2025

A YEAR OF INSIGHTS IN FOODTECH BY PEAKBRIDGE

ANNUAL BOOK OF INSIGHTS

BY PEAKBRIDGE

Over the past year, supply chain disruptions sent coffee and cocoa to historic price highs, the U.S. moved to ban artificial additives, and over 2 billion people faced moderate to severe food insecurity, all while around a trillion dollars worth of edible food was wasted. These aren't isolated events - they're symptoms of a food system that no longer meets modern needs.

Within these challenges lies extraordinary opportunity for those who understand that the future of food will be defined not by hope or hype, but by scalable technologies that solve real-world problems. At PeakBridge, with our team of veteran food industry experts, operators, and financiers, we've spent years mapping that intersection across the food value chain.

This fourth annual Book of Insights spotlights some of our thinking on the forces reshaping how we produce, process, and consume food. We explore technologies creating new pathways to better nutrition and lower healthcare costs; why functional mushrooms represent a unique category at the crossroads of food and health, and how premium markets can serve as powerful laboratories for breakthrough science. Plus, candid insights from industry leaders on what’s working and what needs to change, from building trust in food science to building bridges between food giants and bold entrepreneurs.

Enjoy reading!
The PeakBridge team

ABOUT US

Bridging the gap between **bold innovation** and **real-world needs**,
to transform the future of food.

MISSION

Our mission is to address **long-term environmental and health challenges** by investing in high performing, **tech-driven startups**. Run by an expert 10-person team, today PeakBridge has a portfolio of **36 companies** with **$260M** AuM.

2024 Impact	Value Creation	Tech-driven Strategy
2.3 million KGs food saved	Business development	Scalable, proprietary, B2B
1,261 tons plastic saved	Mentoring	Nutrition & Health
12,718 MT CO2e avoided	Governance	Digitalization
981,526 M3 water use avoided	Fundraising	Alt. protein
49 jobs created	Sustainability	Ingredients
	High-level network	Alt. farming systems

FUND IN INVESTMENT STAGE*

	Growth II
Stage	Series A-B
Geographies	Primarily EU, IL, US
Ticket size	€3-5m
SDFR	Article 9

*Growth I Fund (Newtrition) is fully deployed
*Seed I (FoodSparks®) is now in divestment phase

PEAKBRIDGE

ABOUT US

Our investment focus is driven by specific, real-world pain points we've identified along the AgriFood value chain. That means companies with scalable, proprietary technology and demonstrated long-term positive impact on food systems, the environment, and our health.

We invest across 5 targeted sectors we have identified as high impact, with rapid scaling capacity:

Nutrition & Health

1

Improving nutritional decisions, consumer health and wellness through products or services with proven health benefits.

Digitalization & Food System 4.0

2

Transforming the post-harvest supply chain, from industry traceability, safety, manufacturing and retail, to consumer data & applications.

Alternative Protein Technologies

3

Sustainable alternatives to animal proteins focusing on technological enablers or technologically-differentiated products.

Ingredient Innovations

4

Improved ingredients solving challenges such as supply, quality, cost, nutrition, impact and regulation.

Alternative Farming Systems

5

Reinventing production of food sources, by altering growing systems for non-crop sources, or for existing crops.

PEAKBRIDGE

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For all references and further reading, please visit our website at: www.peakbridge.vc/blog/

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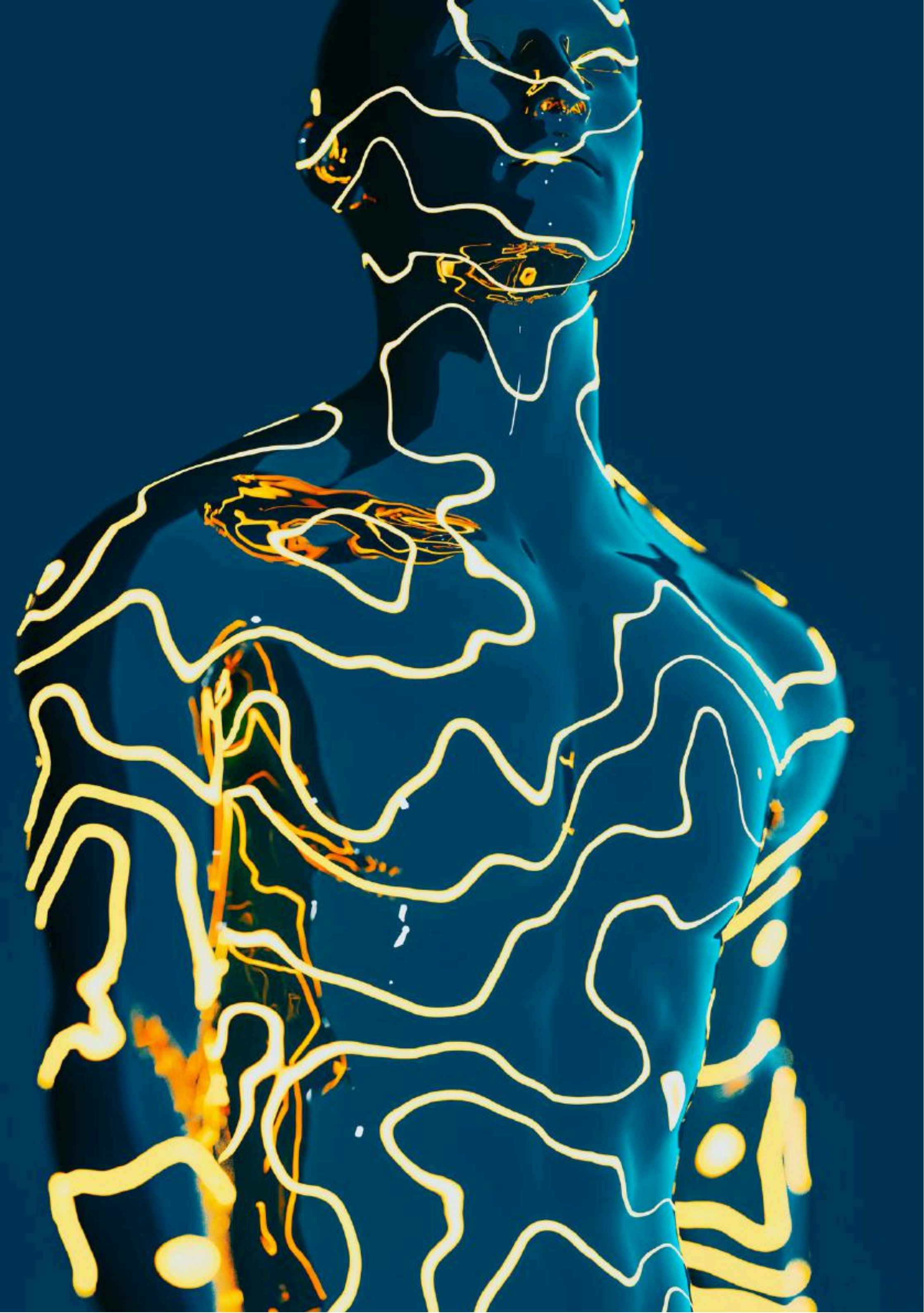


THE NEXT HEALTH REVOLUTION: INVESTING AT THE CROSSROADS OF NUTRITION & TECHNOLOGY

by Gali Artzi, PhD, Eva Everloo, MSc and Anđela Martinović, PhD

EXECUTIVE SUMMARY

Healthcare systems worldwide are cracking under the pressure. A projected shortage of at least 10 million workers by 2030, costs spiraling upward, and a mounting burden of chronic conditions. The primary driver: noncommunicable diseases like cardiovascular disease, cancer, chronic respiratory diseases and diabetes – on the rise around the world, in part due to globalization, urbanization and lifestyle changes. **The trend is clear: unprecedented demand from both consumers and governments for preventative, cost-effective solutions that promote resilience and reduce susceptibility to disease.** So where do we go from here? **This global health crisis is also a significant opportunity to innovate and invest, at the intersection of nutrition and technology.** Two sectors lead the charge: **nutraceuticals** – ingredients like herbal extracts, vitamins, and food-derived compounds that may support overall health and wellness – and **digital health**, software-based interventions leveraging AI, biosensors, and remote monitoring to deliver personalized healthcare.

Together, they represent over $700 billion in estimated current market value, with nutraceuticals set to grow from $418 billion to $571 billion by 2029 and digital health projected to jump from $288 billion to $946 billion by 2030. But beyond market size, these solutions deliver where it matters most: cost-effectiveness that can fundamentally reshape healthcare economics while improving patient outcomes. **Innovators who successfully navigate clinical validation and regulatory complexity can both make substantial impact on global health, and capture outsized returns.**

A LAY OF THE LAND: NUTRACEUTICALS AND DIGITAL HEALTH

Nutraceuticals broadly encompass isolated nutrients (like vitamins, minerals and plant extracts), dietary supplements and functional foods and beverages to support health and potentially reduce risk factors for chronic disease (while not intended to diagnose, treat, cure, or prevent any disease). They can be used standalone or as ingredients within supplements, fortified foods, and medical nutrition.

NUTRACEUTICALS AT A GLANCE

Dietary supplements	Supplements that provide concentrated nutrients like vitamins, minerals, amino acids, or botanical extracts to support overall health. These products are regulated differently from pharmaceuticals, often allowing faster market entry but requiring careful navigation of health claim regulations.
Functional foods	Everyday foods enriched or fortified with bioactive ingredients to deliver specific health benefits beyond basic nutrition. Unlike supplements, these integrate health benefits into familiar food formats, with vitamin and mineral enrichment making up the largest share of the category.
Medical foods	Specially formulated products designed to meet the unique nutritional needs of people with particular diseases or conditions, and must be used under healthcare supervision. They're a bridge between conventional nutrition and therapeutic interventions, offering targeted dietary management under medical supervision.

