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EIT FOOD ANNUAL EVENT

LET'S GET REAL ABOUT FOOD

Brussels, Belgium

Event Lounge

October 17th & 18th 2022

#EITFood

Healthier lives through food

Breakout room 2



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Matt Eastland

Head of Brand & Content
EIT Food

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Join us in the Salon area on the ground floor for our Awards ceremony!

6 winning initiatives for innovative solutions to reduce obesity & malnutrition in Europe will be awarded a prize of 30.000 euros.

Drinks will be served during the ceremony. **Cheers!**



On stage



Yoav Livney

Professor,
Biotechnology and Food Engineering, Technion Israel Institute of Technology



Simone K. Frey

Managing Director,
Nutrition Hub



Jochem Bossenbroek

Co-founder and CEO,
Verdify

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Yoav Livney

Professor, Biotechnology and Food Engineering, Technion Israel Institute of Technology

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Sugar out, Prote-in: Application of microencapsulated sweet protein as sugar substitute

Collaboration between Technion, Amai Proteins, PepsiCo, and Danone

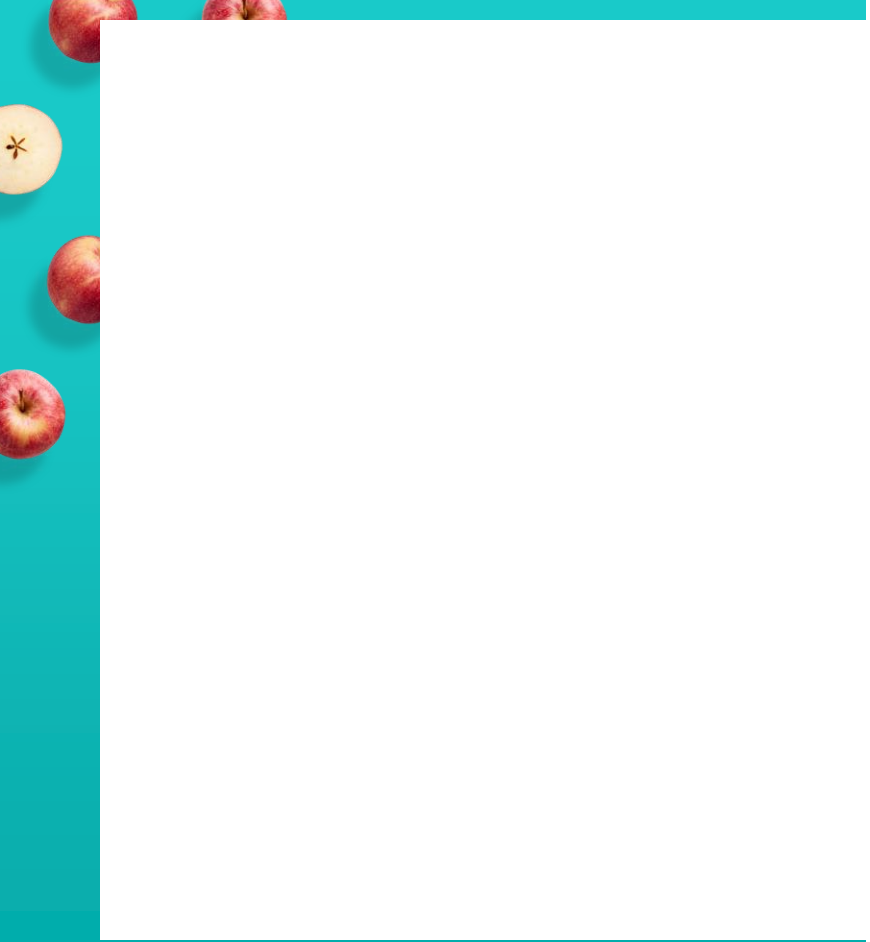
Project Coordinator: Prof. Yoav D. Livney, Technion, Israel Institute of Technology

TECHNION Israel Institute of Technology

Amai Proteins

PEPSICO

DANONE NUTRICIA RESEARCH



The Sugar Paradox: We love sugar, but sugar is toxic

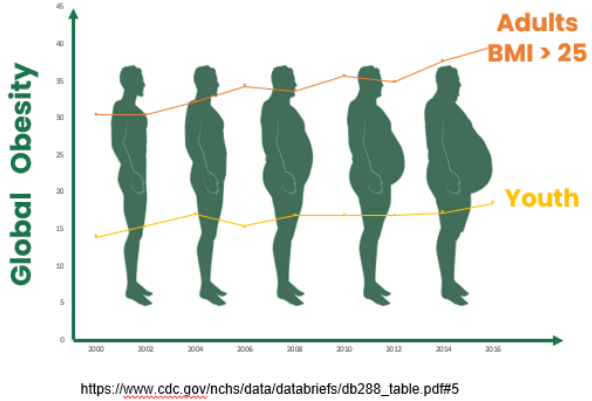
Amai Proteins

$90bn Sweetness Market, Sugar Dominated



High Intensity Artificial & Natural Sweeteners e.g. Stevia, Ace-K, Aspartame,etc…

…Fuelling Global Diabesity and the Metabolic Syndrome



https://www.cdc.gov/nchs/data/databriefs/db288_table.pdf#5

Forcing Societal Action: Sugar tax







Sugar is the new tobacco, but alternatives don't deliver on taste, cost, health & functionality

Confidential

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Sweet Proteins are found in the depth of the jungle



