



Agenda Item 2

Featured Start-Up – Martek Biosciences Corporation



BOARD OF REGENTS

SUMMARY OF ITEM FOR ACTION **INFORMATION** OR DISCUSSION

TOPIC: Featured Start-Up – Martek Biosciences Corporation (information item)

COMMITTEE: Economic Development and Technology Commercialization

DATE OF COMMITTEE MEETING: November 19, 2015

SUMMARY: Martek Biosciences Corporation has been selected as the featured start-up for the November 19th meeting. Martek is a component of Royal DSM NV and produces nutritional supplements from cultivated fungi and microalgae. Martek Biosciences' products are used in foods, beverages, infant formula, and supplements and, prior to spinning off the business unit, the company also produced and sold fluorescent algal protein for use in life science research applications. Martek was acquired by DSM for \$1.1 billion.

Martek Biosciences has an extensive heritage with Mtech. The company received services from the TAP business incubator, participated in the MIPS program, and obtained support from the Biotech Research and Education Program (BREP).

ALTERNATIVE(S): This item is for information purposes.

FISCAL IMPACT: This item is for information purposes.

CHANCELLOR'S RECOMMENDATION: This item is for information purposes.

COMMITTEE RECOMMENDATION:

DATE:

BOARD ACTION:

DATE:

SUBMITTED BY: Joseph F. Vivona (301) 445-2783



Committee on Economic Development and Technology Commercialization

Featured Start-up – Marteck Biosciences Corporation

November 19, 2015

Presentation to USM
Board of Regents
11-19-15
Steve Dubin,
Former CEO, Martek



Steve Dubin

- Served as the CEO of Martek Biosciences, a biotech company based in Columbia, Maryland, from July 2006-2011.
- As Vice President of Suburban Capital Corporation, the venture capital subsidiary of Suburban Bank (now part of Bank of America), I helped lead Martek's initial round of institutional venture financing in 1986.
- Joined Martek as an employee in 1992, initially as CFO and General Counsel
- Filled a variety of additional roles there, including Treasurer, Secretary, and Senior Vice President of Business Development.

Martek Background

- Martek (now part of Royal DSM) is a leader in the innovation, development, production and sale of high value products from microbial sources that promote health and wellness through nutrition
- Original technology developed at Martin Marietta while working with NASA to explore the use of microalgae as a food supply for long term space exploration
- Inventors left Martin Marietta and founded Martek in 1985
- Joined Mtech TAP incubator in 1985, worked with BREP through MIPS shortly after
- Martek's nutritional oils for use in infant Formula FDA approved in 2001 (GRAS status) and introduced in U.S. infant formulas in 2002; now included in over 80 countries
 - By 2011, over 64 million babies worldwide have been fed Martek ARA/DHA
 - By 2006 it was included in over 90% of infant formulas in the U.S.
 - \$300 million+ in sales annually by 2012, total company sales near \$500 M
- Acquired by Royal DSM for \$1.1 billion in 2011. Still in Columbia, MD.



