

luxexecutivesummit 2018
Tokyo • October 17

You need a new strategy for food innovation

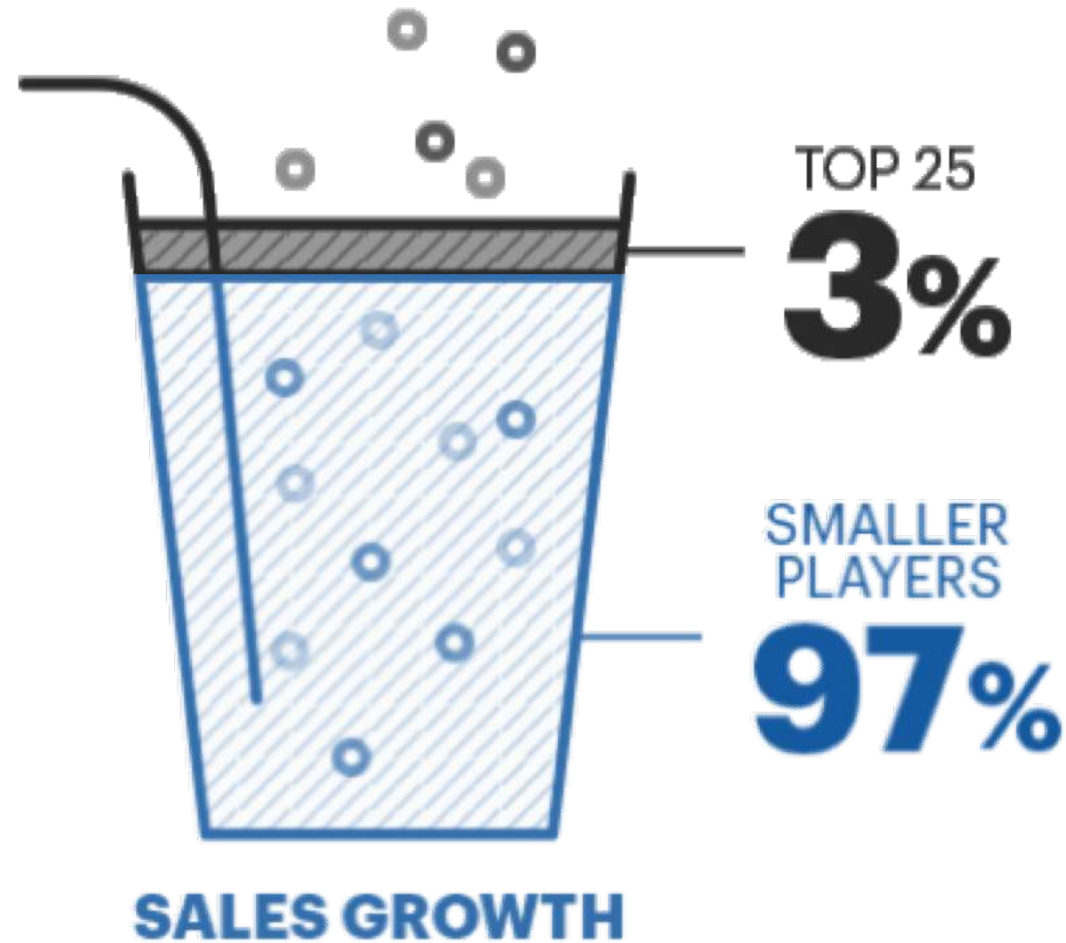
Using data to de-risk decisions

Sara Olson, Ph.D.

Senior Analyst



Major food companies are losing ground to smaller brands even as the industry overall grows



Source: *The Digital CPG Value Opportunity* (Accenture, 2017)

Top growth areas for food are mutually exclusive



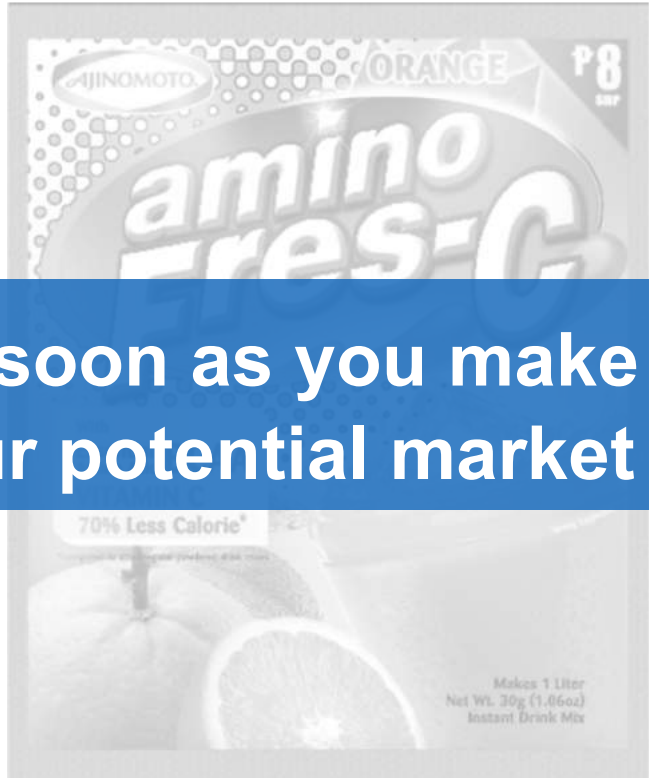
Functional / fortified

VS.



Naturally healthy

Top growth areas for food are mutually exclusive



Functional / fortified



Naturally healthy

As soon as you make a choice, you have alienated 50% of your potential market

vs.



**Food
innovation
today is
stressful.**

**Food
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stressful.**

The data you rely on now are:

Lagging indicators | Qualitative | Fragmented



**This is a
data
problem.**



**How do
you solve
this data
problem?**



**How do
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this data
problem?**

Better data:

Leading indicators

More quantitative data

**Centralized mechanism to derive
insights from data**

Trend and market data are too little, too late
Lagging indicators can lead you astray

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Food Business News.

Sugar reduction is not a global trend

12.21.2015 By Jeff Gelski



LONDON – Reduced sugar products have had a limited global impact on retail sales, according to a Dec. 15 webinar from London-based Euromonitor International.

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food ingredients 1st

Sugar reduction no longer a trend, it's the norm – the market

18 Jul 2017 --- One of the most striking international phenomenons in recent years is how consumer attitudes have changed towards sugar. From bakery to beverages, breakfast cereals to infant nutrition, flavors to fragrances, slashing sugar and telling everyone about it is paramount.

**Focus group data are qualitative
and not comprehensive**

Focus group data are qualitative
and not comprehensive



Focus group data are qualitative and not comprehensive

“This compostable packaging makes me feel better about buying Sun Chips over other chip brands.”

“Sure, it’s crinkly, but I’m an environmentally conscious consumer, so I’ll tolerate a louder bag if it’s ‘green.’”



Focus group data are qualitative and not comprehensive

Potato Chip Technology That Destroys Your Hearing



With decentralized data, how do you work efficiently?

With decentralized data, how do you work efficiently?



MARKETING



FORMULATION



SENSORY



DESIGN

With decentralized data, how do you work efficiently?



We need sugar reduction!



Sure, we took out half the sugar and used sucralose instead!