up to **3,000x**

Sweeter than sugar

Healthy

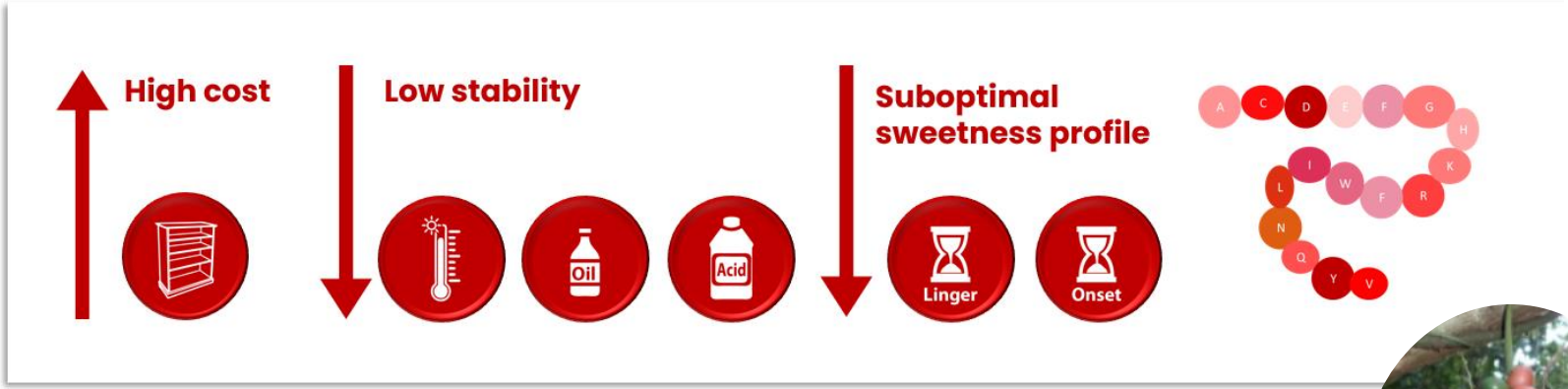
- ✓ No insulin response.
- ✓ No calories.
- ✓ No effect on microbiome, liver, kidneys.

But...

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But... they are not fit for use in the food industry

Amai Proteins





Amai Proteins introduced a solution:

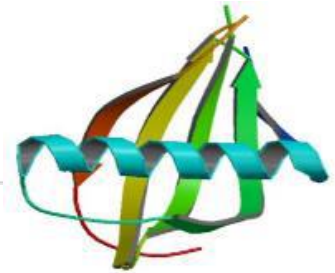
Tasty, healthy sweet Designer Proteins fit for the mass food market:

sweelin™

100% sweet protein by amaiproteins.com



Based on Monellin



idential

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Solving the Sugar Paradox

Amai Proteins

sweelin™

1 teaspoon

=





High potency = Low costs along the entire value chain

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TECHNION Israel Institute of Technology

Amai Proteins

PEPSICO

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The main shortcoming of Sweelin: Sweetness profile still different from sugar- Longer lingering taste

Hence, we embarked on an EIT FOOD Project titled:
“Sugar out, Prote-in: Application of microencapsulated sweet protein as sugar substitute”



Project Goals

1. Develop a complementary formulation that will enhance the resemblance of the Amai sweet protein (Designer Monellin-DM, Sweelin™) to the taste profile of sugar.
2. Produce the formulation at pilot scale.
3. Evaluate its performance by sensory panels (both by Amai, and by the industrial partners, Danone & PepsiCo.)

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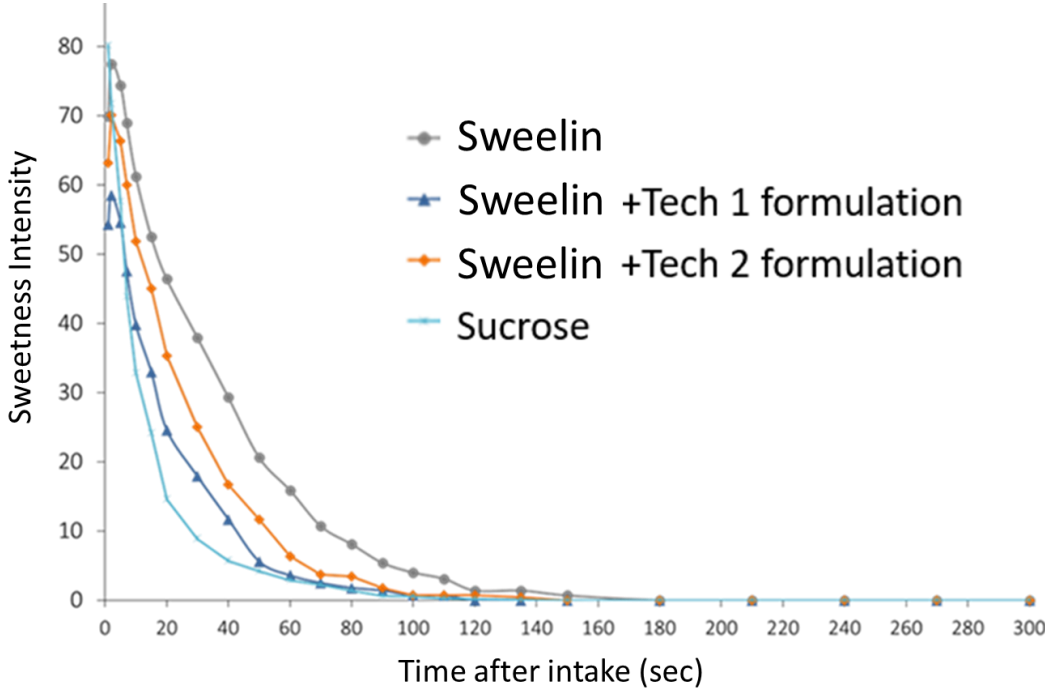
The Project

During the project we evaluated performance of numerous compounds and their combinations, using carefully screened and trained expert sensory panels.
The best formulation was scaled up to pilot scale and evaluated by consumers in a real beverage.

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Results

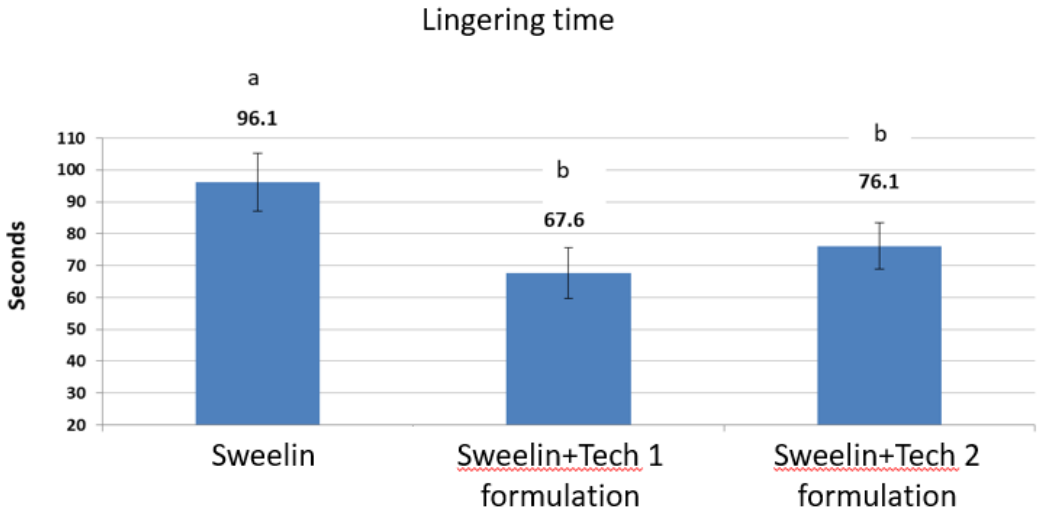
Technion-developed formulations improve Sweelin's resemblance to sugar



