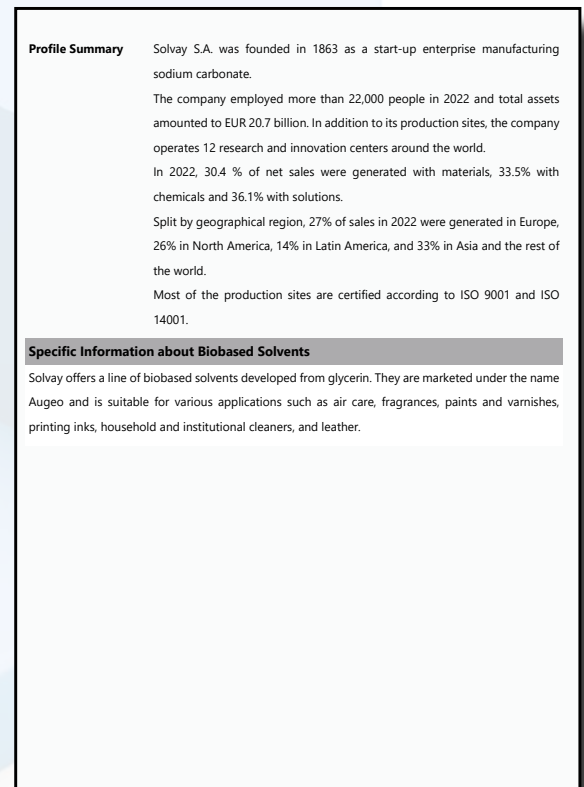
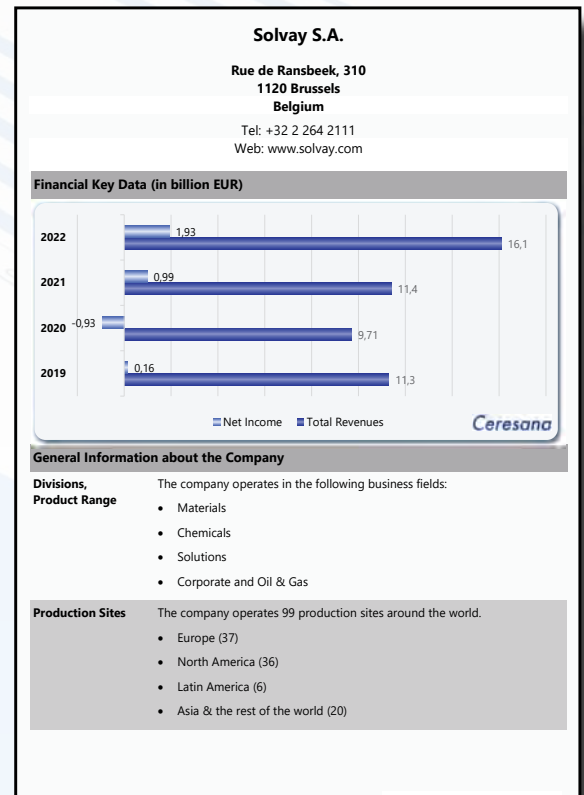
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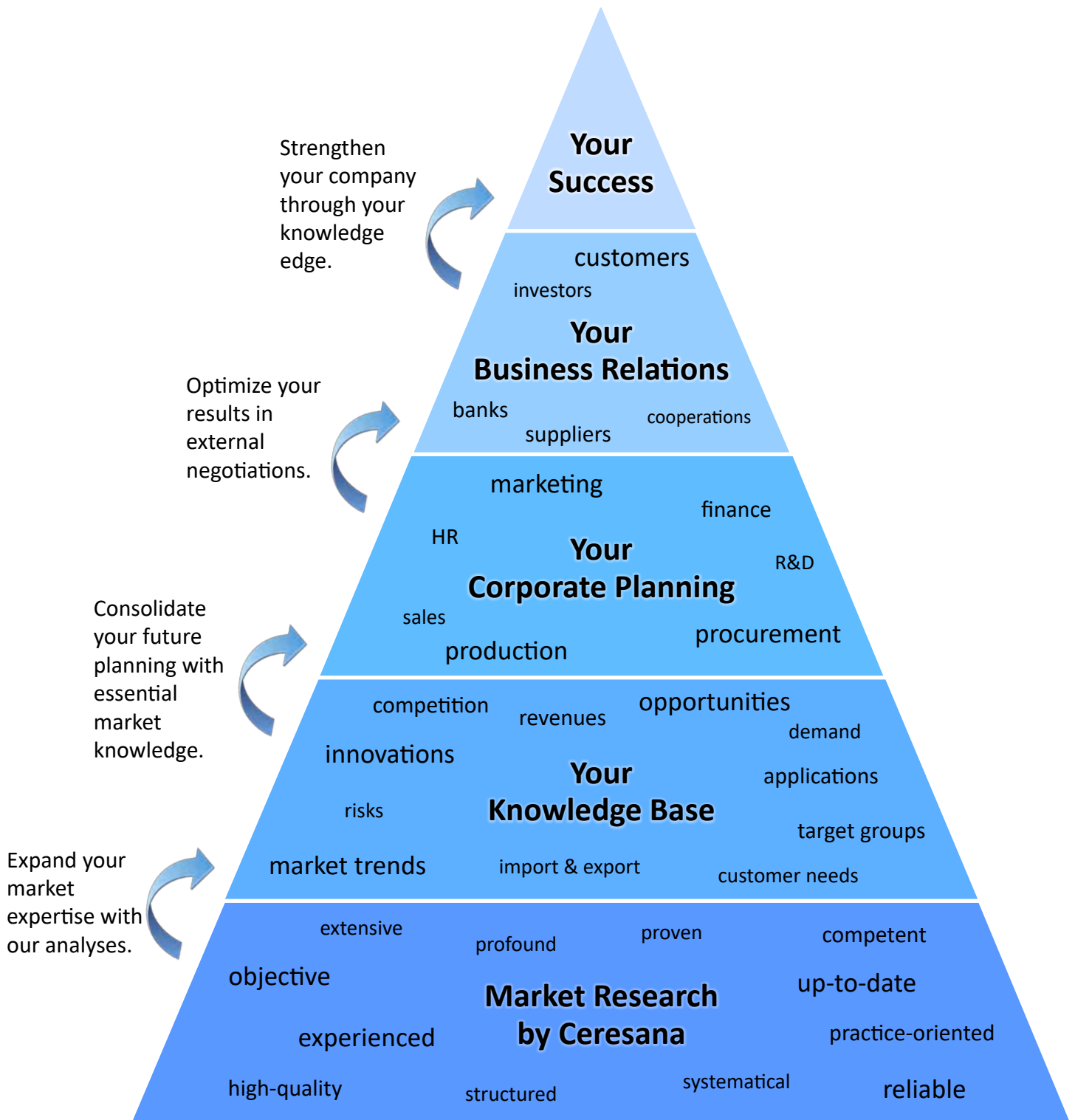


*Note: The profiles are assigned to the country in which the company or holding is headquartered. Profiles also include JVs and subsidiaries.

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