DIGITAL HEALTH: SCALABLE SOFTWARE AS MEDICINE

Digital health is already transforming traditional healthcare models – enhancing patient engagement, improving adherence, and providing targeted support for chronic diseases and behavioral health conditions. The sector leverages advanced technologies like artificial intelligence (AI), large language models (LLMs), biosensors, and remote monitoring to deliver scalable and personalized healthcare interventions, empowering people to become active participants in their own health. Solutions are designed and validated through clinical trials, but offer unique advantages over static pharmaceutical interventions, evolving with patients and providing continuous support. Regular user engagement, with gamification, software updates, intuitive interfaces, and live support all help drive long-term adherence and effectiveness. Areas most relevant to PeakBridge's scope include:

DIGITAL HEALTH SECTORS IN FOCUS

Digital therapeutics (DTx)	Clinically validated software-based interventions for specific diseases, often adjunct or alternative to drug therapies
Digital companions for nutraceutical & pharmaceutical compliance	Personalized apps to guide and monitor supplement or medication adherence
Non-medical consumer health platforms	Tools supporting wellness domains like stress, sleep, physical activity, and nutrition
Remote diagnostics and continuous monitoring	Integration of wearables or home-testing kits with digital platforms to track biomarkers or physiological signals
Precision nutrition platforms	AI and user data (e.g., microbiome, blood glucose, wearables) to offer individualized dietary recommendations
Behavioral coaching and habit formation apps	Digital tools combining psychological frameworks with personalized nudges to support long-term behavior change

A MARKET ON THE RISE

Fueling growth across both sectors is rising consumer demand for scientifically validated health ingredients and a growing interest in preventative healthcare. The COVID-19 pandemic sparked a significant shift in purchasing behavior, sharpening focus on immunity-supporting products and personalized nutrition. **In numbers – the $418 billion-dollar global nutraceutical market is expected to hit $571.3 billion by 2029; digital health has also experienced remarkable growth, with a global market estimated at $288 billion in 2024, projected to hit $946 billion by 2030.**

BETTER HEALTH, LOWER COSTS

As always, cost effectiveness is ultimately key, and on that front both sectors deliver. With continued research and thoughtful integration, nutraceuticals may support overall health and wellness, contributing to healthier lifestyles and potentially reducing risk factors linked to chronic conditions like heart disease, cancer, Alzheimer's, and cognitive decline. Take for example plant sterols or stanols, a plant-based nutraceutical. **The European Food Safety Authority found a daily intake of 1.5 – 2.4 grams can lower LDL cholesterol by 7-10.5%, within just two or three weeks. Another European study looked at adults with high cholesterol, concluding that a similar daily intake of plant sterols alone would cut related hospitalizations – and some €5.3 billion a year in healthcare costs.**

Likewise digital health solutions are tailored to improve health outcomes at a lower cost, often addressing gaps in traditional care models. With high scalability at minimal cost, these solutions can reduce hospitalizations and ease pressure on healthcare systems. **An IQVIA study points to potential annual savings of $7 billion by applying DTx (digital therapeutics) in five patient populations.**

They also make economic sense for companies, who can leverage modular, cloud-based infrastructure to rapidly scale DTx solutions, often with initial investments below $5 million. Certain precision nutrition and health platforms have also shown good ROI for payers, leading to more integration into employer health plans and national reimbursement frameworks – a strong basis for startups to scale.

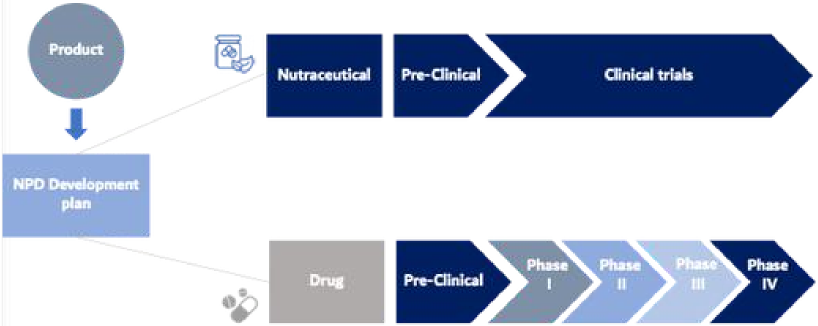
Bottom line: The growing burden of chronic conditions, spiking healthcare costs, and labor shortages simply aren't sustainable. Coupled with a consumer push towards preventative healthcare, solutions are needed now. Nutraceuticals and digital health address all fronts, with improved health outcomes that are also cost effective.

PROVE IT: PATHS & HURDLES IN CLINICAL VALIDATION

These sectors are, of course, all about our health – and that means clinical validation plays a pivotal role in go-to-market strategy. Unlike pharmaceuticals requiring strict regulatory approvals, nutraceuticals often bypass formal pathways, enabling faster market entry. Still, requirements vary by country, product composition, intended claims, and the manufacturer's objectives.

Nutraceuticals face unique challenges: Unlike pharmaceuticals that target specific conditions, nutrients have complex systemic effects that are tough to capture. Inconsistent product composition can cause problems in standardization, and defining control groups can be tough since nutraceuticals often have multiple physiological effects that can't be easily mimicked. Another element to watch for is the widespread use of "borrowed science," wherein companies support product claims based on studies of individual ingredients, even when the final formulation differs in dosage, combination, or bioavailability. It's an approach that may expedite commercialization but doesn't guarantee the same efficacy or safety in the real world.

Many supplements on the market also rely on preclinical evidence limited to animal models, instead of full-scale clinical validation. This may likewise cut costs and shorten timelines, but risks consumer harm, legal consequences, and reputational damage in the long run.



Source: Dietary Supplement-to-Drug Strategy

Digital Health encounters different issues: Control group design is complex since these interventions include engagement and behavioral components that are difficult to replicate in placebos. Plus, user engagement and adherence depend on interface usability, motivation levels, and external distractions, creating variability in outcomes. Randomized control trials remain the gold standard but are far more complex, requiring researchers to systematically assess scientific robustness and real-world applicability. Traditional RCTs may not always be feasible, but demonstrating a measurable clinical impact is key for market credibility.

To keep innovation moving despite those challenges, some countries have already taken the lead with new frameworks. Germany's DiGA requires at least one comparative study demonstrating healthcare benefits; the UK's NICE Evidence Standards Framework classifies DTx into tiers, with higher-risk products requiring strong observational or quasi-experimental studies. Belgium's M3 Validation Pyramid requires DTx to demonstrate both clinical and socioeconomic benefits to be eligible for reimbursement.

NAVIGATING REGULATION TO MASTER THE MARKET

Complex (and changing) regulation represents both the biggest hurdle and the strongest moat for companies in nutraceuticals and digital health. Startups must navigate the ambiguity, geopolitical shifts, and compliance hurdles to achieve sustainable growth; and understanding the frameworks is essential for investors evaluating market entry timelines, competitive positioning, and scalability. **In the U.S., unprecedented tariffs and ensuing global trade reviews are disrupting global supply chains.** An aggressive deregulation agenda seeks to streamline federal processes, including within the FDA, though along with it have come new uncertainties about regulatory guidance and maintaining oversight. Yet there are signs of increasing mainstream acceptance: the FDA has approved over 40 DTx products, and the U.S. is expanding telehealth reimbursement codes to support broader adoption. **The European approach under EFSA has been more gradual.** With a focus on modernizing risk assessment processes and increasing stakeholder engagement, the aim is to both drive innovation and uphold strict safety and scientific standards.

Drilling down further, each sector has its own nuances to know:

Nutraceuticals enjoy faster market entry but face ongoing compliance challenges. Unlike pharmaceuticals, they often bypass formal approval pathways, enabling quicker commercialization. This does come with trade-offs: Europe's EFSA for example lacks clear distinction between food supplements and nutraceuticals in health claim assessments, making compliance and market positioning a challenge since each region may treat the same product differently. There are also hurdles in proving efficacy in healthy populations, and quality control issues from raw material sourcing that can trigger costly recalls. Medical foods are subject to more rigorous scientific and regulatory requirements with longer development timelines. They must demonstrate efficacy in managing specific diseases under physician supervision and are governed by distinct regulatory frameworks.

Digital health solutions vary widely when it comes to regulation and go-to-market strategy. Non-medical platforms that don't make disease treatment claims, such as those improving access to nutritious food or specialized services like lifestyle coaching, can typically avoid FDA or CE approval and instead focus on HIPAA/GDPR compliance. These platforms can still demonstrate real-world impact (e.g, improved food access and reduced care costs), which may help gain traction with payers and providers to allow faster and wider deployment.

DTx that do make explicit treatment claims are a different story. They must navigate stringent medical device regulations and require robust clinical validation and compliance with evolving standards. Once those hurdles are overcome, startups enjoy stronger defensibility, trust from payers, and long-term integration potential. Ultimately, a company's strategy must factor in regulatory timelines, go-to-market speed, and desired payer integration.