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Results

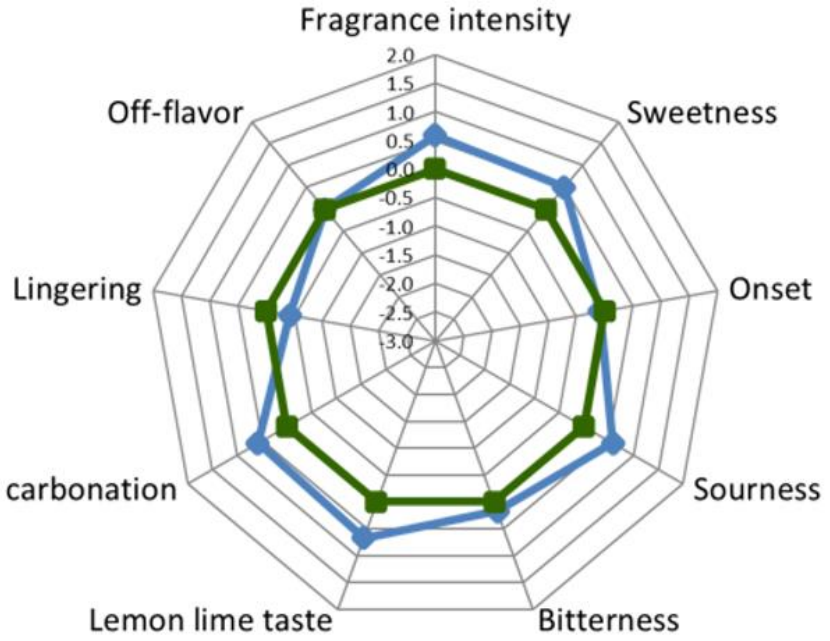
Technion-developed formulations decrease Sweelin's Linger



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Results

Technion-formulation improves Sweelin sensory performance in beverages



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Results

Scale up to Pilot-scale, and evaluation in a final product (Flavoured Water) performed by Danone Experts:

Sensorial impact in drinks at 100% sugar reduction : The drink with Sweelin and Tech-2 formulation has less sweet lingering than with Sweelin alone

Heat stability in acidified drinks => **OK** vs process of acidified drinks:
The drinks with both Sweelin and Sweelin+Tech-2 formulation are stable in the process of acidic drinks

SHELF-LIFE STABILITY IN DRINKS => **OK** in accelerated ageing test:
The drinks with both Sweelin and Sweelin+Tech-2 formulation are stable in accelerated shelf-life test

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Results

Scale up to Pilot-scale, and evaluation in a final product (Flavoured Water) by 112 consumers performed by Danone:

According to this study, both Sweelin and Sweelin+Tech-2 formulation could be an alternative to Stevia at 50% sugar reduction

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“Sugar-Out, Prote-in” wins the EIT FOOD Impact Award!!



To celebrate 5 years of EIT Food we introduced the E…od Impact Awards, recognizing the work and impact of the partnership. In… you have missed the final outcome:

- Dietary change: Sugar-Out, Prote-In
- Trust conditions: FoodUnfolded
- Circular economy: PHENOLIVA
- Environmental impact: Integrating precision farming in computer games

Congratulations again to all winners!

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Acknowledgements

To: Amai Team (mostly Dr. Ilan Samish, Inbar Zuker, Yigal Gezundheit, Shmulik Marko, Hagay Shmueli)

Danone Team (mostly Veronique Arnoult, Diego Coraglia, Karine Delafaye, Veronique Estival-Besset)

PepsiCo Team (mostly Imran Afzal, Alice Lou, Thadao Ogren, Hailing Li, Alejandro Marabi)

Technion team: (mostly Dr. Ravit Edelman, Dr. Samaa Al-Asibi)

We thank the EIT FOOD for the funding

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Thank you for your attention!

Technion Team

The Lab of Biopolyme for Food & Health



Prof. Yoav D. Livney



Dr. Ravit Edelman



Dr. Samaa Alasibi

Prof. Yoav D. Livney

Livney@technion.ac.il

TECHNION Israel Institute of Technology

Amai Proteins

PEPSICO

DANONE NUTRICIA RESEARCH



Simone K. Frey

Managing Director, Nutrition Hub



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HEALTHY, SUSTAINABLE AND PERSONALIZED:

HOW 3 MEGATRENDS SHAPE THE FUTURE OF FOOD

EIT FOOD ANNUAL EVENT | 17 OCT. 2022

DR. SIMONE K. FREY | NUTRITION HUB

Hülsen reich



KICHERERBSEN-KNUSPIES

- luftig-lockere Kichererbsen-Flakes mit veganen Reismilchschokolade
- bio, glutenfrei & vegan
- im plastikfreien 150g Beutel

KNUSPRIG GERÖSTETE BIO-KICHERERBSEN – SWEET ONION

- fettfrei geröstet
- mit feiner Zwiebel-Gewürzmischung
- protein- & ballaststoffreich
- bio & vegan

KNUSPRIG GERÖSTETE BIO-KICHERERBSEN – TOMATE-BASILIKUM

- fettfrei geröstet
- mit Tomate-Basilikum-Gewürzmischung
- protein- & ballaststoffreich
- bio & vegan

Hülsenfrüchte sind gut für dich und die Umwelt



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NUTRITION HUB26

WELL-BEING NUTRITION

Nutri-Score makes its debut in the school canteen to educate children and adolescents and better inform their parents



2022

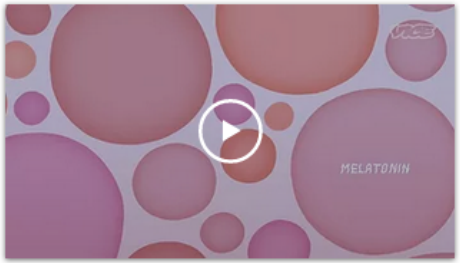


LONDON

https://www.forbes.com/sites/lelalondon/2022/04/27/how-deliciously-ella-built-a-25-million-plant-based-empire

BIOMILQ™
Human milk for babies

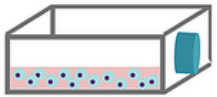
Home About Us Our Growth Join Us Breastmilk Study



The future of feeding is fearless, *and 100% human.*

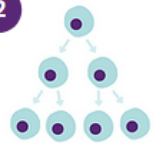
how mammary biotechnology works

1



Mammary epithelial cells are placed in flasks with cell culture media which has the nutrients they need to grow and be happy outside the body.