Hmm...the product isn't fluffy anymore. Can you just take out the calories?



Our closest competitor is using stevia. Use that so we can call it "natural."

With decentralized data, how do you work efficiently?



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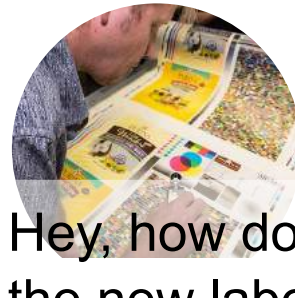
Our closest competitor is using stevia. Use that so we can call it "natural."



Okay we used a synbio derived stevia and added dextrose for fluff.



Perfect!



Hey, how do we want the new label to look since we can't say "No GMOs" anymore?



Whoa, whoa, whoa! Who said anything about GMOs? Start over!!

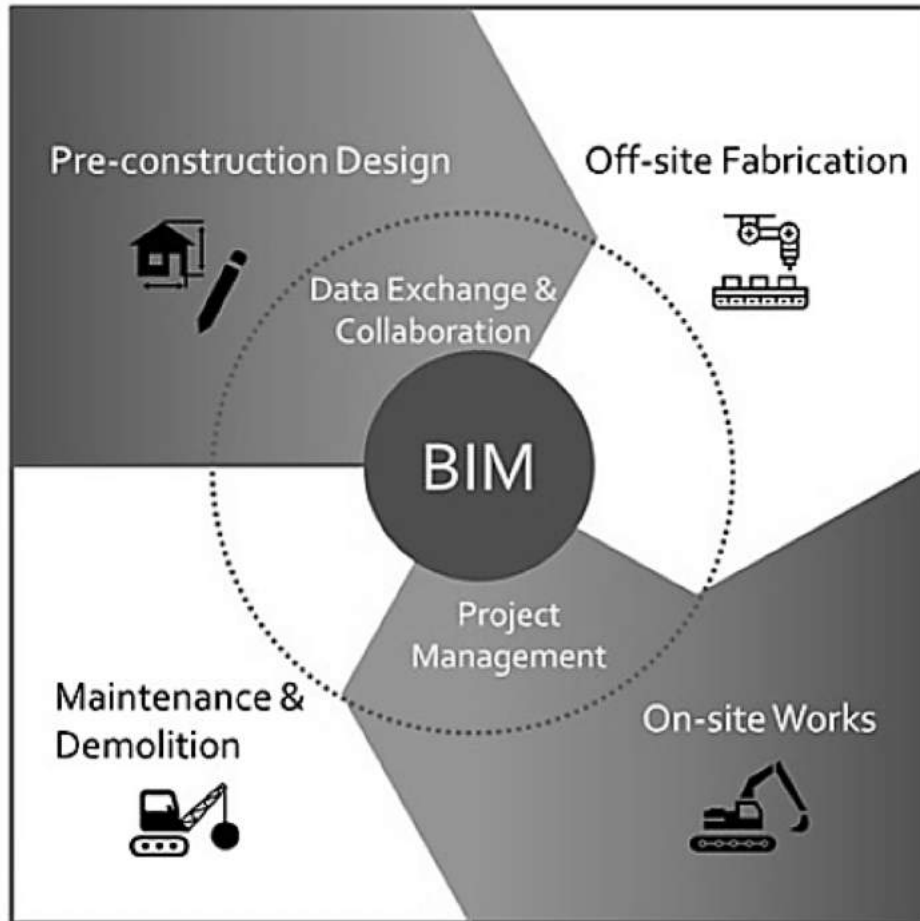


**This is a
data
problem.**

Real progress will take an integrated approach

Get comfortable with Ingredient Informatics

Applying learnings from other industries



Materials Informatics

Rapidly accelerating the process of R&D

Applying data science and artificial intelligence methods to materials science and engineering to better understand the use, selection, development, and discovery of materials.

Ingredient Informatics as an innovation strategy

Quantitative data

Centralized data platform

Mining existing portfolio



Quantitative data



**Centralized data
platform**



**Mining existing
portfolio**

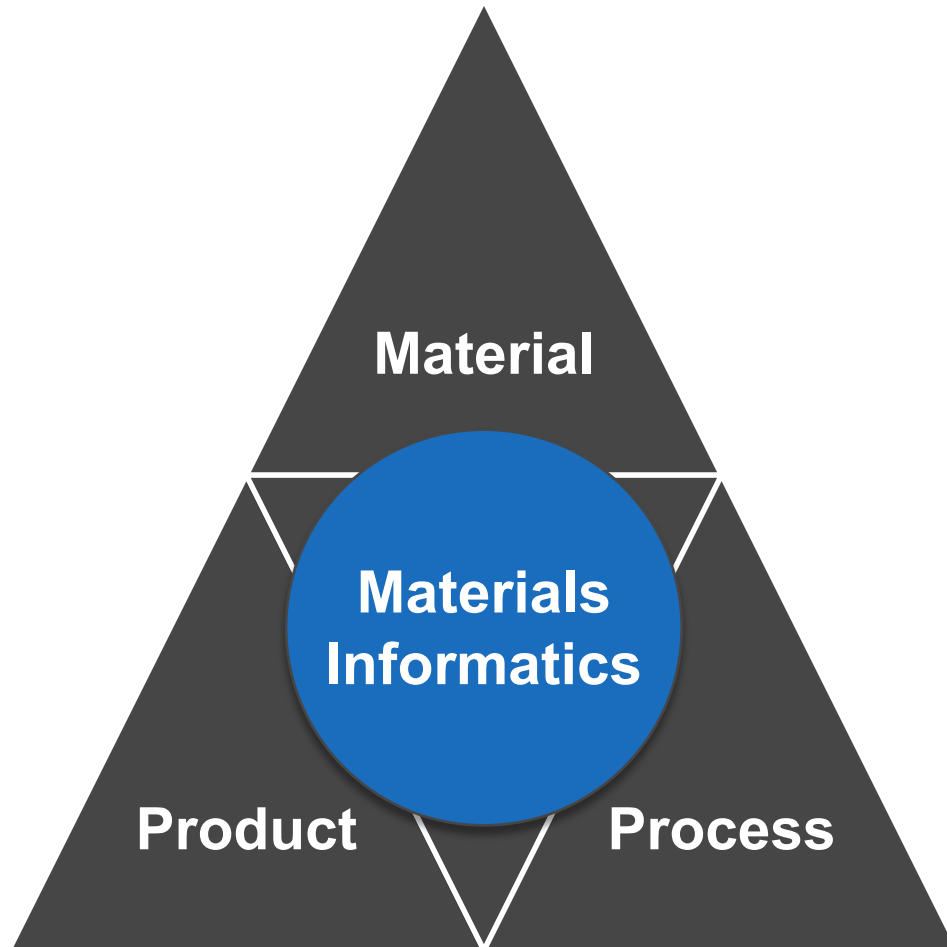
Sensory experts and panels are expensive and problematic – quantitative measurements are critical for a simpler process



