

# Cargill and Royal DSM to establish Avansya JV

*Bringing zero-calorie, cost-effective sweeteners to market faster*

Presentation to Investors

8 November 2018



## Safe harbor statement

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- A more comprehensive discussion of the risk factors affecting DSM's business can be found in the company's latest Annual Report, which can be found on the company's corporate website, [www.dsm.com](http://www.dsm.com)

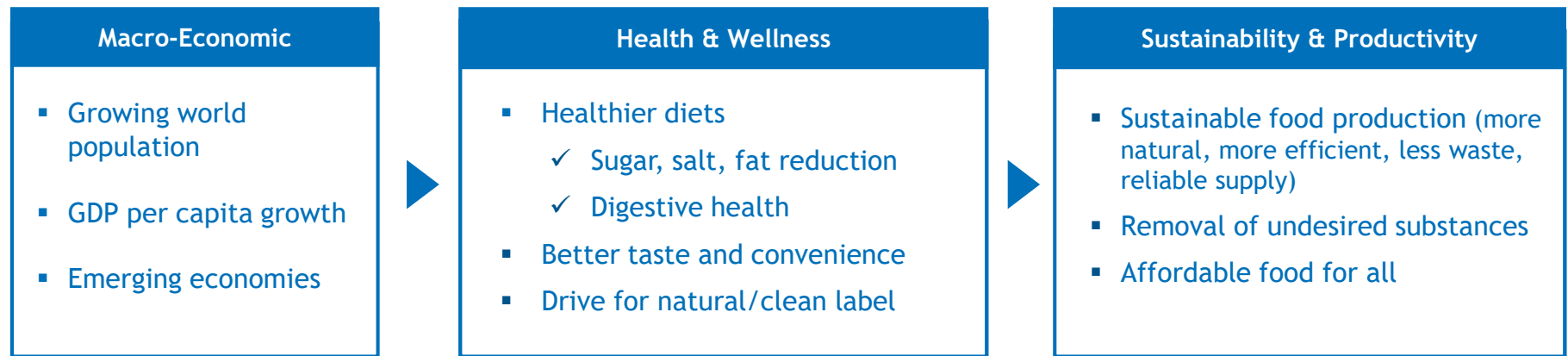
## Highlights of the Joint Venture

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- Cargill and Royal DSM to establish a joint venture, Avansya, to bring zero-calorie, great-tasting, cost-effective sweeteners to market faster. The establishment of the JV is subject to regulatory approvals and other customary closing conditions, but expected to be finalized in Q1 2019
- Avansya will be a 50-50 partnership between Cargill and DSM; DSM will consolidate its 50% interest in its group results (sales, adj. EBITDA)
- Avansya will produce highly sought-after, sweet-tasting molecules, such as steviol-glycosides Reb M and Reb D, through fermentation, giving food and beverage manufacturers a more scalable, sustainable and low cost-in-use solution than if these same molecules were extracted from the stevia leaf
- Avansya will leverage the two companies' highly complementary strengths for bringing to market fermentation-derived Reb M and Reb D steviol glycosides
- Avansya will make use of a new fermentation facility being built at the site in Blair, Nebraska (USA), which is expected to be completed and operating in summer 2019

## Unique Market Opportunity

# Consumers and governments globally are moving away from sugar



- Food and beverage producers look to significantly reduce calories in their offerings to consumers
  - Growing need for non-artificial, zero-calorie, great-tasting sweetener options
- Fermentation-derived naturally-occurring molecules, such as steviol glycosides Reb M and Reb D, are perfectly positioned to profit from key trends driving today's food ingredients segment