2



The cells absorb the nutrients and proliferate (multiply).

SHOP CLEAN + CLINICALLY TESTED OUR NUTRITIONISTS THE WELLNEST BLOG

HUM

GET STARTED



Help

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NUTRITION HUB3.0

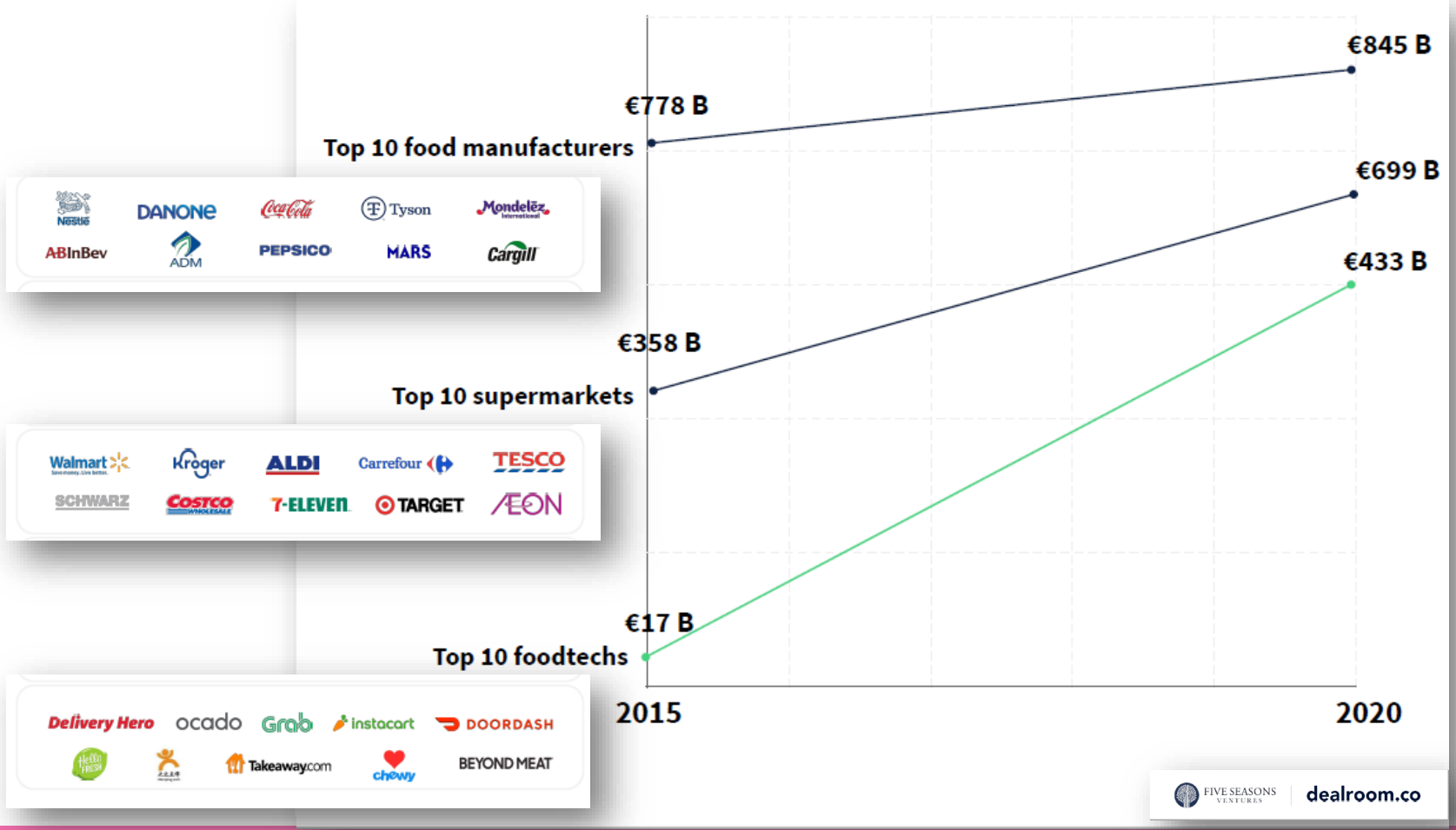

MONCARA
GUESS
FOSSIL
Wir präsentieren Gen 6
VIEL MEHR
VIEL SCHNELLER
Wear OS by Google
Google Fit
Herzfrequenz- & Aktivitätstracking
Google Assistant
Pay
SCAN MICH

BERLIN


Chipotle
MEXICAN GRILL
MEXICAN GRILL
1644
1644




Brown Rice
0 BURRITOS
0 $BB
EXIT BURRITO BUILDER



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4 BN

https://www.pik-potsdam.de/en/news/latest-news/starved-stuffed-and-squandered-new-study-reveals-consequences-of-decades-of-global-nutrition-transition