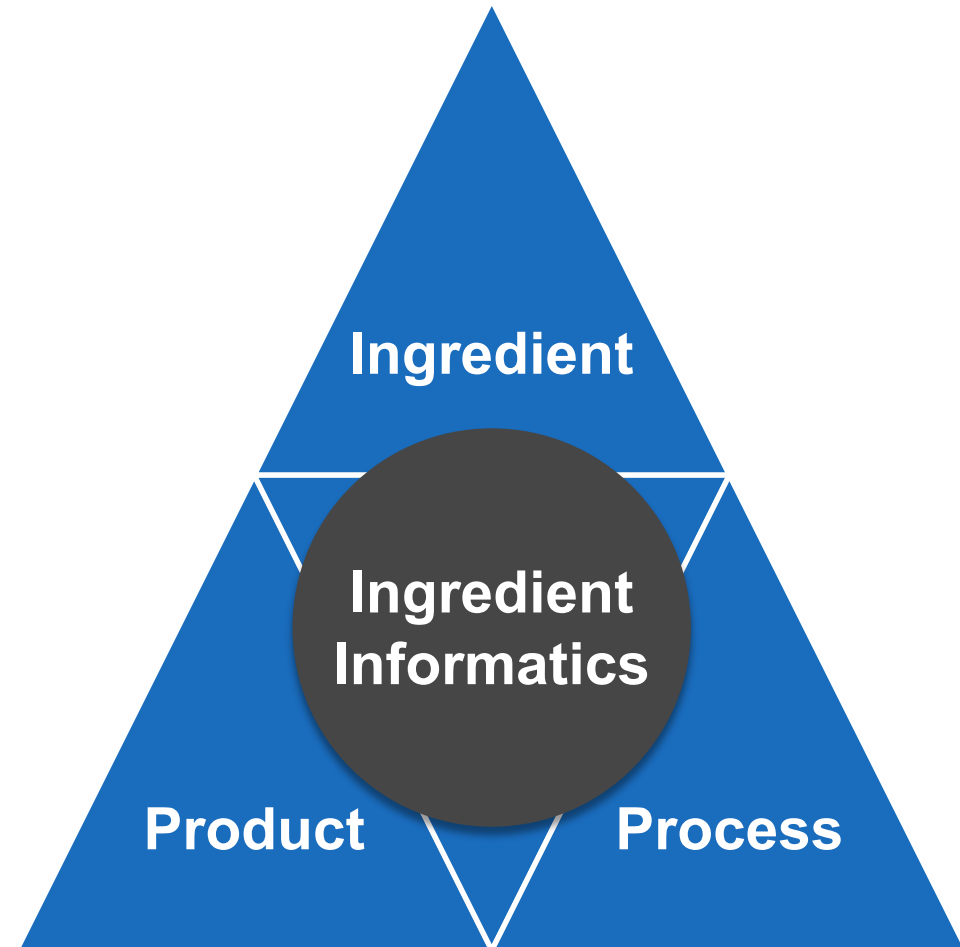
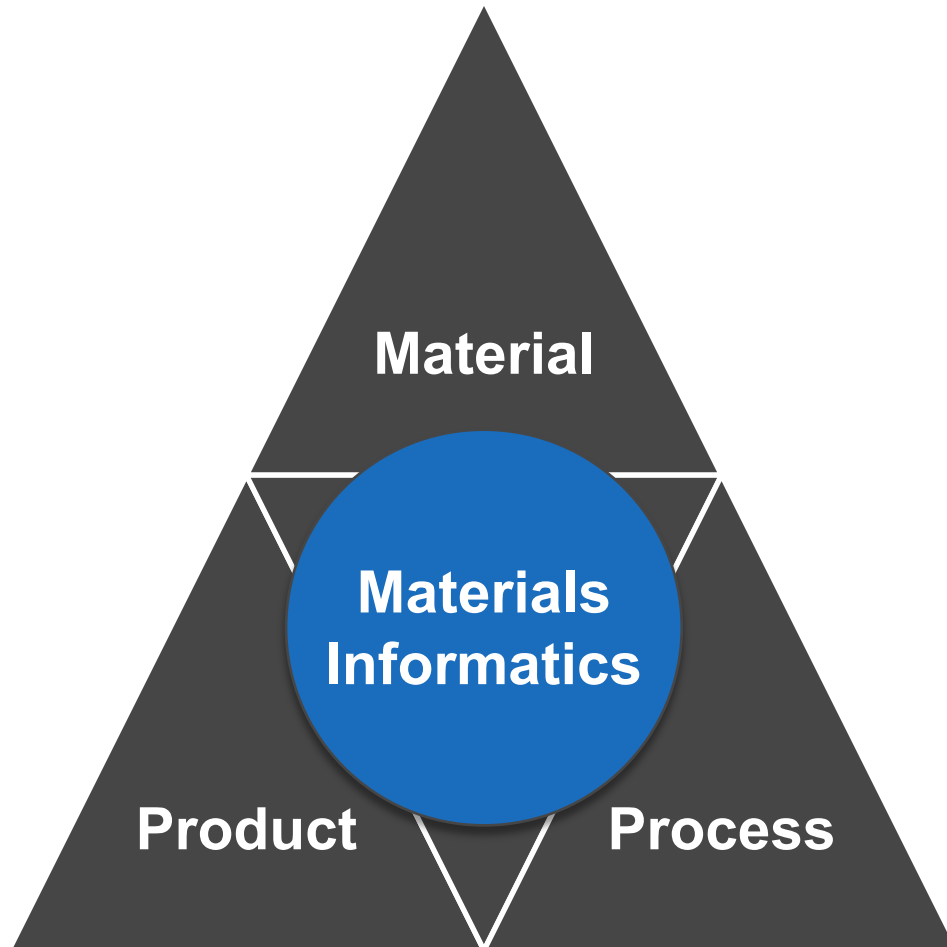
Sensory experts and panels are expensive and problematic – quantitative measurements are critical for a simpler process