## Consumers and governments globally are moving away from sugar

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### THE IRISH TIMES

Sugar tax set to be introduced in budget due to obesity concerns

### FINANCIAL TIMES

Mexico urged to double tax on sugary drinks

### CNN Money

Philadelphia passes a soda tax

### South China Morning Post

南華早報  
Hong Kong impose a sugar tax and warning labels

### THE HUFFINGTON POST

Sugar Is Not Only a Drug but a Poison Too

### theguardian

Childhood obesity: retailers urge mandatory cuts to food sugar levels

### Herald Sun

Hidden sugar harms our children's teeth and health

### TIME

Sugar Is Definitely Toxic, a New Study Says

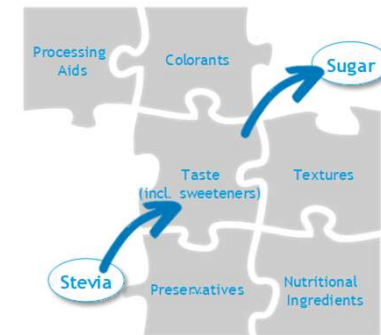
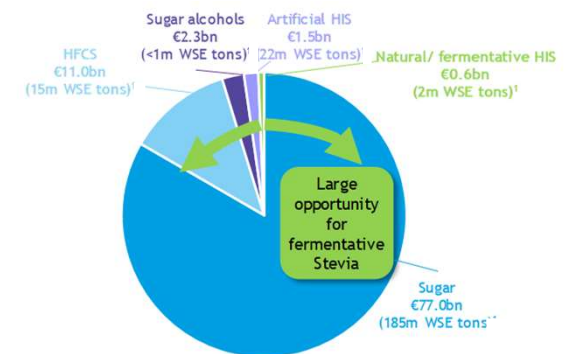


## Avansya well positioned

# Replacing sugar - a matter of multiple functionalities

- Stevia is the most important, natural, high-intensity sweetener
  - Reb M and Reb D are the most interesting molecules, offering the best taste profile (but only available in very low concentrations in Stevia leaves)
- Fermentative Reb M and Reb D provide a more scalable, sustainable and lower cost-in-use solution than any other available technology:
  - Great taste, consistent quality, reliable supply, sustainable production, affordable for customers and consumers
  - Fermentative Reb M and Reb D are well-positioned to replace existing artificial high-intensity sweeteners (aspartame, sucralose, Ace-K, etc.), as well as reduce the use of all other high caloric sweeteners
- Market opportunity for fermentative high-intensity sweeteners is expected to grow to >€3bn by 2025
- Replacing sugar is not only a matter of replacing sweetness
  - With their broad product offering (e.g., textures), both partners are well positioned to address sugar's multiple functionalities

### Global sweeteners market ~€90bn



## DSM and Cargill combining forces to speed up route-to-market

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- Unique biotechnology & fermentation know-how, including strain development
- Broad expertise and application know-how in human nutrition
- Global commercial footprint in Nutrition market



- Unrivalled application expertise and global commercial footprint in sweetener market
- Large-scale fermentation capacity
- Access to co-located raw material supplies in Blair, Nebraska (US)

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### Avansya

- Faster to the market: fermentation facility operational Summer 2019
- Lower costs (investment, technology, raw materials, operational)
- Unrivalled global market access through Cargill and DSM sales and application networks
- Creating strong platform, starting with Reb M and Reb D



## DSM and Cargill contributing to UN Sustainable Development Goals

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- Reducing Sugar content & calories; improving health & well-being
- A healthy, naturally sourced solution as alternative for sugar for food and beverage customers



- Significantly less impact on water-related ecosystems versus plant-based Stevia



- Sustainable management and efficient use of natural resources (land & water) as well as avoidance of chemical extraction



- Avoidance of use of arable land and use of water as well as waste of large parts of plant/leaves not applicable as sweetener



- Avansya, combining strengths of DSM and Cargill for sustainable development



# Avansya expected to significantly contribute to DSM's large innovation projects

Recent market introductions	New market introductions 2019-20	Market introductions 2021-25
<ul style="list-style-type: none"> <li>▪ Eubiotics/Gut Health (feed/food)</li> <li>▪ i-Health (B2C nutrients)</li> </ul>	 <ul style="list-style-type: none"> <li>▪ Clean Cow</li> </ul>  <ul style="list-style-type: none"> <li>▪ Veramaris (Green Ocean)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Plant-based proteins (CanolaPRO)</li> <li>▪ Bio-agri (fungicides/pesticides)</li> </ul>
<ul style="list-style-type: none"> <li>▪ New biomedical products (tissue repair/ophthalmology)</li> <li>▪ Solar (coatings/backsheets)</li> </ul>	 <ul style="list-style-type: none"> <li>▪ Stevia (fermentative)</li> </ul>	<ul style="list-style-type: none"> <li>▪ Actamax (biomed adhesion barrier)</li> </ul>
<ul style="list-style-type: none"> <li>▪ New Functional Materials (5G)</li> <li>▪ Apparel (Dyneema textile applications)</li> <li>▪ ForTii (High-Performance Polymer)</li> </ul>	 <ul style="list-style-type: none"> <li>▪ Enzymes/Yeast (1.5 - 2G ethanol)</li> </ul>	
	 <ul style="list-style-type: none"> <li>▪ Niaga (recyclable carpets &amp; more)</li> </ul>  <ul style="list-style-type: none"> <li>▪ Additive Manufacturing (3D)</li> </ul>	

- Avansya (50% consolidated) expected to make a higher earnings contribution vs. original standalone plan
  - Sales potential of several hundreds of million US\$





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