Martek Products

Life's DHA

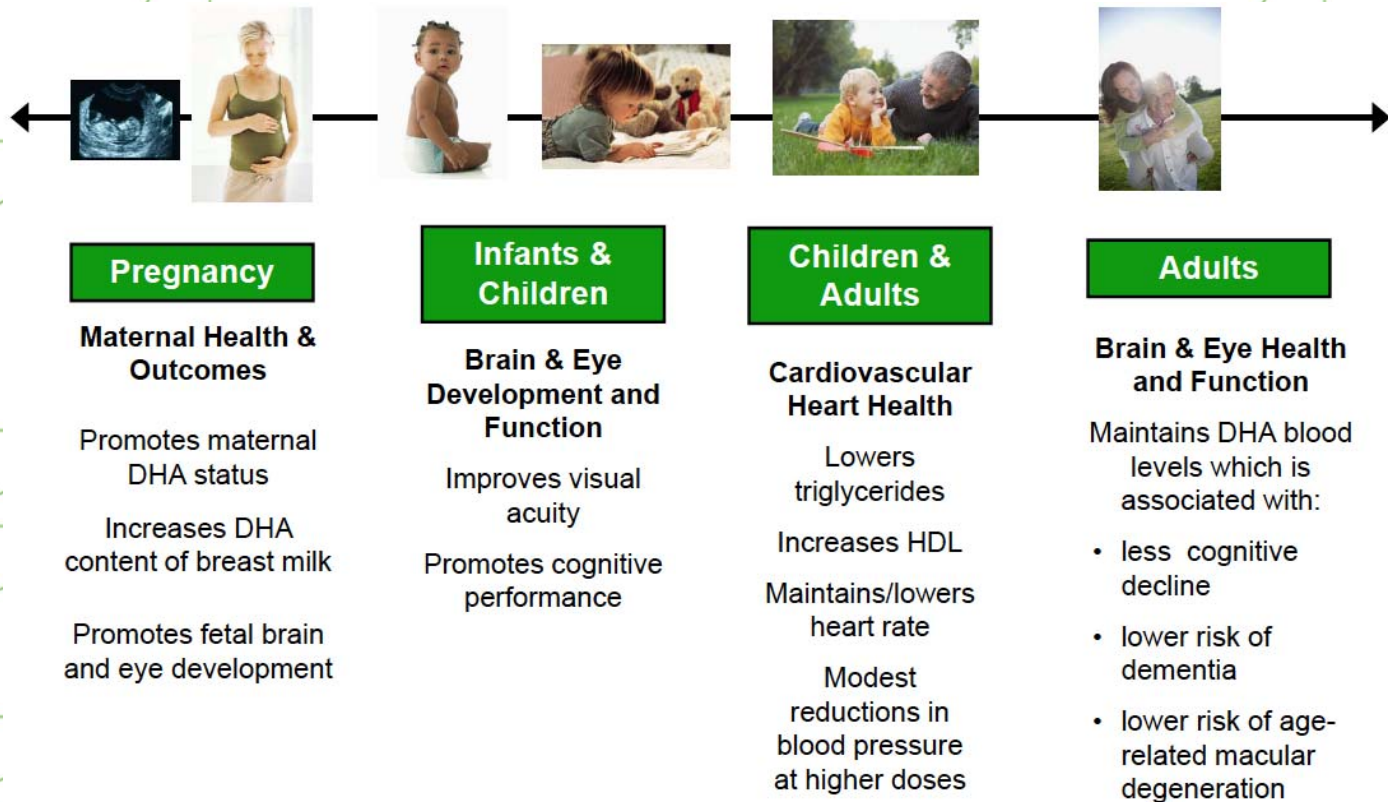
- Produced from algae, a microbial source of DocosaHexaenoic Acid (DHA)
- Long-chain polyunsaturated Omega-3 fatty acid (PUFA), important for brain, eye and heart health throughout the lifecycle
- Applications include infant formulas, dietary supplements, products for pregnant and nursing women and food ingredients

Life's ARA

- Long-chain polyunsaturated Omega-6 fatty acid produced from a fungus
- Naturally found in breast milk, important for proper infant brain development and physical growth

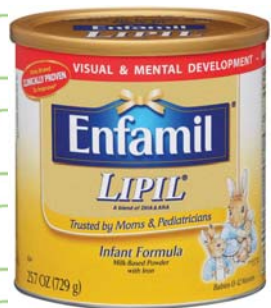


DHA's Importance Throughout Life

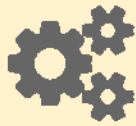


Customers/Products

While Martek captured 90% of the U.S. and 75% of the worldwide infant formula market for its nutritional oils, they are also available in hundreds of food, beverage and supplement products worldwide.



Martek and Mtech's I&E Ecosystem



Technology Advancement Program (TAP incubator)

- Martek joined the TAP program on July 16, 1985, one of its first client companies
- Started with 5 employees
- Graduated from TAP on August 30, 1988
- Established operations in Columbia, MD



Biotechnology Research and Education Program (BREP)

- BREP's process development services helped Martek define the process for manufacture of its lead products
- Provided scale-up expertise and equipment to Martek to make large scale manufacturing possible
- As a result, Martek could produce large commercial quantities of DHA, its lead product.