Learning from Materials Informatics



Think of the ingredients in your portfolio as materials





Quantitative data

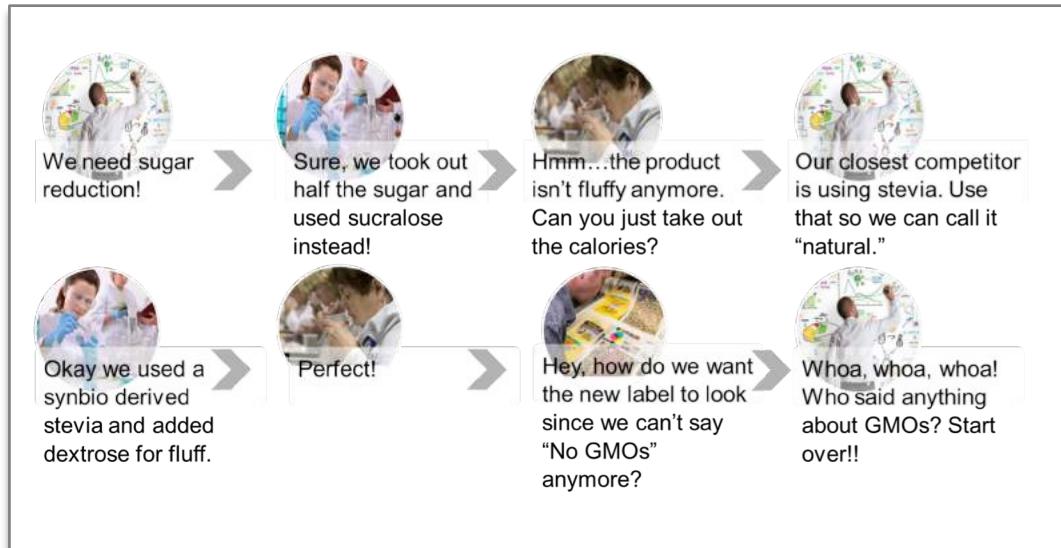


**Centralized data
platform**

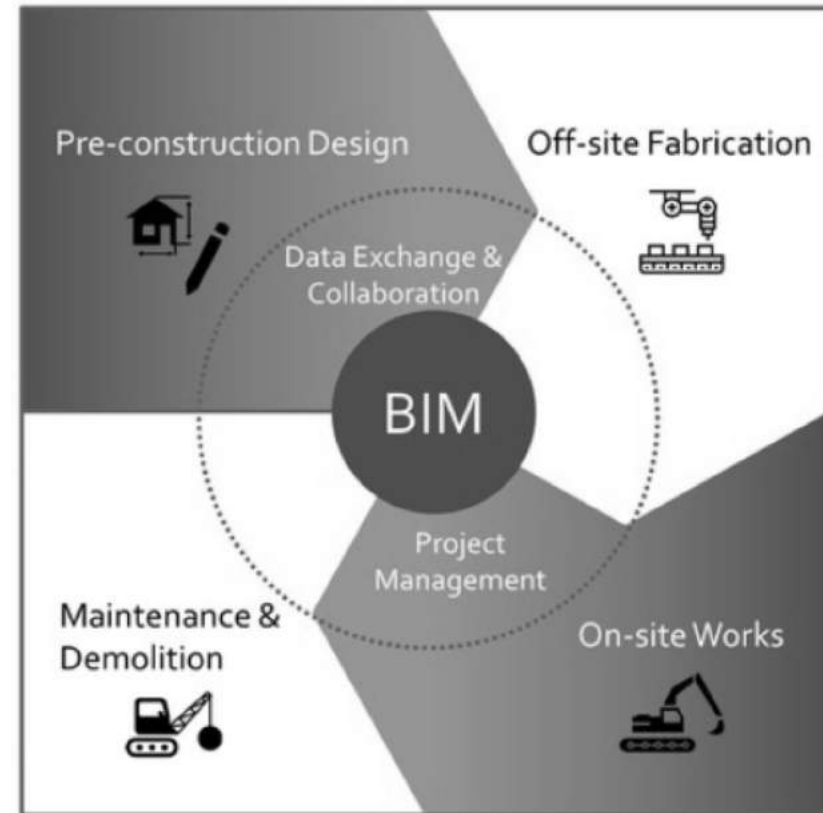


**Mining existing
portfolio**

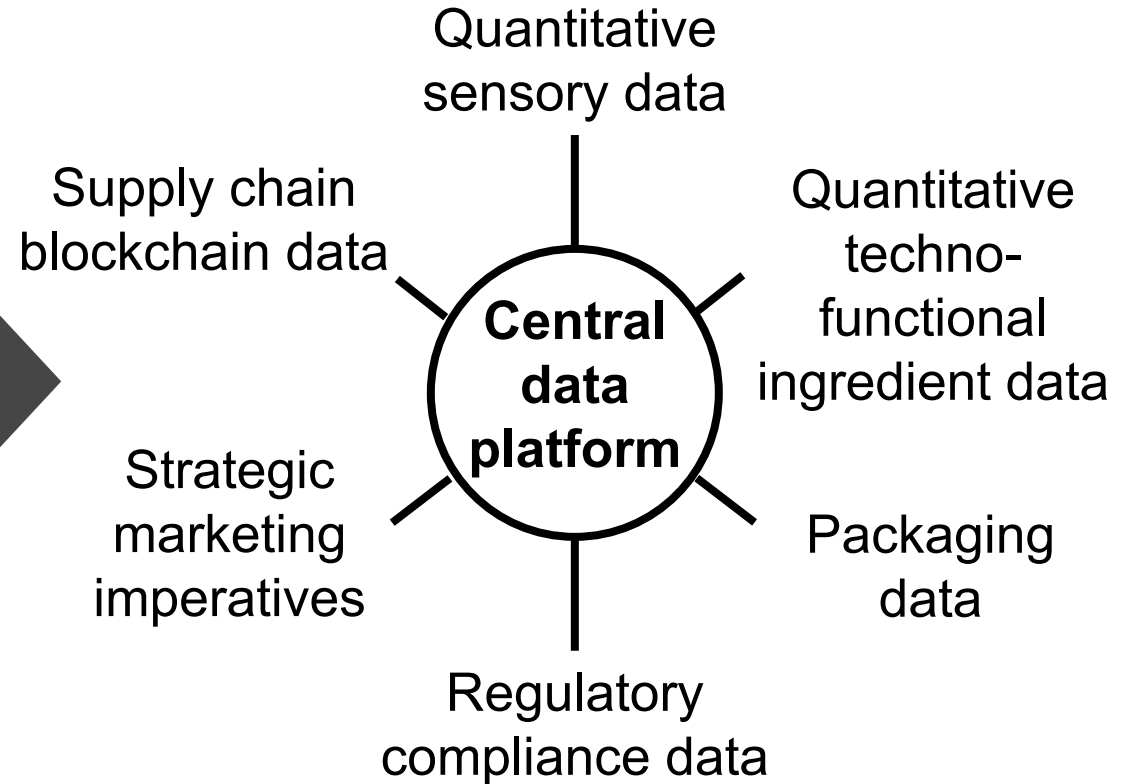
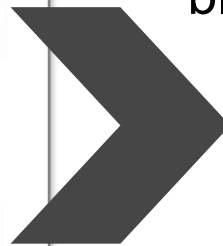
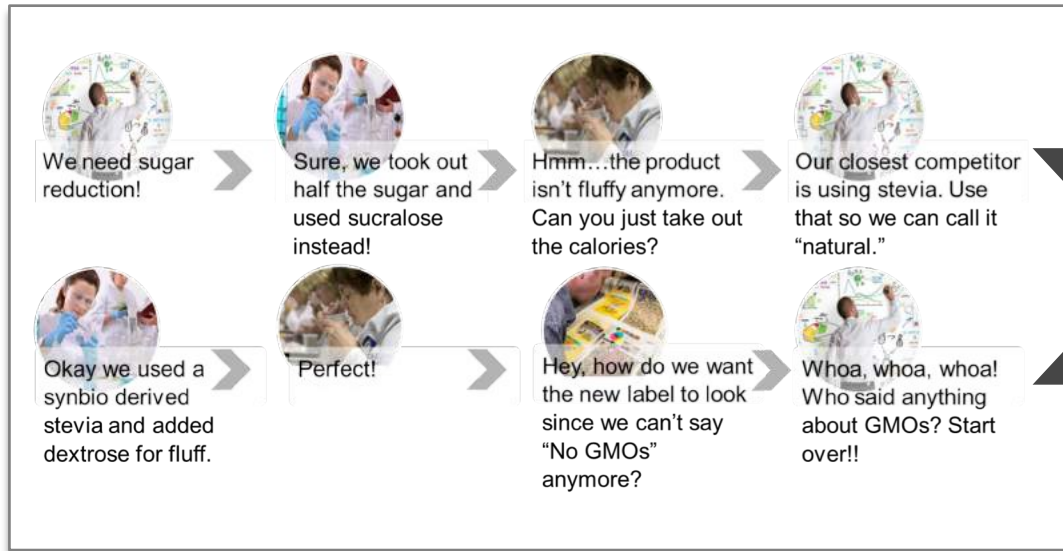
Centralizing your data