73 %

https://www.ox.ac.uk/news/2018-06-01-new-estimates-environmental-cost-food

10 YEARS

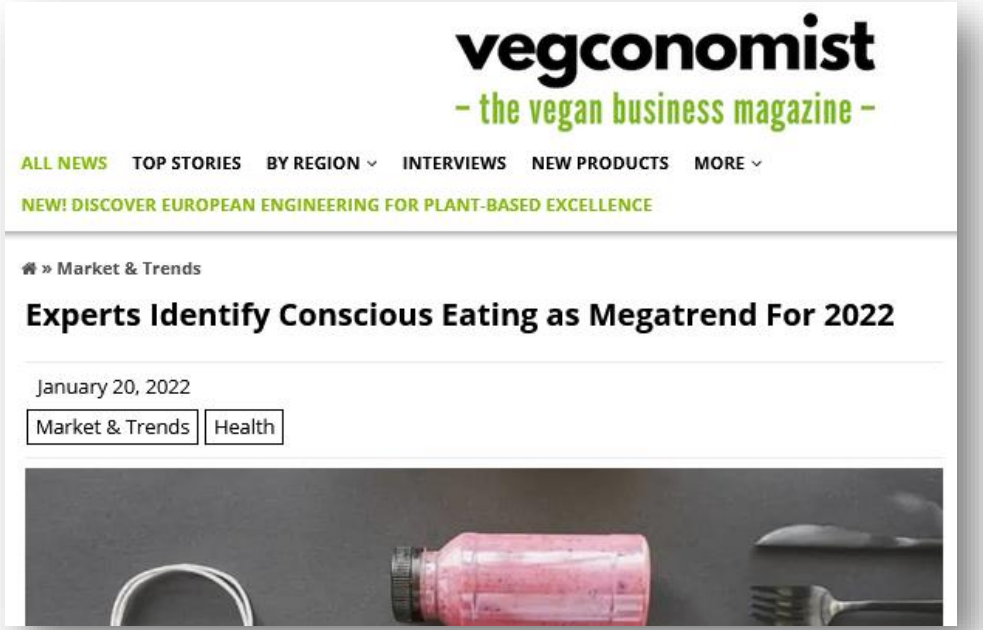
 https://journals.plos.org/plosmedicine/article?id=10.1371/journal.pmed.1003889

MEGATRENDS

https://www.zukunftsinstitut.de/fileadmin/user_upload/Megatrend_Doku/MT_Maps_und_Grafiken/Megatrend-Doku_2021-Megatrend_Map-Englisch_Web.pdf


PERSONALIZATION
GENDER SHIFT
SILVER SOCIETY
KNOWLEDGE CULTURE
NEW WORK
HEALTH
SUSTAINABILITY
CONNECTIVITY
GLOBALIZATION
URBANIZATION
MOBILITY
SECURITY





https://www.nutrition-hub.com/post/nutrition-trends-report-10-shifts-better-food-2022

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THE 10 MOST IMPORTANT NUTRITION TRENDS 2022
1.
CLIMATE-FRIENDLY& SUSTAINABLE EATING
2.
VEGAN & PLANT-BASED NUTRITION


NUTRITION TRENDS REPORT
NUTRITION HUB
Bundeszentrum für Ernährung



Picture: © www.tabeamathern.com for Nutrition Hub

VEGAN AND PLANTBASED NUTRITION

2

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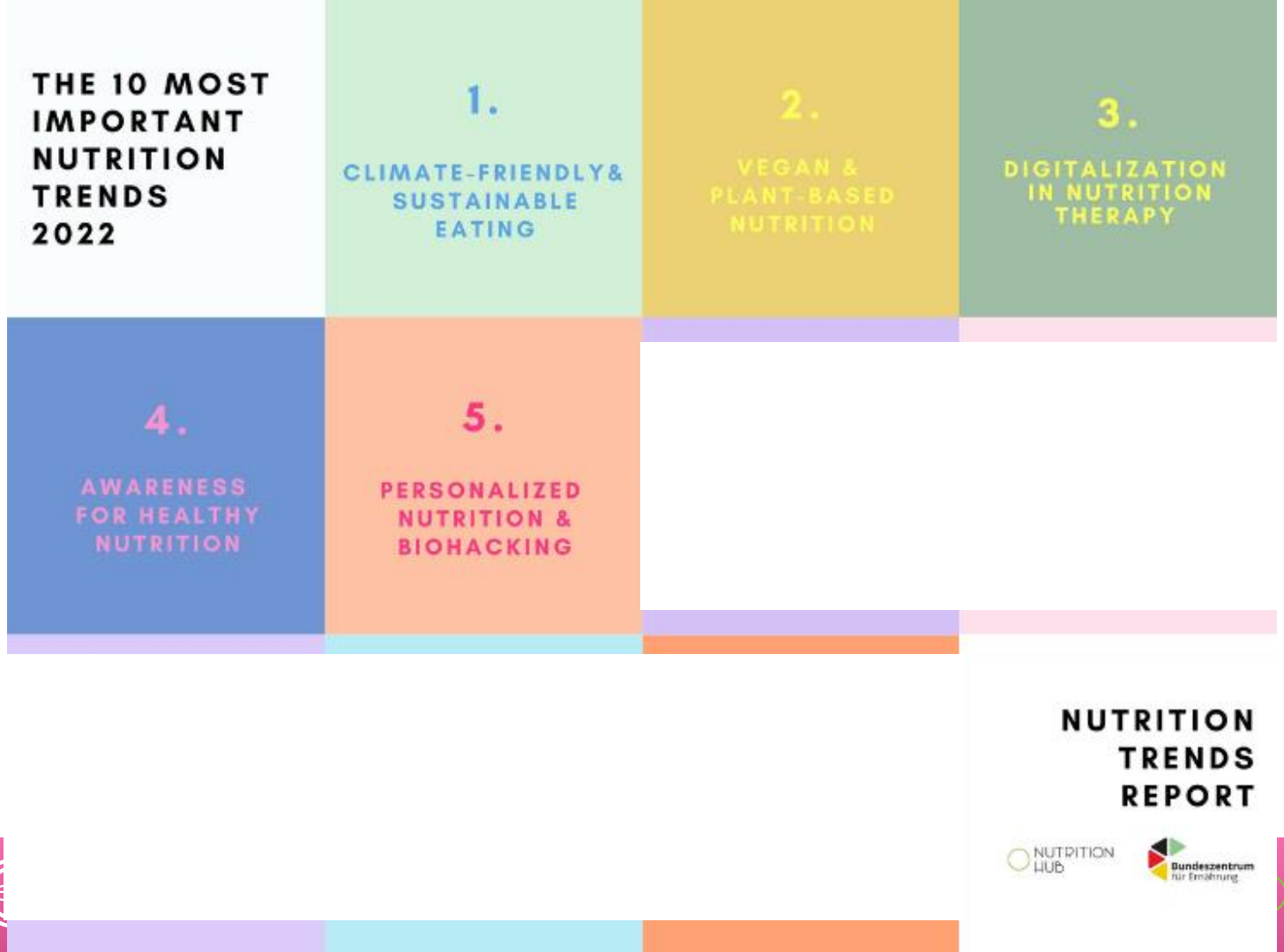
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PLANTBASED ≠ VEGAN