MARKET ENTRY AND REIMBURSEMENT

Achieving clinical validation and regulatory approval are the first steps, but market adoption and reimbursement help define long-term success. Market adoption timelines vary by model: B2B approaches require negotiations with corporate partners (several months to a year for nutraceuticals) or healthcare providers and insurers (ranging from 1-3 years for digital health solutions, especially DTx). B2C models require consumer marketing, awareness building, and regulatory claim substantiation (up to 1 year for traction). Then there's reimbursement, which remains challenging (but key) for digital health companies:

- **DTx: For the EU, Germany's DiGA process is considered the gold standard.** But securing a permanent listing takes over 2 years in most cases, requiring extensive evidence generation, pricing negotiations, and compliance updates. Once reimbursement is in place, companies can focus on scaling operations and growing revenue. Factors influencing success include pricing models (subscription-based, transaction-based), market size, competition, and sustained compliance. **The U.S. is a different case, with reimbursement for digital therapeutics fragmented and lacking a centralized pathway.** Coverage depends on individual negotiations with commercial payers, Medicaid, or self-insured employers. Success relies on strong clinical and economic evidence, creative contracting, and navigating benefit structures.

- **Non-medical digital platforms:** These typically fall outside formal reimbursement frameworks in both Europe and the U.S. Many platforms instead pursue alternative go-to-market strategies, including partnerships with private insurers, employers, or regional health systems. In the U.S., adoption is often via Medicaid plans, self-insured employers, or managed care organizations. In both regions, uptake generally begins with regional pilots to demonstrate user engagement, cost savings (like reduced ER visits), and health-related outcomes. This route avoids some regulatory burdens, but does require robust real-world evidence, alignment with care delivery workflows, and close payer collaboration to scale effectively.

Bottom line: *Companies with clinical validation and strong regulatory strategies stand out in crowded markets. Those that achieve reimbursement (particularly in multiple markets) command premium valuations and sustainable competitive advantages. In both sectors, early regulatory wins often predict long-term market success; interested investors should identify startups that treat regulatory strategy as a core competency, not an afterthought.*

Innovation and investment across both sectors are ramping up to meet the need. **Nutraceuticals saw 960+ funded companies raise $9.53 billion in 2024, with digital health startups securing $10.1 billion across 497 deals.** Multiple catalysts are behind the surge: rising health consciousness post-COVID, demand for personalized solutions, and new technologies enabling better patient outcomes. Europe's evolving regulatory frameworks – particularly Germany's DiGA pathway – is also attracting capital to digital health, with European early-stage investments now rivaling U.S. levels.

Several deals reflect strategic consolidation in addition to growing investor interest. Notable exits, IPOs and acquisitions in nutraceuticals over the past five years have involved heavyweights like DSM-Firmenich, Nestlé Health Science, ADM, Kerry Group, and Balchem, as well as PE funds – a dynamic environment where established brands and new entrants are driving innovation and competitive consolidation. Take Turnspire Capital Partners' 2024 acquisition of Ashland Inc's nutraceuticals business, and this year, private equity firm Astorg's majority stake in Solabia Group, a provider of biotech ingredient solutions. Other deals of note in 2025 include two major IMCD acquisitions: TECOM Ingredients, targeting specialty wellness and nutraceutical ingredients, and Ferrer Alimentación, a major boost to its share of nutraceutical distribution.

Digital health has also seen a number of big-name, big-ticket deals.
Among them is Omada Health, an AI-powered virtual chronic-care platform, earlier this year raising $150 million in its IPO at a $1.3 billion valuation. Major funding rounds include Glooko, a developer of a remote patient-monitoring platform, with a $100 million Series F in late 2024; health tech company Huma's $80 million round in 2024 led by Hitachi Ventures, AstraZeneca, and Bayer, and a $70 million check with a unicorn valuation for Nourish, a virtual, insurance-covered nutrition counseling startup.

INNOVATION TRENDS RESHAPING THE SPACE

Personalized Nutrition & AI Integration	Personalized nutraceutical formulations based on genetic, microbiome, and lifestyle data. AI and machine learning tools analyze consumer data, predict nutrient deficiencies, and recommend tailored dietary interventions.
Hybrid Solutions	Companies combine nutraceutical ingredients with digital health platforms, to create integrated wellness solutions providing both product benefits and digital engagement through subscription-based models with personalized nutrition plans.
Clinical Validation & Evidence Generation	Innovative trial designs, including N-of-1 studies and real-world evidence collection, validate nutraceutical efficacy. For DTx, startups increasingly focus on generating robust clinical data to meet evolving regulatory requirements and secure reimbursement.

THE PEAKBRIDGE PORTFOLIO: ADVANCING FOOD & TECHNOLOGY AS HEALTH

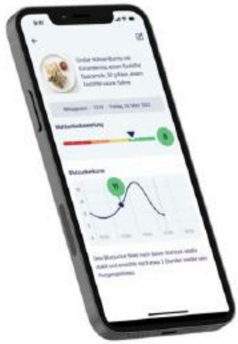
With growing demand from payers, corporates, and consumers for scalable, preventative solutions, we see this space as a high-impact, undercapitalized opportunity aligned with PeakBridge's food-as-health thesis. Even more so as the ROI of these solutions becomes increasingly evident: clinical health offers a measurable, cost-effective way to address massive unmet needs in global health, particularly in chronic disease.

PeakBridge backs startups that pair scientific and clinical rigor with commercial scalability; companies that bridge the gap between healthcare needs, technology, and strategic go-to-market execution, including regulatory and reimbursement pathways. **As early regulatory clarity emerges (e.g. DiGA and PECAN in Europe), we see increasing opportunities to invest in companies not only backed by strong science, but also structurally positioned for long-term payer integration and scale.**

una HEALTH

REVOLUTIONIZING TYPE 2 DIABETES CARE

Una Health is at the forefront of transformative Type 2 diabetes management, by integrating digital therapeutics with personalized care. The company's approach leverages advanced biosensor technology and AI alongside comprehensive lifestyle and nutritional guidance. A key milestone is the recent inclusion of the Una Health smartphone app in Germany's DiGA directory by BfArM, positioning it as the first prescription-based digital intervention in Germany to offer holistic treatment.



InsideTracker

COMPLETE PERSONAL HEALTH ANALYTICS & DATA-DRIVEN WELLNESS GUIDE

Created by experts in aging and genetics from Harvard, Tufts, and MIT, InsideTracker provides a personal health analysis and data-driven wellness guide, designed to help you live healthier, longer. By analyzing your blood, DNA, and physiological biomarkers, InsideTracker provides an objective health assessment along with a custom set of actionable recommendations and insights for your nutrition, supplements, exercise, and lifestyle. Integrated within an intuitive mobile app, InsideTracker reveals your personalized path to improving your health and longevity from the inside out.

EMN
Enhanced Medical Nutrition

REDEFINING RECOVERY WITH FOOD-AS-MEDICINE

EMN is a transformative food-as-medicine company with a mission to improve outcomes in surgery and critical care through optimized nutrition. By developing evidence-based medical food products, EMN empowers patients to prepare better and recover faster from surgery and critical illness. Their solutions, recommended by leading surgeons and dietitians, deliver high-impact, low-risk interventions that enhance clinical outcomes, reduce healthcare costs, and promote overall recovery.

EVINATURE

SCIENCE-FIRST NUTRACEUTICALS TACKLING UNMET NEEDS

Evinature is a science-first nutraceutical company tackling unmet needs in gastrointestinal health - starting with Inflammatory Bowel Disease (IBD). Their flagship product, CurQD, combines botanical wisdom with clinical rigor, and is already integrated into 40+ leading U.S. medical centers. The results are backed by various studies, including a randomized controlled trial - the golden standard in clinical validation. In a $21B market underserved by conventional treatment, Evinature brings an effective, science-backed, and scalable alternative into the mainstream that has already treated over 13,000 patients in the U.S.

ADVANCING PERSONALIZED NUTRITION THROUGH INNOVATIVE PREBIOTICS

Myota redefines gut health with patented prebiotic formulations developed from nearly a decade of MIT research – the first to account for microbiome variability. Recent studies highlight efficacy in enhancing blood sugar response and insulin sensitivity, reducing inflammation and IBS-related symptoms, and alleviating stress and anxiety. The company's collaboration with NHS for clinical trials validates clinical impact and paves the way for broader adoption in global healthcare markets, reflecting strong alignment with current trends in the nutraceutical landscape.

THE TAKEAWAYS

The convergence of nutrition and technology represents a compelling investment opportunity: fueling it is a perfect storm of urgent global health needs, consumer demand, technological innovation, and emerging regulatory clarity. Crucially, these innovations can drive significant economic outcomes – reducing the burden of chronic disease, lowering healthcare costs, and enabling broader access to affordable, preventative solutions.

Companies successfully navigating hurdles like clinical validation and regulation can capture outsized returns in markets experiencing unprecedented growth. Key success factors include strong clinical backing demonstrating functionality beyond existing solutions, strategic navigation of regulations to create competitive moats, scalable technology platforms enabling rapid expansion, and clear reimbursement pathways for sustainable revenue models. **Together, the nutraceutical and digital health sectors are shaping a more scalable, data-driven, and accessible future for healthcare, creating significant opportunities for investors positioned at this critical intersection.**

ENDING THE CHEMICAL ROMANCE

The U.S. administration wants artificial additives cut out, and so do a growing number of global consumers. What needs to happen to make it work?

By Nurit Ben

It's a shift ramping up resources and attention across the food industry: the U.S. signaling the end of the heyday of additives that for decades have defined American food. In an April 2025 press conference with the FDA, Secretary of Health and Human Services RFK Jr. announced the first target: artificial food dyes, with eight in particular set to be phased out by the end of 2026. Then, "one by one," he added, "we're going to get rid of every ingredient and additive in food that we can legally address."