Centralizing your data



Centralizing your data





Quantitative data

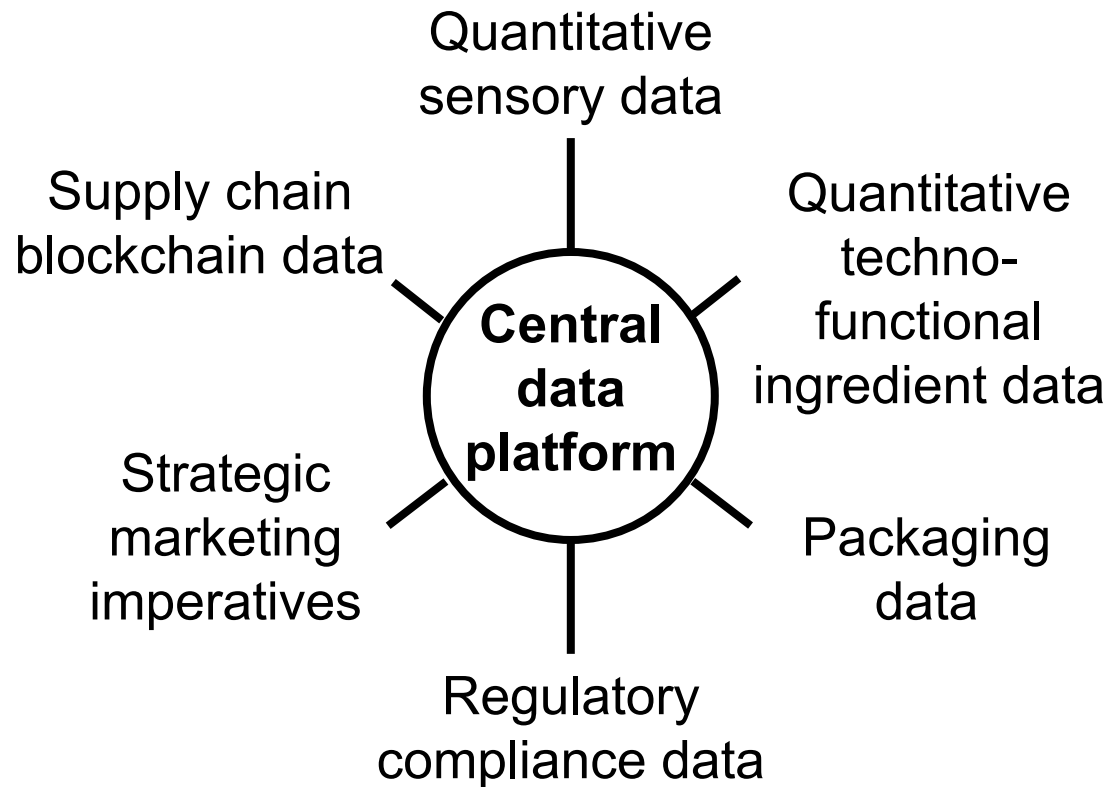


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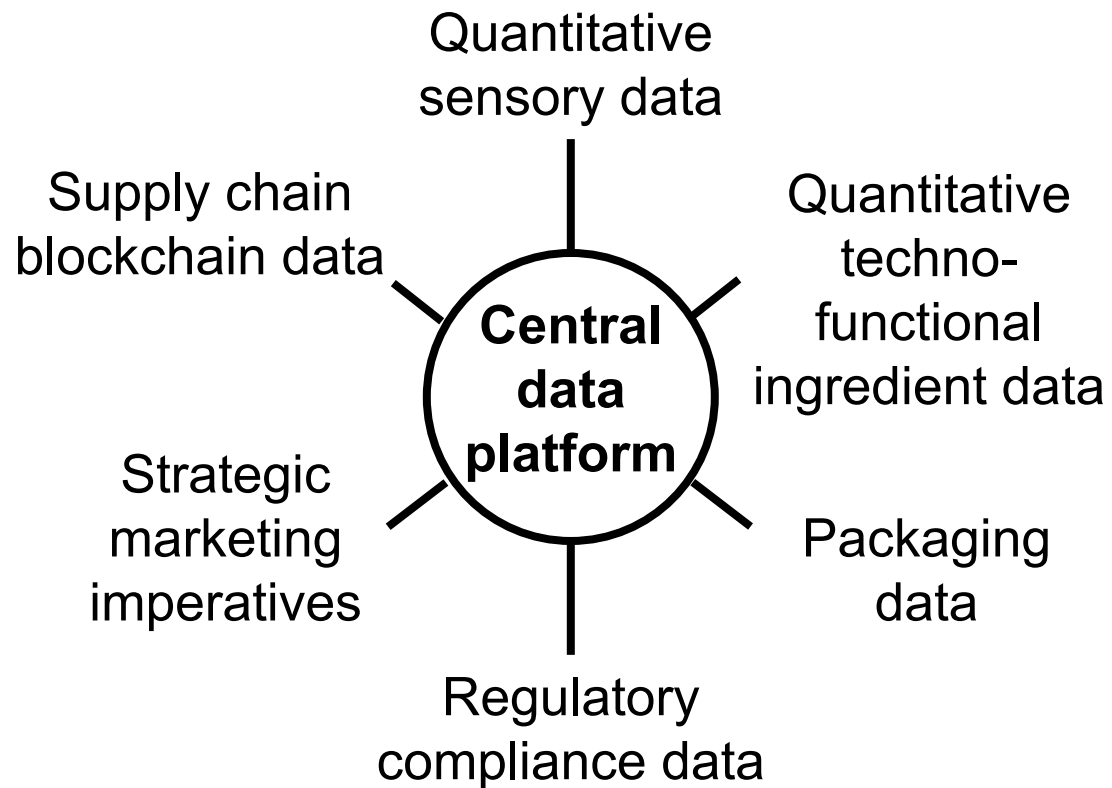