https://eatforum.org/eat-lancet-commission/the-planetary-health-diet-and-you/

NUTRITION HUB


THE 10 MOST IMPORTANT NUTRITION TRENDS 2022
1.
CLIMATE-FRIENDLY& SUSTAINABLE EATING
2.
VEGAN & PLANT-BASED NUTRITION
3.
DIGITALIZATION IN NUTRITION THERAPY
4.
AWARENESS FOR HEALTHY NUTRITION
5.
PERSONALIZED NUTRITION & BIOHACKING
NUTRITION TRENDS REPORT
NUTRITION HUB
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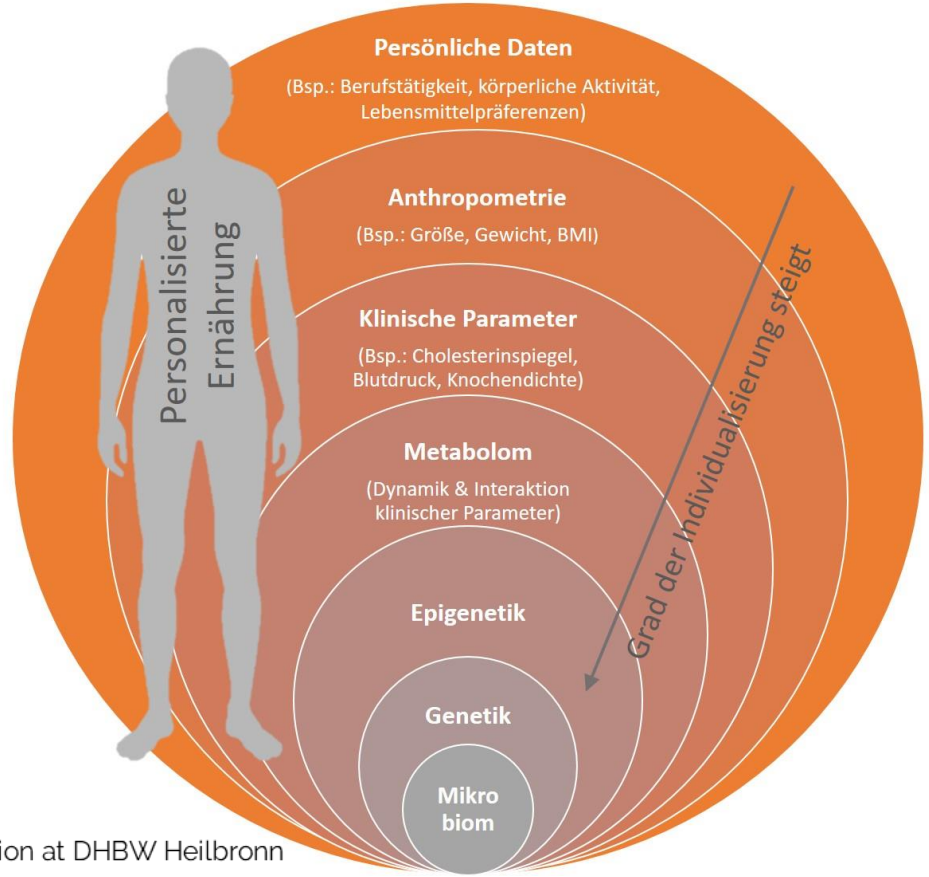
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PERSONALIZED NUTRITION