In practice, there's a long way to go in understanding if and how these directives will actually work. Major cuts to the FDA workforce, a lack of a clear mandate for the food industry, and the complex nature of food production and operations all stand in the way. **Yet amid the uncertainty, one point is clear: the regulatory winds are blowing towards clean label.** And in many ways, global consumers are already there. As ex-Alpro CEO Sue Garfitt puts it, "people just don't want chemistry sets" on their food labels.

Food industry heavyweights are always hedging against potential crises, and likewise have been tracking and preparing for the health-forward consumer trend for years. But this U.S. move is turning that flame into a fire, with an influx of resources being put towards finding natural solutions that can hold up to real-world needs. **As a senior R&D figure at a major CPG puts it, "In my career I've never seen such a shift in resources. When you want to solve something at this scale of operation, you need to deploy a battalion."**

The combination of top-down regulation and bottom-up consumer demand creates a rare inflection point, with both challenges and opportunities. Why? Because talking about natural alternatives is one thing, but meeting the growing demand for them is something else – and here, FoodTech has a pivotal role to play.

THE RISE OF THE ADDITIVES

The [deeply flawed] global food system we have today is in many ways still a product of the post-WWII era. Industrialization for a fast-growing population took food production from local to global. Maximum calories across maximum distances. The rise of the modern grocery store. All of it meant systems and innovation geared towards ensuring longer shelf life and consistency. Enter the additives, quickly becoming a standard in mass-market foods. Their endurance turned out not to be just for shelf life – but for an entire market. By 2024 the global market for food additives was estimated at around $120 billion, with natural and synthetic flavors making up for upwards of $20 billion of that. Today over 3,000 different food additives are approved in the U.S., compared to about 300 in the EU.

So what exactly are they? In brief: ingredients that address a host of needs for the food and beverage industry – including maintaining or improving food safety, freshness, taste, texture, and appearance. Among them are preservatives, colorants, flavor enhancers, stabilizers, and emulsifiers. Broadly speaking, they have allowed manufacturers to meet consumer demand for diverse, affordable, and convenient options, while managing consistency, safety, and quality. And if cost and reliability are the goals, then artificial additives are the dream. Far cheaper than natural alternatives, with production in closed factories ensuring supply and consistency at scale.

The combination of top-down regulation and bottom-up consumer demand creates a rare inflection point. Why? Because talking *about natural alternatives is one thing, but meeting the growing demand for them is something else.*

OLD SYSTEM, NEW CONSUMERS

The system may be similar, but by now we've come a long way in consumer expectations. The numbers tell some of that story: A 2025 report shows nearly 3 in 4 global consumers reconsidering purchases based on ingredient lists. 79% of American consumers say they consider whether a product is processed before buying it. Online, too, people are watching, with upwards of 27 million posts about food additives on Tik Tok alone.

Despite the pushback, we're still consuming plenty – and what that means for our health is no longer a [complete] mystery. There are a number of challenges in the research, partly due to inconsistency in how ultra-processed foods (UFPs) are defined and categorized. **Yet studies do link them to obesity, cardiovascular diseases and diabetes, driven by refined ingredients. Additives like emulsifiers have been linked to gut inflammation. Artificial sweeteners can contribute to digestive disorders that weaken the gut's mucosal barrier, leading to low-grade inflammation. High consumption is associated with increased risk across multiple chronic diseases.** Then there's the addiction element: these are foods engineered to be hyper-palatable, (no) thanks to their high levels of sugar, fat, and salt. The more you eat, the more you want.

Finally, there's the environmental case. Production of synthetic colors and flavors can lead to contamination of soil and water (requiring waste treatment), and loss of biodiversity. And those artificial colors the U.S. is now singling out? Several are petroleum-derived, linked directly to fossil fuel supply chains.

GETTING PRACTICAL: THE HURDLES IN THE WAY

So ultra-processed foods are wreaking havoc on our health and environment, global consumers want to see cleaner labels, and now the world leader in additive manufacturing is pushing against them. But it's one thing to talk about these changes in our food, and entirely another to make them happen at scale. **Chairman of the PeakBridge Scientific Advisory Board Chris Thoen has spent over 35 years in R&D and innovation, from Procter & Gamble to Givaudan and Bühler. As he explains, there are several key hurdles to overcome.** "Switching from synthetic additives to natural alternatives – or eliminating them altogether – requires significant reformulation. You need to ensure the product maintains its intended taste, texture, and shelf life without compromising quality or safety. Not a simple task. Then there's cost, since natural ingredients tend to be more expensive than synthetic counterparts. Plus, you have uncertain supply chains. Sourcing natural ingredients in large quantities can be challenging due to limited availability and seasonal or yearly variability in supply."

F&B is a nearly $10 trillion industry, and no solutions can take flight long term without successfully scaling up. Doing so means understanding (and preparing for) the challenges:

- **Availability & sourcing:** Natural ingredients often rely on specific geographic regions and conditions for their ingredient supply. That can lead to sourcing challenges linked to everything from political instability to extreme weather, pests and natural disasters.

- **Economic realities:** Natural additives typically command 30-70% price premiums, with higher market volatility. Transitioning can require significant capital investment in specialized processing equipment, impacting margins during the critical scaling phase.

- **Performance Hurdles:** Natural alternatives often struggle to match synthetic stability profiles and functional consistency. Variability in biological raw materials demands robust quality systems, while formulation interactions require extensive R&D to maintain product integrity across shelf life.

- **Regulatory Complexity:** Navigating fragmented global regulations creates significant overhead, and compliance can require substantial scientific documentation and testing resources, with requirements constantly evolving.

NOW WHAT? WHERE TALK MEETS TECHNOLOGIES

As is often the case, where there are challenges, opportunities follow suit. **Food and beverage producers that successfully adapt to meet this consumer demand can increase both market share, consumer loyalty, differentiation, and align with broader sustainability and corporate responsibility goals.** Yet corporate giants aren't typically the ones spearheading ingredient innovation. Instead, Thoen says, "To accelerate the development of clean label solutions, F&B producers can partner with startups, research institutions, and technology companies specializing in natural ingredients or innovative food technologies." **Startups tackling these huge gaps should target the whole value chain: science, cost, scale up, distribution, functionality and regulation. A solid understanding of the food industry itself is also non-negotiable to success.**

When it comes to flavors, the PeakBridge portfolio includes a number of companies tackling the need. Take vanilla, arguably the world's most beloved flavor and a market that's 80% synthetic (with major supply chain challenges to natural supply). **With a vertically-integrated operation, Vanilla Vida is creating a stable supply of top-quality, natural vanilla – with 3-4 times the vanillin content of the market standard.**


Vanilla Vida

Reinventing savory meaty flavors is **The Mediterranean Food Lab (MFL). By drawing on solid-state fermentation tech and an AI-driven computational platform, they're creating flavors made of 100% real foods for a broad range of consumer staples, from plant-based dishes to soups, stews, casseroles and sauces.** MFL is ramping up production after achieving industrial scale last year, and as CEO Yair Yosefi says, 'big food' plays a crucial role. "Decision makers at food industry giants have significant power to speed up the shift to truly clean ingredients in our food, and they need to be willing to rock the boat. And with the direction consumers are heading, the first ones on the boat will be the winners."

Another case of science-backed FoodTech addressing the gap is **Myconeos, developing new natural colors, flavors and textures for cheese, vegan cheese and fermented meats.** They're doing it thanks to a breakthrough technology that allows fungal strains to cross naturally, something previously considered impossible.

In the quest for natural colorants, one technology to watch is precision fermentation. **Phytolon** engineers yeast strains to produce plant-based pigments that allow for consistency and scalability; **Michroma**'s platform draws on fungi's natural ability to produce pigments; **Debut Biotech**'s cell-free biomanufacturing platform produces plant compounds including colorants, and **Colorfix** uses engineered microorganisms to produce and fix pigments.

"Food industry giants have significant power to speed up the shift to truly clean ingredients in our food, and they need to be willing to rock the boat. And with the direction consumers are heading, the first ones on the boat will be the winners."

-MFL CEO Yair Yosefi

FUNDING & THE FUTURE

Managing Director of PeakBridge's seed fund Yoni Glickman spent years in the ingredients space as President of Natural Solutions at Frutarom and IFF. His take? **"The transition from synthetic additives to healthier, more sustainable natural ingredients has been ongoing for over two decades. Accelerating this process requires a combination of tailwinds from regulators, greater pressure from consumers and the fast deployment of new technologies ranging from solid state fermentation for flavor development, to precision fermentation for colors, and advanced growing and breeding systems for plants with more of the natural, useful chemicals we need as ingredients."**

Funding is of course also a crucial piece in allowing the tech to take off. As MFL's Yosefi notes, that's not always easy to pitch in this space. "Investors tend to prefer funding simple ideas, but once you venture into technology for natural ingredients, you're getting into solid state fermentation, AI, and more, which requires a more complex understanding. It's not always a one-liner." Glickman agrees, and notes the upside. "Investors unfamiliar with this space tend to stay away because it's indeed more complex than a plant-based brand. When talking about scaling up natural ingredients, you get into real tech, often biotech. **But it's worth it, as these businesses have very attractive margins and clear exit pathways – and the more funding we'll see of science-backed solutions, the more we'll be able to see real alternatives in our food on a global scale."**

Bottom line, the traditional food system built to keep products on shelves and travel long distances is no longer suited to modern needs. Whether in artificial flavors and colors in particular, or ultra-processed foods more broadly, the new U.S. government shift towards clean label is one more push for a food industry already feeling the heat from consumers. **The convergence of regulatory pressure, consumer demand and environmental factors is creating a new space – for innovators, investors, and a food industry tasked with changing its modus operandi.**

LUXURY AS A LABORATORY
How Premium Markets Can Advance Food Science

By Gali Artzi, PhD

The conversation around cultivated meat needs a reset. Cultivated meat and seafood are transformative solutions, with the potential to drastically cut environmental footprints, eliminate ethical concerns over animal welfare, improve food safety and enhance food security at a time when nations around the world are increasingly prioritizing it. Headlines often focus on the quest for price parity with conventional meat, but this misses a crucial insight: innovation in food technology, like many transformative technologies before it, may benefit from a strategic detour through premium markets.