**Mining existing
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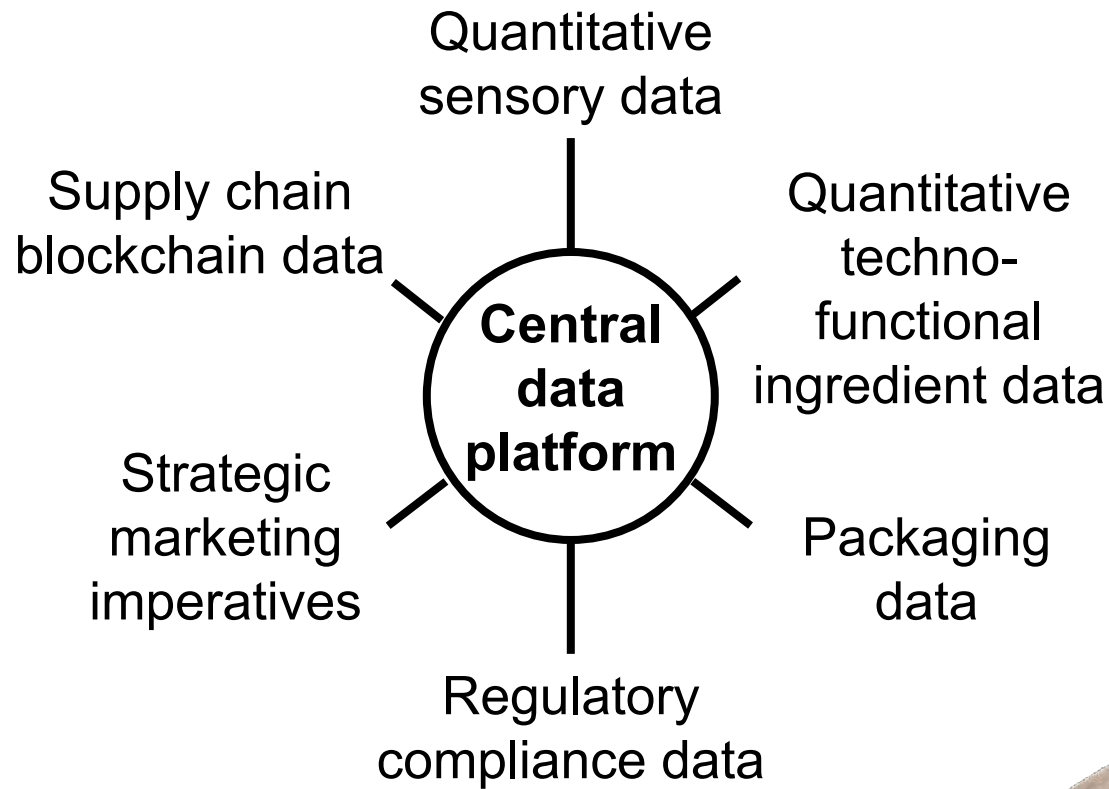
Mining a robust data library drives incredible value



Mining a robust data library drives incredible value



Mining a robust data library drives incredible value





**This is a
data
problem.**

look for INGREDIENTS



choose a DISH



pick a STYLE



start AGAIN



FAVORITES



STRAWBERRY

The garden strawberry (or simply strawberry / 'strɔːb(ə)rɪ/, *Fragaria × ananassa*) is a widely grown hybrid species of the genus *Fragaria* (collectively known as the strawberries). It is cultivated worldwide for its fruit. The fruit (which is not a botanical berry, but an aggregate accessory fruit) is widely appreciated for its characteristic aroma, bright red

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KING SALMON

Salmon / 'sæmən/ is the common name for several species of fish in the family Salmonidae. Other fish in the same family include trout, char, grayling and whitefish. Various species of salmon display anadromous life strategies while others display freshwater resident life strategies. Salmon are native to tributaries of the North Atlantic (genus *Salmo*) and

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ACACIA HONEY

Honey / 'hʌni/ is a sweet food made by bees using nectar from flowers. The variety produced by honey bees (the genus *Apis*) is the one most commonly referred to, as it is the type of honey collected by most beekeepers and consumed by people. Honey produced by other bees (bumblebees, stingless bees) and insects (honey wasps) have different properties,

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BOURBON

Bourbon whiskey is a type of American whiskey; a barrel-aged distilled spirit made primarily from corn. The name is ultimately derived from the French Bourbon dynasty, although it is disputed whether the namesake Kentucky county or New Orleans street inspired the whiskey's name. Bourbon has been distilled since the 18th century. The name "Bourbon"

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← BACK



SYNERGY

→ MORE

HERE ARE SOME IDEAS



Strawberry Fish Dish

cornstarch, acacia honey, bourbon, water, king salmon, vegetable oil, apple juice, orange juice, strawberry, oyster sauce, cumin, ground coriander

Based on: grilled salmon with ponzu sauce and vegetable slaw from Bon Appétit

Cognitive Cooking with Chef Watson

Recipes for Innovation from IBM & the Institute of Culinary Education



NotCo

LUX RECOMMENDATION ⓘ

Engage

THIS is



NotCo uses quantitative ingredient data and AI to reformulate familiar products



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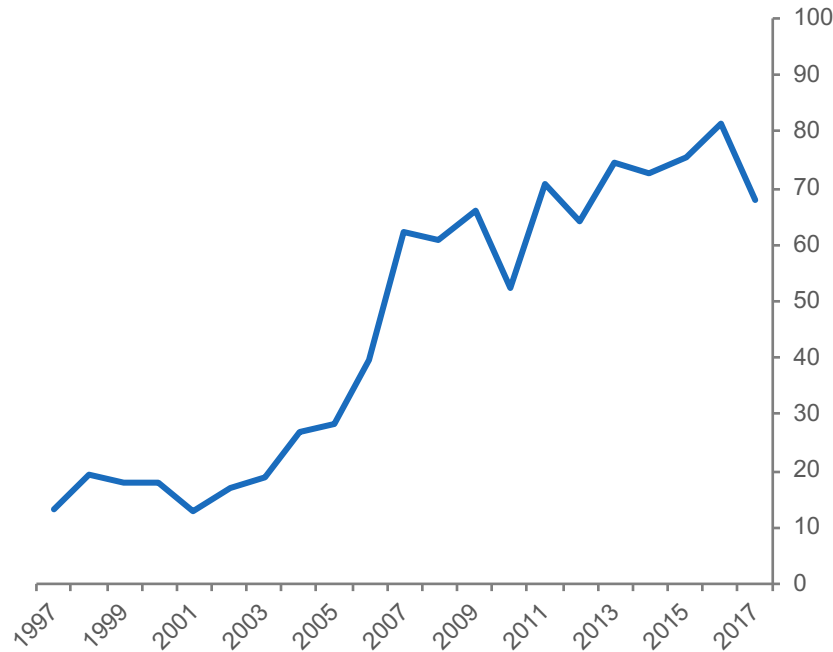
How to start making it better