5

NUTRITION HUB36

DHBW
Duale Hochschule
Baden-Württemberg



© Research Group Personalized Nutrition at DHBW Heilbronn

How it works The Insider

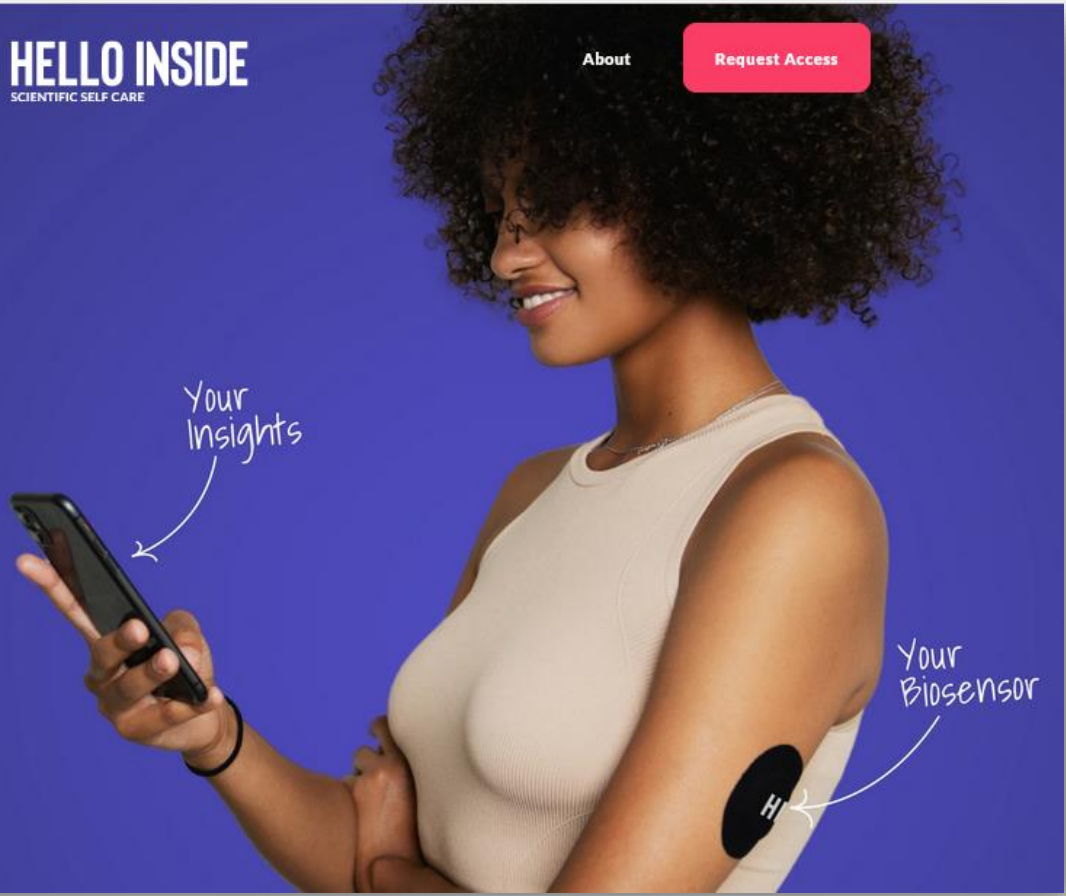
HELLO INSIDE
SCIENTIFIC SELF CARE

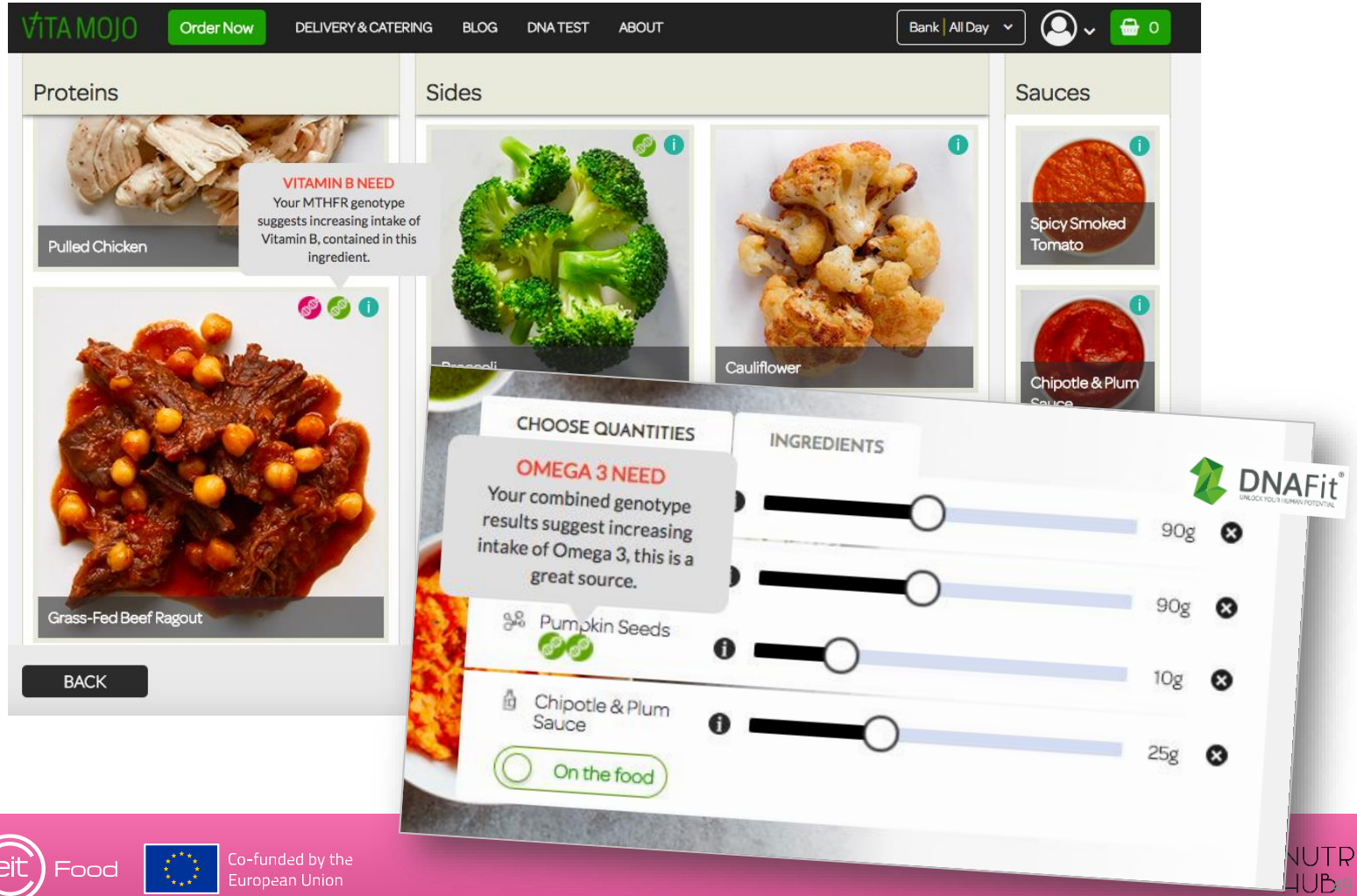
About Request Access

LOOK INSIDE UNLOCK YOUR BEST SELF

HELLO INSIDE gives you real-time access to your blood glucose, so you can take control of your body's primary source of energy.

Request Access





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THE 10 MOST IMPORTANT NUTRITION TRENDS 2022
1.
CLIMATE-FRIENDLY& SUSTAINABLE EATING
2.
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3.
DIGITALIZATION IN NUTRITION THERAPY
4.
AWARENESS FOR HEALTHY NUTRITION
5.
PERSONALIZED NUTRITION & BIOHACKING
6.
CONVENIENCE FOOD AND FOOD "TO-GO"
7.
GUT HEALTH AND PROBIOTICS
8.
FOOD MYTHS & FALSE INFORMATION
9.
WORKPLACE HEALTH PROMOTION
10.
NUTRITION EDUCATION IN KINDERGARTEN AND SCHOOLS
NUTRITION TRENDS REPORT
NUTRITION HUB
Bundeszentrum für Ernährung

CHANGE MAKER OR FOLLOWER?