Maryland Industrial Partnerships Program (MIPS)

- MIPS provided funding for Martek to conduct the early proof of concept work with BREP
- Dr. Richard Calabrese defined and transferred the manufacturing process to produce DHA from the microalgae, the same process that Martek still uses today to produce DHA.

Martek's: Follow On Effects

- TAP provided a notable third-party validation of the feasibility of our technology to be commercialized.
- Martek received more than 30 SBIR awards from DOD, DOE, HHS, USDA, and NSF totaling more than \$5 million.
- In 2006, Martek's flagship product, DHA, was the subject of a research project funded by a \$10.5 million research grant from NIH.
- Martek leveraged to raise over \$400 million from the capital markets to enable Martek to succeed.



Martek: Results

- Martek became the largest producer of nutritional oils from microalgae.
- 225 people working in Columbia, MD
- The company was acquired by Royal DSM in 2011 for \$1.1B. Royal DSM N.V. (NYSE Euronext: DSM KON) is a global life sciences and materials sciences company headquartered in the Netherlands
- Most of the jobs remain and impact to the State continues



Martek Goes Public 1993



Martek is Acquired by Royal DSM (2010)

- In February 2011, Royal DSM acquires Martek for U.S. \$1,087 million
- Royal DSM is a global science-based company active in health, nutrition and materials.
- For DSM, Martek “adds a new growth platform for healthy and natural food ingredients for infant formula and other food and beverage applications, especially focused on Polyunsaturated Fatty Acids (PUFAs) such as microbial Omega-3 DHA (docosahexaenoic acid) and Omega-6 ARA (arachidonic acid).”
- **Feike Sijbesma, CEO/ Chairman of the DSM Managing Board, said:** *“Martek is a great company and a leader in the innovation, development, production and sale of high-value products from microbial sources that promote health and wellness through nutrition. DSM has enormous respect for Martek’s products, organization and people.”*



Martek and BREP

“Over 55 million babies worldwide have now had infant formula that included Martek’s nutritional ingredients. Over 99 percent of the infant formula in the United States has it, as well as products in more than 75 countries around the world. Almost every U.S. child under the age of six has had this Martek DHA in their brain. It all started here. It all came from this facility.”

— **Henry “Pete” Linsert, former Chairman and CEO of Martek, speaking at the BREP facility, 2010**



Martek Quick Facts and Figures

**1.1
Billion**

Price of acquisition
of Martek by DSM

FIRST

Product to provide a
healthy nutritional
ingredient from
algae for infant
formula

400

Martek jobs created in Maryland

\$150 Million

Estimate of return to the State in sales
and corporate taxes

\$2.9 Billion

Product sales achieved

\$1.5 Million

Estimate of yearly return to the State in
direct income taxes of employees



Kudos for Martek

- Martek was an inaugural inductee to the Maryland Incubator Company “Hall of Fame”
- In 2011, Martek was inducted into the inaugural Small Business Innovation Research (SBIR) Hall of Fame in recognition of its success in research, innovation and commercialization within the SBIR program
- In 2009, Martek was inducted into the Space Foundation’s Hall of Fame.

Final Thought

Without programs like the University of Maryland Technology Advancement Program (TAP), Biotechnology Research and Education Program (BREP) and Maryland Industrial Partnerships Program (MIPS), I would not be standing here today to share our story of success.

Thank you!

Steve Dubin

SDubin@SDAVentures.com

The MARTEK logo is centered within a large, light green rounded rectangle that has a white border. The word "MARTEK" is in a large, dark grey, sans-serif font. To the right of "MARTEK" are three green leaf icons arranged in a cluster. Below "MARTEK", the tagline "life enriched." is written in a green, lowercase, sans-serif font, followed by a small "TM" trademark symbol.