THE INNOVATION PARADOX

Despite major scientific strides in cellular agriculture, commercialization remains the bottleneck. High R&D costs, intensive regulatory pathways, and capital-heavy infrastructure are all creating major challenges for startups. **As FoodTech investors and food industry experts, we've noted a problematic pattern: expectations for widespread affordability often race ahead of technological readiness.** Attempting to compete on price too early can lead to investor fatigue, disillusionment, and a loss of momentum. The result? By fixating on mass-market adoption too early, we risk stalling the very scientific progress needed to eventually hit that tipping point.

PREMIUM MARKETS AS SCIENTIFIC ACCELERATORS

A more effective approach leverages premium markets as laboratories for scaling scientific innovation. Premium consumers aren't just more tolerant of higher price points, but often seek sustainable alternatives to conventional luxury foods. Consider cultivated foie gras, a luxury product with ethical concerns. It's debuting as high-priced fine dining, but the underlying cell-cultivation technology can later be applied to more accessible fare: once production scales, the same cultured duck liver cells could enrich affordable pâtés, sausages or dumplings for everyday consumers. Then take cultivated eel, a solution for an endangered species that preserves a cherished culinary tradition. It too can evolve into mainstream formats, from fish fingers and fish balls to blended seafood products. **Early success with these kinds of offerings creates a halo effect and a technological springboard, allowing companies to expand into broader categories once costs fall in line with mass-market expectations.**

And let us not forget the bottom line. **Early premium launches bring in genuine revenue, creating a self-funding flywheel that pays for additional bioreactors, regulatory filings, and production runs.** Demonstrable traction at the top of the market also validates demand for investors, easing subsequent fundraising and accelerating capital build-out for scaling.

THE PREMIUM-FIRST PLAYBOOK

This trajectory mirrors the path of a number of other transformative technologies, from memory foam to electric cars. Tesla didn't begin with the affordable, but with the high-priced Roadster sports car aimed at affluent enthusiasts. The capital and prestige funded a series of progressively more accessible models, ending with a high-volume sedan making their advanced battery-electric technology available to the mainstream. In both cases, premium positioning enabled the scientific and manufacturing advances that made mass market adoption possible.

We're seeing this premium-first approach at work across FoodTech categories too. Take alternative coffee, where cell-based and beanless alternatives are entering through small-batch premium formats rather than competing directly with commodity coffee. Then there's chocolate, where cocoa-free formulations using precision fermentation are positioned as sustainable luxuries, not as cost-competitive replacements. Functional ingredients are another example, with novel bioactives derived from mushrooms, algae, and fermentation finding footholds in premium wellness products before moving to broader applications. In each case, these technologies generate revenue while refining processes and educating consumers. And those are preconditions for eventual scale.

THE INFLECTION POINT

So, when and how do we make the leap from premium to mainstream? **The answer should stem from a few key indicators: improvements in production efficiency that significantly reduce per-unit costs; finding the right, streamlined regulatory home to reduce compliance burdens, and consumer familiarity reaching critical mass.** In this case, a sort of strategic patience is needed. For cultivated meat, premium markets aren't a distraction from the mission of transforming food systems - they're an essential catalyst for it. The companies that will ultimately succeed in making cultivated foods widely accessible may well be those that first master production at premium price points. By embracing this "luxury as laboratory" approach, we can speed up scientific progress while building sustainable businesses that advance food technology toward its full transformative potential.

The future of food doesn't require us to choose between scientific advancement and commercial viability (just as we don't have to choose between impact and the bottom line). It does require us to sequence them intelligently, allowing premium markets to fund the journey to an accessible, sustainable food system.

PRESSURES & POSSIBILITIES: RETHINKING THE FUTURE OF COFFEE

It's one of the world's most highly traded commodities, and the only one with an entire culture built around it. High volatility and record-high prices. The forces behind the coffee headlines are here to stay – and smart innovation has to step in.

By Gali Artzi, PhD, Eva Everloo, MSc, Nurit Ben and Aaron Zanger

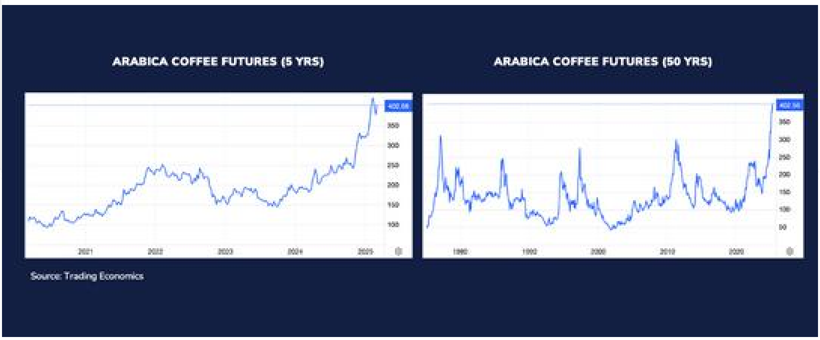
Commodities are top of mind, and topping headlines: Supply shortages. Record-high prices. Volatility. Yet not many global commodities have an entire culture built around them; a culture that varies, yet exists, in nearly every country around the world. A commodity that's a fixture in so many people's solitary moments and a purpose of gathering all on its own. How often have you offered a friend or acquaintance, *'let's meet for coffee?'*

It's one you could even argue plays a role in our persona: do you have a penchant for double espresso, instant coffee, or the Frappuccino? Noa Berger, an author and researcher in the sociology of coffee, notes it's not just the place coffee takes in our lives but the role we have as consumers. "With chocolate, you buy a bar, and you eat it and that's it. Or you buy a bottle of wine, and you open it and drink it. But in coffee, consumers are often involved in the preparation, whether in a cafe or through the act of making oneself coffee at home."

The coffee sector is today sandwiched between strong tension on supply and a pull from consumers. **Mike Hecker spent decades at Nespresso, from its earliest days: “You have two major things playing into the category,” he says. “Customer preferences and climate change – and they’re both going to lead to major changes in coffee.”** So what’s next for one of the world’s most beloved commodities? We mapped out the major disruptions and most promising solutions shaping the future of coffee, from crop and flavor innovation to deep-tech alternatives.

A SUPPLY CHAIN UNDER PRESSURE

Any conversation about coffee has to start with the reality the commodity is dealing with – and the forecast is not rosy. As we’ve witnessed with a number of other key commodities from wheat to cocoa and vanilla, the global supply chain is complex, vulnerable, and increasingly fragile. At play are a host of forces: Rising global temperatures and changing weather patterns are already straining the crop and could render over half of current coffee-growing regions unsuitable by 2050. Arabica coffee, which makes up about 60-75% of global coffee production, is particularly vulnerable to even slight changes in temperature. We’ve seen that play out in price of late, with wholesale coffee trading near a 50-year high.



Coffee also happens to be resource-intensive, consuming a stunning average of 140 liters of water per cup (and generating high carbon emissions in the process). Add to that diseases like coffee leaf rust: a fungus that has popped up around the world, with potential to slash yields by as much as 80%. And lest we forget geopolitical instability and rising labor costs, both of which are adding to price volatility.

For longtime coffee industry players, it's a fact of life. **"The cost of the commodity was always an issue and will remain an issue. And the volatility is increasing," says former CEO of Strauss Coffee, Tomer Harpaz.** "There's a huge gap between the volatility of the commodity and the consumer tolerance for it. To bridge that gap and manage that tension, there's a very sophisticated world of financial derivatives and hedging mechanisms. We had a whole expert team based in Switzerland of experts whose only job it was to manage the financials around coffee procurement globally and hedge our exposure."

CONSUMER TRENDS: THIS ISN'T YOUR MOTHER'S COFFEE.

Those forces above are enough to spark concern in the industry and a search for solutions – but that's not the whole story. Global consumption is holding strong, with coffee culture expanding to new frontiers: **China, Japan and India have all seen significant growth in coffee demand, fueled by urbanization and a growing middle class.** China's consumption alone has tripled over the past decade, alongside aggressive expansion of chains like Starbucks and its local competitor Luckin Coffee. With more consumers turning to coffee, what exactly do they want? Trends are pulling towards change, from environmental factors to a growing demand for built-in health benefits. On that front, let's unpack what's top of mind.

Health & Wellness

When we talk about consumer expectations, health and wellness are increasingly non-negotiable. Across food and beverage these factors are taking focus: **A recent McKinsey study notes no less than 82% of US consumers consider wellness a top or important priority in their everyday lives, with 87% in China and 73% in the UK reporting the same.** Drilling down into what we put into our bodies, a third of US consumers are prioritizing wellness in what they eat and drink, driving $638 billion in spending power – and coffee fits squarely in that space. In the US alone in 2022, 92% of coffee lovers stressed the importance of health benefits in their cup. Enter a slew of functional beverages gaining traction like mushroom coffee, targeting health benefits including improved cognition and focus.