Applying the Lux approach to free-from food innovation

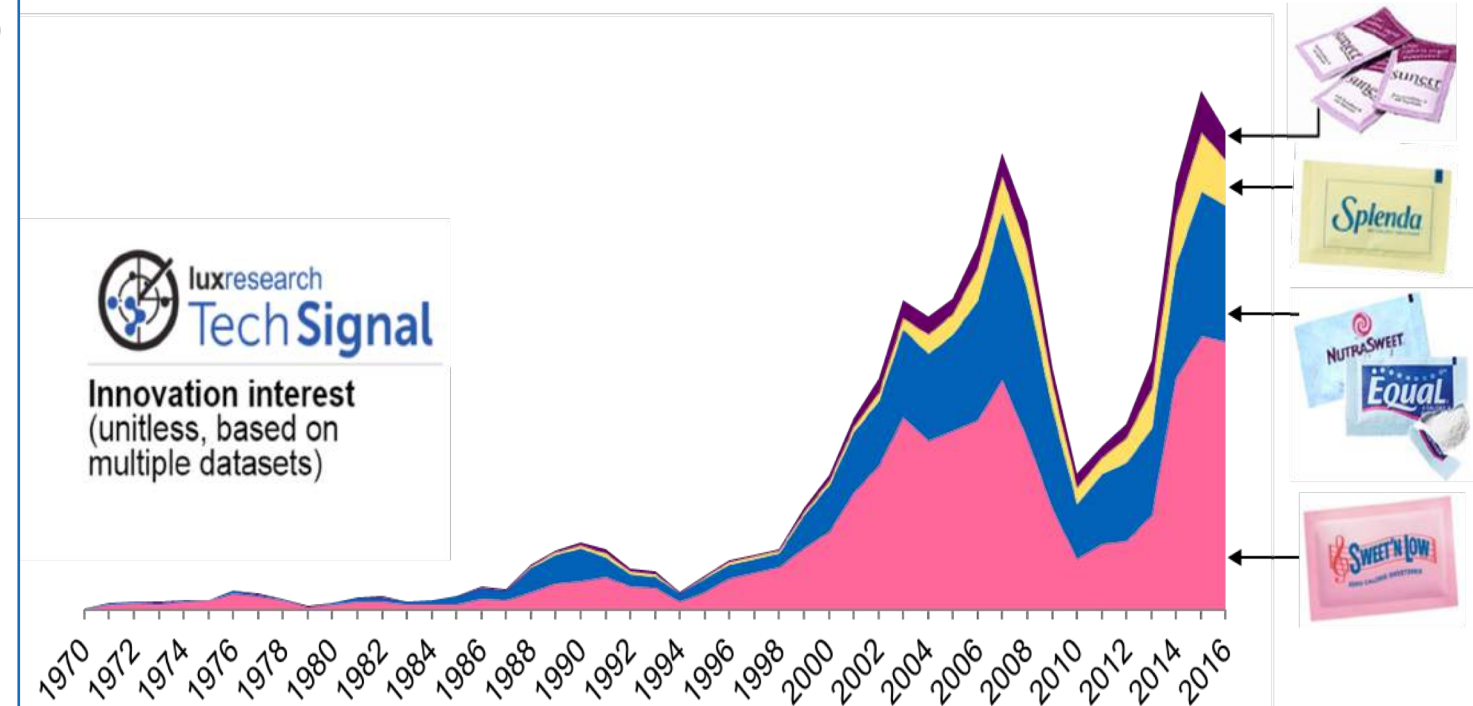
Start by finding *leading* indicators

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SUGAR REDUCTION TECH SIGNAL



SWEETENER TECHNOLOGY TECH SIGNALS

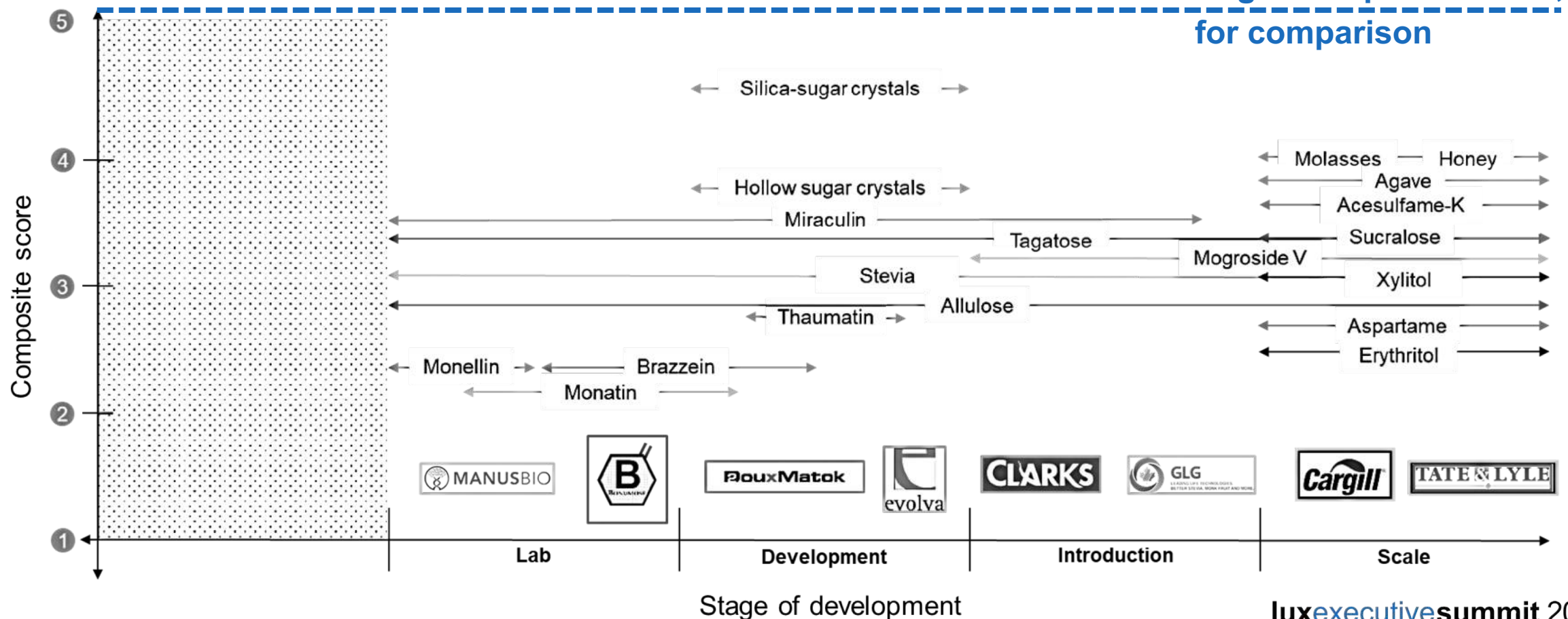


Add expert insight

Add expert insight

Alternative sweeteners don't stack up to sucrose; look to blend replacements

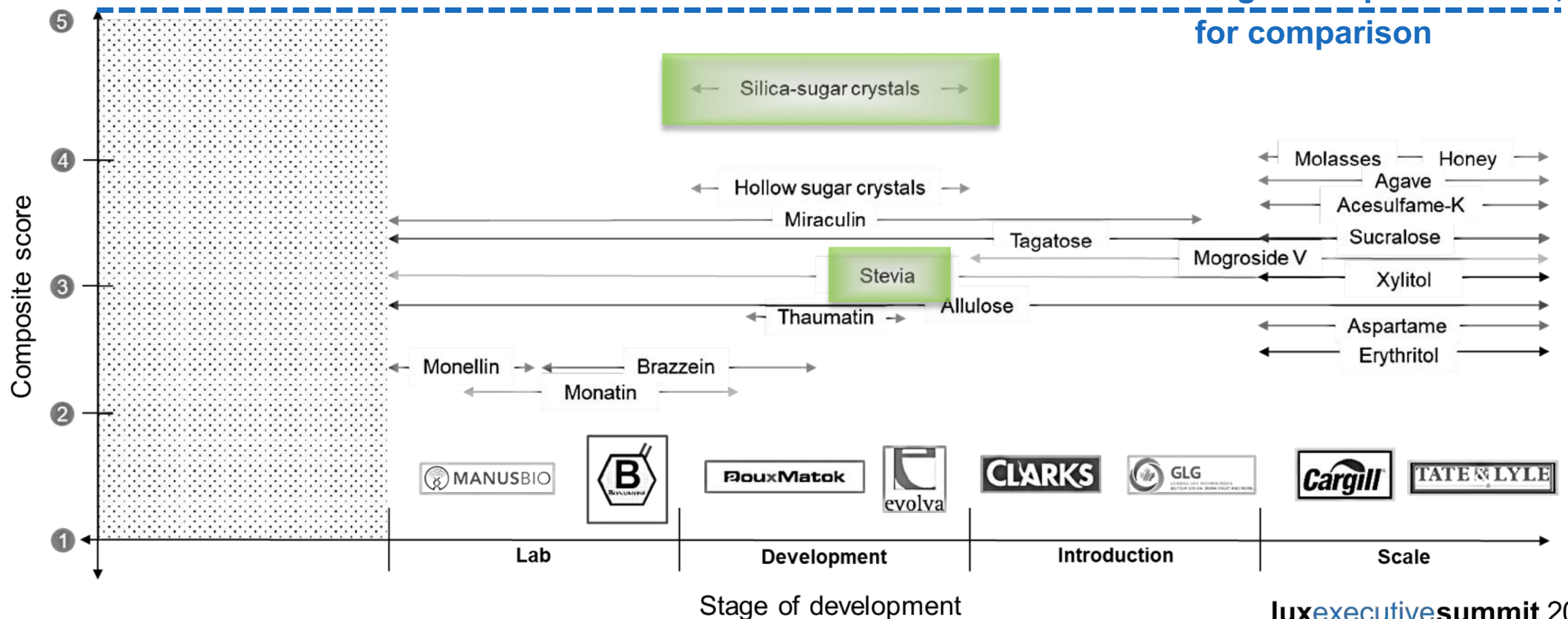
Sugar composite score, for comparison



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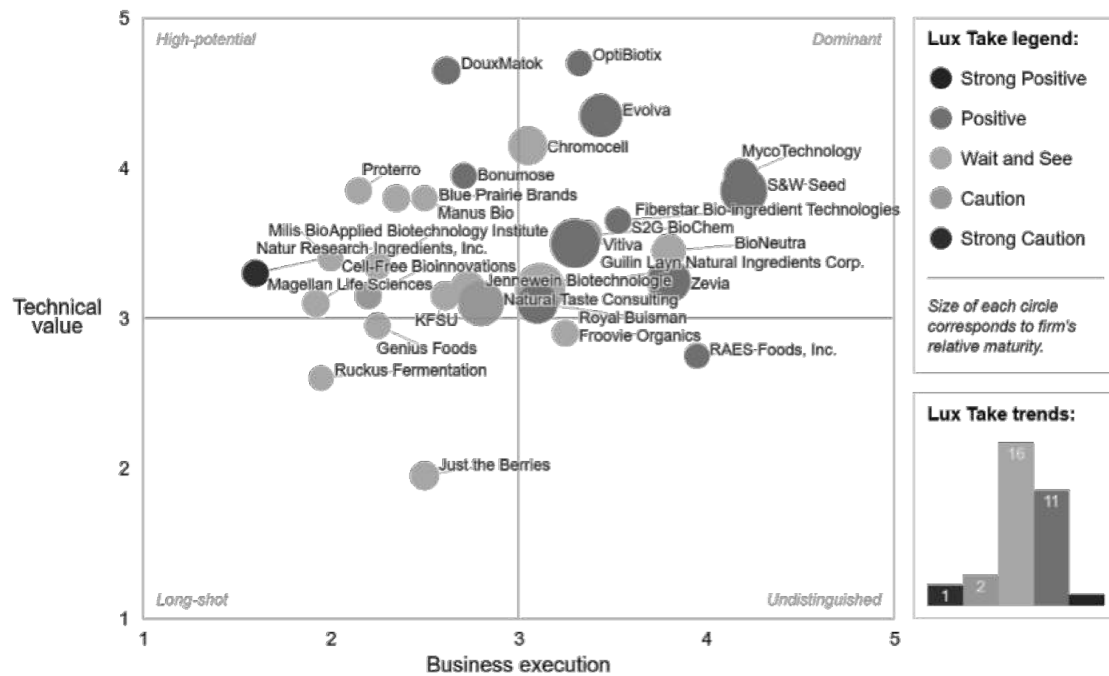
How to determine the “who”?

Use a data-centric approach to evaluate developers' capabilities

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Sweetener-related technologies can compensate for alternative sweetener shortcomings