TECH ENTHUSIASTS (3%)



VISIONARIES (14%)



PRAGMATISTS (34%)



CONSERVATIVES (34%)



SKEPTICS (16%)

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WWW.NUTRITION-HUB.COM



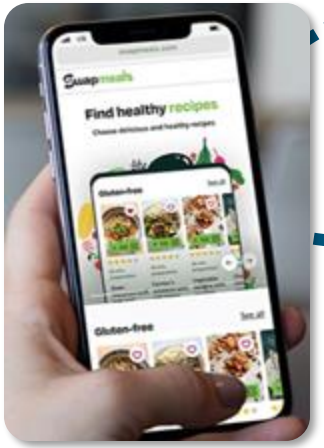
Jochem Bossenbroek

Co-founder and CEO, Verdify


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European Union
Enabling better
food choices
For personal and planetary health
VERDIFY

VERDIFY

Actionable meal inspiration adapted to personal and planetary needs







Fully personalised meals for the toughest nutritional challenges



Personal nutrition profile



Personalised meal inspiration



coop ocado Iceland PLUS PLANET ORGANIC

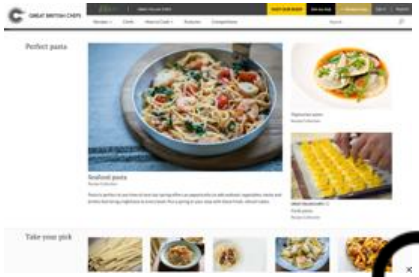
Inspiring millions towards better food choices

Together with our partners

GREAT BRITISH CHEFS

swapmeals











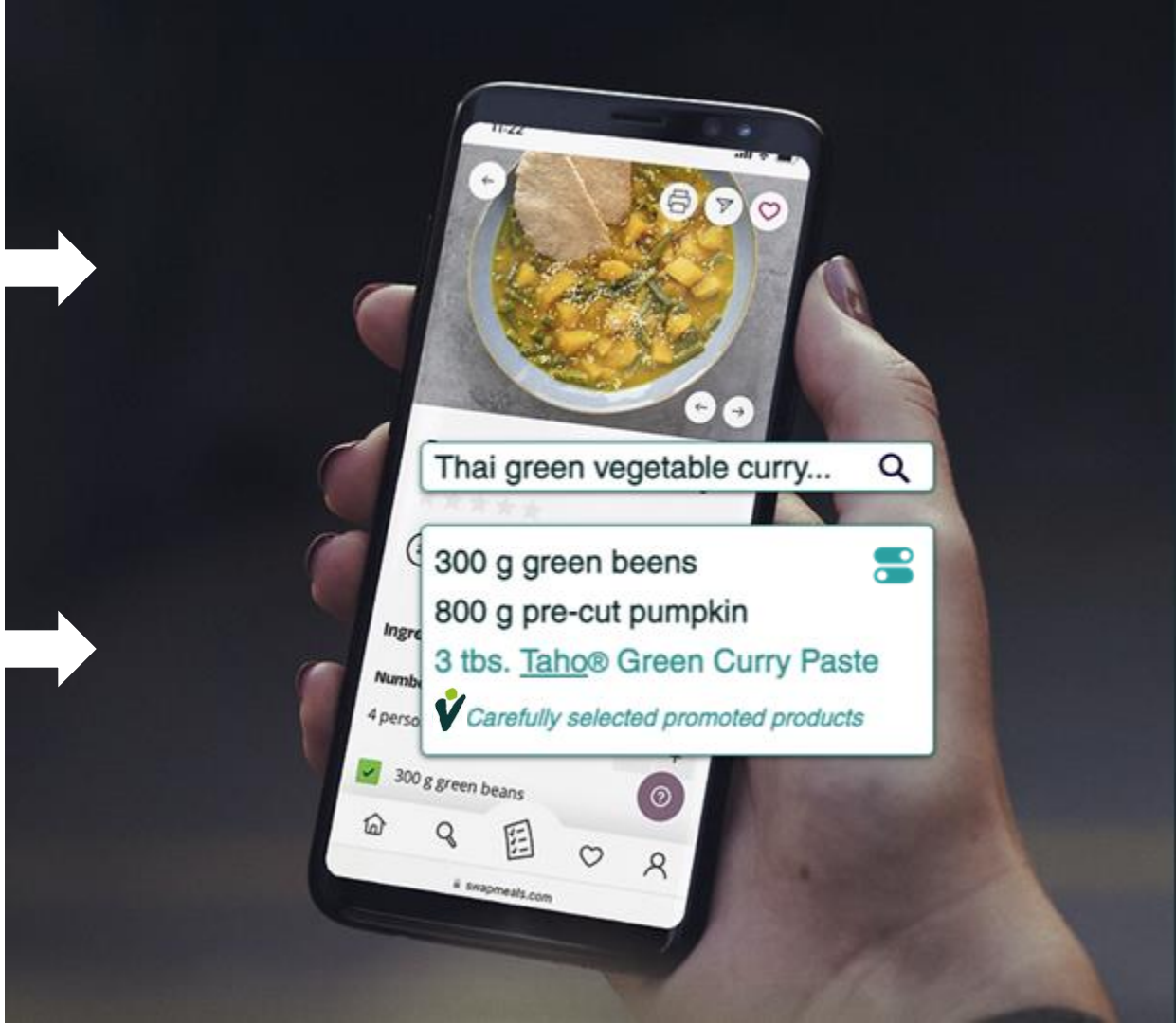
GREAT ITALIAN CHEFS

Confidential – Verdify 2021

Inspiring people on using future-fit food in popular recipes

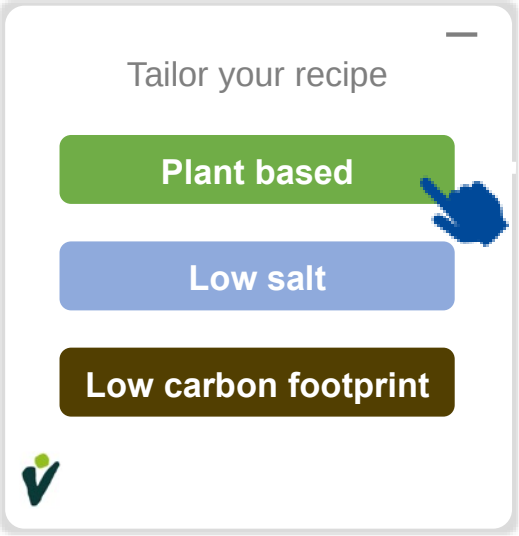
Nutrition check

Eco check



VERDIFY

Enabling consumers to tailor recipes in a click





Award winning concept in Carrefour's plant based challenge 2022



Enabling people to make better food choices



International: ***www.verdify.co.uk***

B2B: ***www.verdify-solutions.com***

E-mail: ***jochem@verdifood.com***

EUR 3M capital raised to date | Proprietary tech | Currently scaling

INVESTNL

proud member of eit Food RisingFoodStars

Foodvalley Member

Brightlands Venture Partners

BRAVE NEW FOOD