Sustainability & Traceability

Consumers show a rising demand for ethical and eco-conscious products, prioritizing traceability and environmentally friendly farming practices. That's in an industry with a distinct lack of transparency and standardized tracking systems. **As Berger explains, "Traceability and transparency have been an intense preoccupation of coffee professionals for the last few years, trying to break down the price for consumers. But it's very hard to know the distribution of revenue from the coffee we consume, because it just goes through so many hands."**

Adding to the complexity is the fragmented production of our coffee: according to the nonprofit World Coffee Research, 60% of the world's coffee is produced by about 12.5 million people, largely on smallholder farms. What about the "fair trade" concept we've all come to recognize? **Hecker believes that's ultimately more of a label than a real benefit. "At the end of the day, do you see how much the farmer benefitted? No. You trust that they are."** On the environmental side, traditional coffee farming has negative impacts on biodiversity and carbon footprints, increasing the urgency for regenerative agriculture for everyone from farmers to traders, brands and retailers.

Convenience

Modern life has trained us to expect extreme convenience at every turn, and that certainly holds true for what we eat and drink. One in five consumers globally say they use convenience foods more than once a day. Not surprisingly the US remains a strong market for those, with developing countries like India and Indonesia showing surges in growth in the sector. **When it comes to convenience in our coffee, formats like ready-to-drink (RTD) and single-serve options dominate.** The RTD market is estimated to hit $5.7 billion this year, rising to $7.2 billion in the next five years, with flavors taking focus, and Gen Z leading the way.

New Generation, New Tastes

In many ways coffee reflects the era in which we drink it, with preferences shaped by cultural, economic, and technological influences. It's a generational product, and the young generation tends to have something quite different in their cup than their parents. Research from Coffee Business Intelligence maps out those evolving preferences, from baby boomers' drip coffee to millennials' penchant for specialty brews (high-quality, often sustainably sourced coffee), and Gen Z's love for the new and convenient.

GENERATION	DAILY COFFEE CONSUMPTION	PRIMARY MOTIVATION	PREFERRED COFFEE TYPE	KEY VALUE	NOTABLE TREND
BABY BOOMERS	70%	Functionality	Traditional drip coffee	Routine & familiarity	Home brewing
GEN X	64%	Quality	Espresso-based drinks	Balance	Balance of home and café consumption
MILLENNIALS	62%	Experience	Specialty coffee	Sustainability	Willingness to pay more for ethical sourcing
GEN Z	47%	Innovation	Flavored & RTD coffee	Uniqueness	Mobile app ordering

Source: Coffee Business Intelligence

THE STATE OF INNOVATION

With the potent combination of extreme weather events, a stressed supply chain, and shifting consumer tastes, a new phase of innovation in the coffee industry is not a matter of if, but when (and how). The potential is broad, extending from boosting resilience of the crop itself, to modernizing the value chain and adding new options to what's ultimately poured in our cup.

Tackling the Coffee Crop

Innovations in this space center on developing new Arabica varieties that are naturally or genetically resilient to heat, drought, and diseases like coffee leaf rust. Among the industry heavyweights investing in crop-level innovation include Starbucks, which has developed six climate-resistant coffee varietals and distributed over 90 million trees, and Nestlé, whose Nescafé Plan has distributed 250 million resilient coffee plantlets globally. Among the startups in the space are Amatera, developing new crop genetics aimed at creating climate-resistant coffee, both caffeinated and naturally caffeine-free.

Key Benefits: Preserves traditional coffee farming and farmer livelihoods and helps ensure long-term coffee supply in the face of climate challenges.

Rethinking Coffee Processing & Delivery

Taking on the processing stage are companies like Cometeer, using a flash freezing technique to preserve fresh brewing flavors in capsule form, minus the machine. In the decaf space where processing is industrial, resource intensive, and carries potential health risks, Caffree is aiming to use enzymatic technology to preserve quality and taste, while reducing operational complexity.

What about *where* we drink our coffee? **The home market is another area primed for change.** The household coffee machine market is expected to hit $13.6 billion this year and to reach upwards of $18 billion by 2030. Nespresso helped pave the way for the now prolific, designed home capsule machines – but who is their successor? A consumer turn towards sustainability has led to reusable and paper-based alternatives for single use aluminum pods, but it's not clear capsules are a lasting proposition.

Other potential routes include improving technology to democratize the fully automated, grinding coffee machine; technologies that bring roasting (traditionally preserved for roasteries and specialty cafes) to the home, and bean-to-cup automatic grinding machines with smart technology and IoT connectivity. Already on the home machine market are innovations like **nunc.**, a high-end, Bluetooth-connected home grinding and espresso drink system; and **SPINN**, an app-controlled machine for espresso-based drinks, using a centrifugal brewing process and integrated bean grinder.

Digitization, from farm to (home) table

AI is already starting to drive a profound shift in the food and beverage space, and the coffee industry is ripe for impact. How volatility is dealt with is one area that stands to be remade. Mattia d'Alessandro recalls his time managing this reality as Executive Vice President and CFO at Caffitaly. **"The value chain is quite complex because you're depending on the weather and the crop. So literally we're monitoring not just the weather forecast, but the expectations in terms of the crop in the various countries where most is produced, which is South America and Southeast Asia."** Predictive analytics for smarter hedging are one way forward, with an integrated digital platform to support research and analysis the coffee industry depends on. Mattia adds, **"I think whoever nails it first and in the right way will certainly have a competitive advantage. I believe that having something more sophisticated could help make better predictions and decisions, because it's a big commodity and you cannot really depend on the gut feeling of the people you're talking to."**

In what is a relatively opaque industry, tech for traceability, including blockchain and AI-powered sourcing, also represents a significant opportunity. That could be a blue chain to tell consumers where their coffee comes from, who the farmer is, and even give buyers an option to tip the farmer instead of a cafe. Companies like Farmer Connect and IBM Food Trust are already leading initiatives to enhance transparency in coffee supply chains, allowing consumers to trace coffee origins with greater accuracy. **It is however a tough space to crack, says Rabobank's Daniella Vellinga.** "The traceability aspect in the supply chain was definitely an area we thought had a lot of potential. The difficulty there is that it's also a pretty hard supply chain to grab, so we weren't yet convinced by any solutions we saw. But increasing transparency would hopefully make the supply chain more resilient, address the consumer push, and help meet EU regulations."

Finally on the fully consumer-facing side, digital innovation might include AI-powered smart coffee machines and personalized brewing apps, already active with companies like Filtru Coffee, an interactive app with augmented reality brew guides across a range of brewing methods.

"I think whoever nails it first and in the right way will certainly have a competitive advantage...it's a big commodity, and you cannot really depend on the gut feeling of the people you're talking to."

-Mattia d'Alessandro, Former Executive Vice President and CFO at Caffitaly

COFFEE ENHANCEMENTS & ALTERNATIVES

The global coffee substitute market was pegged at just over $14 billion in 2023, with a projected jump to $21 billion in 2032. Yet it's not just about swapping out coffee altogether: technologies are both enhancing traditional coffee and rethinking how to truly mimic it. Each tackles issues from sustainability and future supply to new flavors and health perks.

Molecular Coffee: Full-Sensory Replication Technology

In this category we find products that mimic the taste and ritual of traditional coffee, with some caffeine-free options. Coffee is 'recreated' by identifying and replicating the chemical compounds (e.g., aroma volatiles like thiols and pyrazines) responsible for coffee's taste, aroma, and caffeine. Compounds are sourced from non-coffee plant-based materials (carob, chicory, chickpea, rice hulls and others), food side streams, or synthesized chemically. It then involves proprietary processing methods of plant-based ingredients. Companies in the space include Atomo Coffee, which uses upcycled plant materials to recreate coffee, including some hybrid DTC options (50% beanless and 50% sustainably sourced Arabica). Voyage Foods is another, producing coffee by replicating its molecular components.

Key benefits: *Processes don't involve coffee farming and are high precision, allowing for tailored flavor profiles and caffeine content.*

Cellular Coffee

Here coffee is cultivated in bioreactors by growing coffee plant cells, instead of farming beans. Coffee cells are grown in a controlled environment, producing a product chemically identical to traditionally grown coffee. Among those active in this space are California Cultured, using plant-based cell culture technology; VTT Technical Research Centre of Finland, CAFÉx (Concept), exploring AI to optimize bioreactor coffee production, CoffeeSai, Stem, Another, and Food Brewer.

Yet there are some important caveats: it's a process that's capex intense and faces regulation. That means a longer path to commercialization, and a long way to go to reach price parity with traditional coffee.

Key Benefits: Cellular coffee avoids farming entirely, reducing deforestation and resource use. It also eliminates the need for arable land and is highly scalable in theory.

Fermentation-Derived Beverages

Biotechnologies using fungi are being used to mimic the full experience of coffee. Plant-based substrates or food waste are at the core: raw inputs (e.g., grains, legumes, or agricultural byproducts) are fermented with microbes to produce key aroma and flavor compounds found in coffee. Among those to watch are Compound Foods, which ferments low-water, low-carbon inputs to mimic coffee, Minus Coffee, using microbial fermentation to create sustainable alternatives, Northern Wonder, and Prefer. Companies are increasingly using techniques like the ancient Solid-State Fermentation, which allows for depth of flavor and an enhanced sensory experience, including aroma and in some cases even texture. Beyond replacing coffee altogether, fermentation can also be used to enhance traditional brews with select flavors. The startup MycoTechnology for example uses mushroom mycelial fermentation to modulate and amplify flavors for both traditional and alternative coffee.