Lux Innovation Grid for sweetener developers



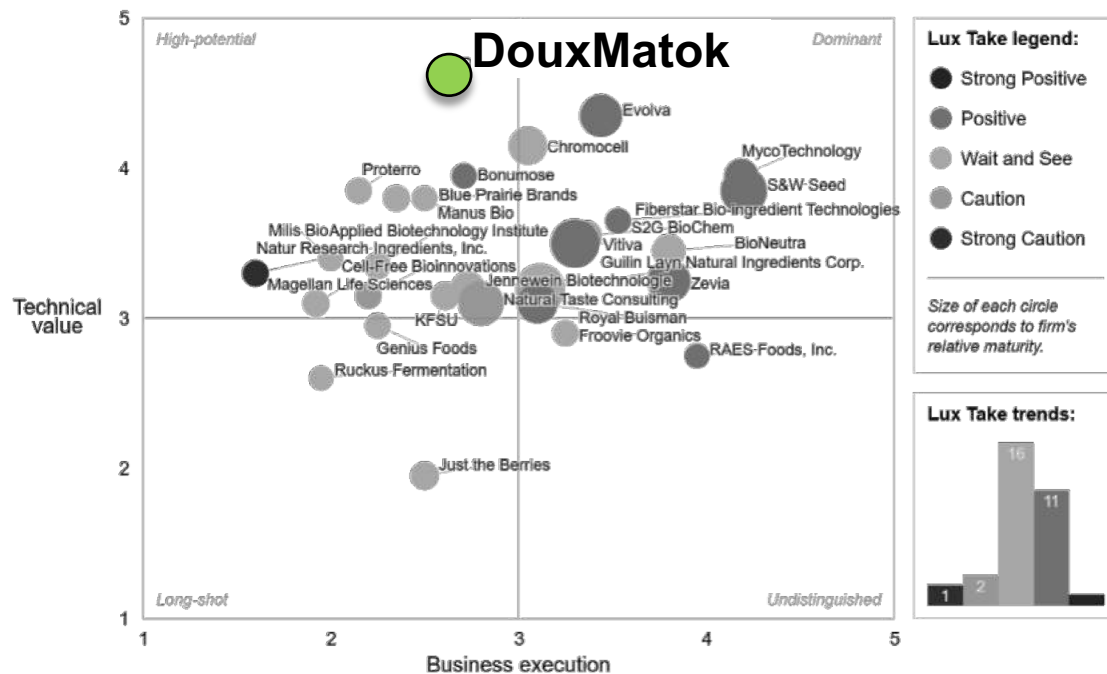
Stevia developers span segments



Use a data-centric approach to evaluate developers' capabilities

Sweetener-related technologies can compensate for alternative sweetener shortcomings

Lux Innovation Grid for sweetener developers



Stevia developers span segments



Putting it all together...

What?

Technologies to prioritize:

Lux Tech Signal
Patents
Funding

Who?

Who to work with:

Partnership maps
Lux Innovation Grid

How?

How to implement:

Quantitative data
Centralized platform
Mine your portfolio



**Food
innovation
today is
stressful.**



**Food
innovation
today is
achievable.**



2018

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Thank you for joining us.



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