DSM Bio-based Products & Services: Biofuels Digest’s 2014 5-Minute Guide
March 19, 2014 | Jim Lane

Royal DSM is a global science-based company active in health, nutrition and materials. By connecting its unique competences in Life Sciences and Materials Sciences, DSM is driving economic prosperity, environmental progress and social advances to create sustainable value for all stakeholders. DSM delivers innovative solutions that nourish, protect and improve performance in global markets such as food and dietary supplements, personal care, feed, pharmaceuticals, medical devices, automotive, paints, electrical and electronics, life protection, alternative energy and bio-based materials. DSM’s 24,000+ employees deliver annual net sales of about €9.6 billion.

DSM is a frontrunner in creating bio-based and environmentally sound solutions within its Bio-based Products and Services unit. The company focuses on enabling technology in biofuels and bio-based chemicals and materials made from renewable biomass, and demonstrating the commercial viability of these technologies in collaboration with strategic partners along the value chain.

**Rankings:**
50 Hottest Companies in Bioenergy: #10, 2013/14
30 Hottest Companies in Biobased Chemicals & Materials: #7, 2013/14

**Biofuels Digest Awards:**
2013-14: Industrial Symbiosis — POET-DSM

**Business Model:**
DSM focuses on enabling technology in biofuels and bio-based chemicals and materials made from renewable biomass, and demonstrating the commercial viability of these technologies in collaboration with strategic partners along the value chain.

Primarily, we see our future in the development and supply of high-value knowledge, ingredients and expertise in the field of bio-conversion technology – licensed out to bio-based entrepreneurs, to access and convert biomass in the most commercial and sustainable ways possible, rather than as an owner/operator of manufacturing facilities.

**Competitive Edge(s):**
- DSM is the first to offer both enzyme and yeast solutions for ethanol production from ligno-cellulosic feedstock, with a >100 year track record in biotechnology and chemo-catalytic routes.
- DSM is an early mover in this industry, prepared to take entrepreneurial risk.
- DSM is focused on food/feed, as well as on fuel/energy/chemicals.
Research, or Manufacturing Partnerships or Alliances.

- With Roquette Frères (France) in JV Reverdia® for development and production of Succinic Acid, and licensing technology thereof.
- With POET(Sioux Falls, SD) in POET-DSM Advanced Biofuels for development and production of cellulosic ethanol, and licensing technology thereof.
- With BP Biofuels: partnership to develop a process for ‘sugar-to-diesel’ conversion technology (fermentative route).

Stage: DSM’s programs range across all stages, including bench, pilot, demonstration and commercial.

Major Investors

DSM is a publicly listed company at the NYSE Euronext Stock Exchange in Amsterdam, The Netherlands (ticker symbol DSM KON).

The following shareholders had disclosed that they owned between 3 percent and 10 percent of DSM’s total share capital on 1 January 2014:

- ASR Nederland B.V.
- Rabobank Nederland Participatie B.V.
- Delta Lloyd N.V.
- Capital Research and Management Company and Capital Group International
- Blackrock, Inc.

Top Milestones for 2009-14

2009: As a partner in the KACLELLE consortium led by DONG Energy, DSM received a 1.1 million EUR grant from the European Commission (Framework Program 7) for the development of advanced ethanol yeast. This yeast has the potential to improve the economic viability of a wheat straw based biorefinery.

2010: DSM announced breakthroughs in enzyme and advanced yeast technology for conversion of ligno-cellulosic feedstocks into ethanol.

2010: DSM and Roquette Frères announced Reverdia joint venture agreement for the production, commercialization and market development of bio-based succinic acid.

2011: DSM strengthens its leadership position in advanced yeast and enzyme technologies for cellulosic biofuels by the acquisition of C5 Yeast Company from Royal Cosun, becoming the first industrial biotechnology company to offer both enzyme and yeast fermentation technologies.

2012: Royal DSM, the global Life Sciences and Materials Sciences company, and POET, LLC, one of the world’s largest ethanol producers, create POET-DSM Advanced Biofuels, joining forces to commercially demonstrate and license cellulosic bio-ethanol.

2012 – Q4: Technical completion & start up bio-succinic acid plant Reverdia in Cassano, Italy.

2013 – Q4: DSM is recognized by industry experts and peers in the top 10 in both the Biofuels Digest’s 50 Hottest Companies in Bioenergy and 30 Hottest Companies in Biobased Chemicals & Materials polls – both major movements upward versus the company’s 2012 positions.
2013 – Q4: DSM and DONG Energy in Denmark demonstrated the combined fermentation of C6 and C5 sugars from wheat straw at industrial scale, resulting in a 40% yield increase per ton of biomass.


Second half of 2014: First sales of technology licenses by joint ventures POET-DSM Advanced Biofuels and Reverdia.

Website

Bio-based Products & Services website

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