Key Benefits: Fermentation-derived coffee utilizes upcycled inputs, reducing food waste, and boasts a lower carbon and water footprint.

Fortified Coffee & Functional Blends

Functional coffee is a multi-billion-dollar market on a growth trajectory outpacing traditional coffee. These solutions are tackling the increasing consumer demand to get more out of their morning cup: double-duty coffee that combines their daily ritual with added health benefits.

Star ingredients in include plant-based extracts and adaptogens – active ingredients in select plants and mushrooms that may help manage stress and rebalance the body (think ashwagandha and ginseng). Also popular are naturally occurring nootropics, compounds that can enhance cognitive function like lion's mane mushroom, L-theanine and ginko biloba. Yet it doesn't end there: entering the category is a continuous stream of new additives. Today's trend might be turmeric for inflammation or CBD for relaxation, tomorrow it could be a novel plant extract targeting immunity or sleep.

Fueling the trend are Millennials and Gen Z, who see coffee as a wellness beverage, are willing to pay for premium formulations, and are drawn to innovations that enhance focus, mood, digestion, and immunity. Who is vying for their attention? The functional coffee landscape is fragmented, with a mix of corporates and startups. Companies built around these ingredients include Rasa with their herbal coffee alternatives based on adaptogens and Vybey's 'Braincare Smart Focus,' a mushroom nootropic blend. Others adding them to coffee include Four Stigmatic, blending lion's mane and chaga mushrooms with organic ground coffee.

Key Benefits: Addresses the growing consumer expectation for health benefits as a built-in part of their coffee, or coffee alternative.

AT A GLANCE: ALT COFFEE STARTUPS TO WATCH

TECH	COMPANIES	STRENGTHS	WEAKNESSES
MOLECULAR	atomo, Voyage Foods	○ Customizable caffeine & flavor profile → tailored consumer products ○ No reliance on coffee beans → avoids supply chain risks	○ No price parity → limits mainstream affordability ○ Off-notes & lack of crema → less likely consumer adoption
FERMENTATION	Prefer, northern wonder, Minus, Compound Foods	○ Uses food waste & upcycled inputs → strong sustainability ○ Relatively low-cost inputs → high potential for price parity	○ Requires specific fermentation conditions → scale-up challenges ○ Variable taste between batches → inconsistent production
CELLULAR CULTIVATION	California, VTT, STEM, coffeesai, FB, ANOTHER	○ Real coffee compounds → closest to taste parity ○ Avoids climate dependency → most sustainable in the long-term	○ Expensive → production is far from price parity ○ Long regulatory process for lab-grown coffee → high barrier to commercialization
FUNCTIONAL	RASA, vybey, Four Sigmatic, Laird, Everyday Dose, Atlas+	○ Wellness appeal → balanced energy & cognitive function support ○ Premium positioning → unique ingredients allow for premium pricing & brand storytelling	○ Consumer acceptance → earthy or unfamiliar flavors may limit repeat purchases ○ Higher price → expensive premium ingredients ○ Efficacy → functional claims may face skepticism or regulatory challenges

STRUCTURAL CHALLENGES IN THE WAY OF INNOVATION

As is always the case, the path to innovation isn't all clear, and the coffee sector faces its own unique set of challenges. **The market for premium coffee brands is becoming saturated, making it tougher for brands to stand out without true innovation.** Companies that do succeed are focusing on local sourcing, unique brewing techniques, and functional benefits like added adaptogens or nootropics to appeal to health-conscious consumers. **Some alternative coffee also faces obstacles in regulation:** Lab-grown, fermented, and molecular coffee face long regulatory approval timelines, slowing their path to commercialization. **Startups in this space must meet (or exceed) expectations for taste, plus navigate complex food safety and labelling regulations, particularly in markets with stringent novel food laws like the EU.**

THE PEAKBRIDGE PERSPECTIVE: KEYS TO A WINNING STRATEGY

Balance Cost & Scalability

If taste is the barrier to entry, cost and scalability are the path to survival. Companies that can scale production while achieving price parity with premium traditional coffee (specialty or single-origin beans) will have a competitive edge. Deep tech approaches to alternative coffee remain significantly more expensive than traditional coffee due to production costs and production yield efficiency. In its current technology readiness level, cellular cultivated coffee in particular cannot be considered a viable path in the near-term. For those who do pursue this path, focusing on high-value coffee segments will allow for a premium that can subsidize the current production cost. That's especially true for biotech approaches, which will initially be priced substantially higher than conventional coffee.

Taste & Price Parity in RTD Formats

Across all verticals in FoodTech, taste is fundamental – it's the barrier to entry. We believe the most successful brands will strategically launch in flavored and RTD applications, where off notes can be masked, rather than trying to replace black coffee outright. In fermentation-based and molecular coffee products, Gen Z preferences for sweetened, blended, or (alt)milk-based products like lattes, mochas and specialty drinks provide a viable entry point to gain consumer adoption while refining flavor.

Sustainability & Transparency as Differentiators

Given increasing consumer demand for traceability and ethical sourcing, brands that offer verifiable carbon-neutral or regenerative benefits will have a unique value proposition. To pave the way and take the lead, traceability platforms will need a few key strengths: proprietary technology or a strong data advantage, regulatory compliance and an ability to navigate the regulatory landscape, strategic partnerships, and ecosystem integration including industry leaders, certifying organizations, and more for increased credibility.

Establish B2B Partnerships for Early Scale

Instead of DTC saturation, we expect leading players to find success via partnerships with coffee shops, food service, and beverage companies for pre-mixed applications (as in Atomo and Prefer) to accelerate adoption and mainstream acceptance.

THE TAKEAWAYS

Innovation in the coffee sector is no longer optional, with the sector squeezed between climate risks, price volatility, and disease pressures, along with new consumer expectations. Bottom line, smart solutions across the supply chain are critical. **On the crop level, traditional coffee players with an eye towards the long-term are taking the lead, with companies like Starbucks and Nestlé investing in climate-resilient coffee plant varieties. Digitization is moving into coffee as well but is still in its early days.** Potential in that space includes predictive analytics for dealing with volatility; blockchain and AI-powered sourcing to enhance traceability in the supply chain; and AI-powered coffee machines and personalized brewing apps.

Coffee alternatives are still in the early stages, and we expect their near-term market entry to come from hybrid strategies. Blended products (e.g., 50% beanless, 50% conventional coffee) will serve as a bridge to commercialization while alternative coffee companies scale production. Another trend to watch: companies in the cocoa fermentation or cultured cocoa space, who already have the technological foundation to expand into coffee applications. **Promising technologies like molecular and cellular coffee do demonstrate strong growth potential, yet still face hurdles in achieving price parity with traditional coffee, making them less viable for immediate mass-market adoption.** Though consumers are increasingly conscious of sustainability, mass adoption of alternatives remains slow, alongside limited corporate buy-in thus far.

Functional coffee stands somewhat apart, already a multi-billion-dollar market on a growth trajectory outpacing traditional coffee. New entrants face relatively low barriers thanks to e-commerce and contract manufacturing – but beverage giants are already in the game with fortified coffee products, which means a smaller company must have a defensible niche or brand story. **Ultimately, successful functional coffee innovations must address the flavor vs. function challenge, ensuring that added ingredients enhance health benefits without compromising taste, texture, or solubility.** Advances in formulation technology now enable better integration of functional compounds, making modern offerings far more appealing to consumers.

CULTURE CLASH

On paper, corporations & startups are a match made in heaven. So why do their partnerships often go awry?

By Nurit Ben

They say opposites attract, but that doesn't mean the relationship is easy. Food corporates and startups are arguably as opposite as they come, yet fundamentally need each other: for innovation, growth and, more broadly, for shaping our future food systems. Corporate giants naturally bring substantial power to the table: established distribution channels, a great understanding of the market and a deep understanding of consumers. But they're also slow. Many are publicly traded and highly risk averse. That may have worked 20 years ago, but times have changed.

Chris Thoen, chairman of the PeakBridge Scientific Advisory Board, has spent over 35 years in R&D and innovation, from Procter & Gamble to Givaudan and Bühler. "When I first joined a big corporation, there was a lot of pressure on having everything patented because product lines and products were potentially in the market for 10, 15, 20 years. **The churn in the market these days is much shorter. Patents and dependability are still key, but so is being one or two steps ahead of your competition and anticipating unmet customer and consumer needs."**

The food industry is also moving from one crisis to another, trying to reach profitability, all in a challenging environment. Many corporates have little bandwidth to search for innovation but have no choice if they want to succeed. **The numbers tell much of that story: food companies spend just 0.4% of revenue on R&D, compared to 12% at pharma companies and 18% in the software space.** The development of key technologies like data / AI and biotech is being led outside the industry, and by now, it's FoodTech pulling the talent that traditional food companies will have a tough time attracting.

Sophie Blum has extensive experience with both startups and corporate giants, including leading P&G's brand building reinvention. **"As a corporate, what do you need most? Innovative ideas for accelerated growth. That means giving yourself the authorization to think without constraint, which is quasi-impossible in a corporate, and for good reason."** Startups fill in those gaps: they don't have an established business to defend and support. They can take bigger risks and challenge the approach that's already baked into a big corporation. And in many cases, they have nothing to lose and everything to gain. On paper, food corporations and startups are the perfect match, filling increasingly urgent gaps on both sides. Yet the history of these relationships is littered with failed opportunities.

FACING THE FAILURES

The same factors that make startups and corporates a perfect match are also those that eventually put a spoke in the wheel. Across the board, food corporate veterans point to mismatched timelines as a recipe for failure. Startups, accustomed to quick decision-making and action, have unrealistic expectations from corporates, who tend to have a measured, stage gate approach. Managing Director of PeakBridge's seed fund FoodSparks®, Yoni Glickman, has seen it up close for decades, including as President of Natural Solutions at Frutarom and EVP at IFF. **"Time is the biggest, very limited resource in a startup and is almost unlimited in a corporate. This mismatch is the number one reason for failure."**

It’s not just how quickly (or not) things move but how well they’re thought out before getting out of the gate. Miriam Ueberall has helped guide R&D and innovation at some of the biggest global brands, including the Kraft Heinz Company and Unilever. Most recently she led R&D at Flora Food Group (formerly Upfield), the largest plant-based consumer goods company in the world. **“We at corporates aren’t good enough at understanding the anticipated challenges early on. What are realistic timelines? What are realistic business cases?** Startups can’t be expected to understand the whole supply chain when they supply a novel ingredient to a corporate. It’s our role to map out the potential manufacturing scenarios, the costs and the investments required. And once they’re clear, all these things create time delays and potential no-go decisions.”

A key part of getting that right—and a key reason for failure—is about measuring those goals. PeakBridge Partner and CTO Dr. Gali Artzi has a deep background in scouting technologies and guiding product development, from Enzymotec to Frutarom and IFF. “Some partnerships happen based on excitement and hype alone and lack specific outcomes or metrics for success. **Applying traditional corporate metrics to assess startup partnerships often fails, creating an apples-to oranges comparison.”** Experience, for better or worse, can guide how to make it work best so everyone benefits. “It’s like a marriage, right?” remarks Thoen. “There aren’t that many people who see someone in the bar and immediately say, ok, tomorrow we’re gonna get married, right? There’s a courtship. You have to put in time to see if there’s a chemistry fit. You have to see how to make it work. It’s the same with corporations.”

“We at corporates aren’t good enough at understanding the anticipated challenges early on... It’s our role to map out the potential manufacturing scenarios, the costs and investments required. And once they’re clear, all these things create potential no-go decisions.”

-Miriam Ueberall, PeakBridge Scientific Advisory Board Member & Longtime R&D Executive

CHOOSE YOUR MODEL

Over the past three to five years many corporates have recognized that significant innovation is happening outside of the traditional food system. **With startups getting more exposure, bigger companies have had to decide, do we see them as a threat or an opportunity?** Many have undergone a substantial transformation to try and keep up: building venture arms, dedicating scouting teams to understanding the tech landscape and opening up to external partnerships. Some have gone the acquisition route, waiting until risk is low and potential reward is high to jump in. Others have tried integration, investing in venture capital, joint ventures and incubation programs. **So which approach works best to innovate in the long run?**

Ueberall believes it's crucial not to put all your eggs in one basket. "I'm a true believer that technology scouting should happen in two pillars. One is moonshots: really understanding what's out there in the long run. The other has to be much more linked to what your business requires. Finding technologies that give you something for your pipeline in the next three years or so, so you can really drive a path to market agenda." Blum agrees that corporates should always integrate a few different pathways. "You need a palette of models corresponding to what you want to achieve. One model isn't enough and doesn't allow you to access global brain power."

What about acquisitions or integration? On that model, Chris Thoen is categorical: more often than not, it backfires. "We've seen it with Coca-Cola and Honest Tea. That was a great and growing brand when it was an independent startup. It gets acquired by The CocaCola Company and now—years later—only exists for kids as Honest Kids. The broader brand essentially disappeared. Same with P&G and the New Chapter VMS brand. They came over to P&G with the acquisition and left six years later because they said, 'this isn't what we signed up for.' **Big companies must be careful in how they integrate, because the reason you're interested in a startup in the first place is because they are *not* corporate."**

Working together with a startup, instead of swallowing it, does require some ground rules and managing expectations on both sides. If the corporate wants too tight and too broad of exclusivity, they may be preventing real growth by restricting opportunities for the startup. On the flipside, says Thoen, “If you can have a collaboration where you say, ‘we want exclusivity in one area, but you can go and work with the broader market with other materials,’ then you make the startup stronger. You also set up a trusting relationship, where they’ll come back to you with new ideas.”

NEVER NEGLECT CULTURE

The truth is you can have an excellent, tested model— but if corporate culture isn’t in line, it will never lift off. **Again and again, food corporate veterans come back to this point: establishing a culture of partnering and openness—while protecting what you need to protect—needs to be embedded in corporate strategy. And making it systemic takes time.**

“Startups thrive on risk and experimentation, pushing boundaries to bring new ideas to the market,” says Dr. Artzi. Then they meet the risk aversion that exists in many corporate cultures, where failure is met with punitive measures.” The familiar problem is that culture tends to be woven into a company’s fabric and is one of the toughest things of all to change. Ueberall believes there’s one essential way to tackle that: top-down leadership. The senior levels of an organization have to live and breathe it, otherwise it’s just not credible. **“It sounds harsh,” she says, “but you have to be honest in understanding: where do you need to replace people? Who in your organization is so intent on sticking to the past that this traditional way of working will be prevalent? And then you have to find ways to give those people a different home and bring in people from other areas, in a very conscious way.** Really open up and allow a bit of disruption to come in. It’s an organizational (r)evolution.”

LOST IN TRANSLATION

Imagine trying to spearhead a bold new project to pursue innovation and growth, with one team that speaks only German and the other only Spanish. It's impossible to envision without an excellent translator, and yet it's one of the biggest oversights in the corporate/startup relationship. Sure, they may speak the same literal language—but an enormous amount is lost in translation.

Blum led one of P&G's most successful innovation initiatives to date, the P&G Israel House of Innovation: a then-radical idea to have a full translation body within a corporate, today recognized as one of the most successful of its global innovation hubs. She recalls the disconnect that prompted P&G to take that approach. "It came from the observation that there were fantastic opportunities in terms of startups, and a land of opportunity in terms of needs. But then it gets complicated: You bring startups and get them interacting and it's great. The corporate picks a few and the startup says, bingo! We made it. I saw the same thing at P&G, in Puratos, and also with Google and Meta. You have the first meeting, and the corporate tells you "Great! We're going to explore this." The startup thinks it's going to be tomorrow, but when you translate, it's three to six months. And you're already off on the wrong foot." **Avoiding this pitfall means being intentional from the get-go and having someone at the top level who speaks corporate and startup to be that internal advocate.**

Startups also have a role to play in learning the corporate landscape and understanding their behavior, particularly in publicly traded companies. There are certain things you just can't do—or can't do quickly—because of the governance and diligence that shareholders demand. It's also useful for start-ups to understand some of the internal politics, says Thoen.

"Often startups are blunt and say, look, this doesn't work. And it may be something that was developed by a group of scientists who have put their blood, sweat and tears into getting that to market. There's a positive way of doing it. If you go negative, then the antibodies within the big corporation start to increase, and your idea has no chance of being successful. The internal org is going to say: "How do we show them they're wrong?"

FINDING A CHAMPION

Lack of internal sponsorship and strategic buy-in can be the death knell for an innovation project, and having a corporate champion is key. **"We tried to go without a champion. It was a nightmare for the startup," says Blum.** And her experience isn't unusual. A good champion bridges cultural differences, manages both sides' expectations and has the intra-organizational connections and gravitas to constantly move things forward, whether it's development agreements, joint ventures or other collaborations. Without one, the startup ends up viewed as a side project. "If you don't have that champion inside, that's probably one of the first things you need to work on," says Thoen. "Identify who it could be and invest time in establishing the relationship because it's going to be a roller coaster—no matter how good the two companies are, no matter how good the technology is." For startups looking for that champion, Blum has some tips. "Seek out the people who are usually externally focused. You might see them a little more active than others on social networks or speaking out more than average at specialized conferences and panels. And last but not least, you simply get in touch with them and if you get an answer, you're on the right track."

"Identify who the champion could be and invest time in establishing the relationship, because it's going to be a roller coaster—no matter how good the two companies are, no matter how good the technology is."

-Chris Thoen, Chairman of the PeakBridge Scientific Advisory Board & industry R&D veteran

Problems *do* still arise when a startup invests heavily in finding a champion, only to start from square one when he or she moves on. In public companies and major corporates people move often, and that key decision maker won't necessarily be there the whole way through. One way to get around that is for startups to rethink who they approach for partnerships in the first place. For example, focusing on small to medium businesses, especially family-owned businesses where the owners are the ones calling the shots."

So, what's the bottom line? In 2024 and beyond, food corporates increasingly can't afford to deprioritize innovation: it's sink or swim. **Drawing on lessons learned can save substantial time and resources and capture the best of both worlds: the firepower, knowledge and know-how of a corporate giant, with the future-defining technology of a startup.** It's of course largely about competitive edge and growth. But as Ueberall notes, it's also about the bigger global picture; the reality of a food system that cannot sustain itself, or the people it feeds. "Why is this all so important? It's clear. Because the challenges we face simply can't be solved by just one party."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IN CONVERSATION: INSTITUTE OF FOOD TECHNOLOGISTS CEO CHRISTIE TARANTINO-DEAN

By Nurit Ben

You don't find many people with over two decades experience leading groups of tens of thousands of people. Christie Tarantino-Dean is one of them, having led major associations across different fields. In over a decade at the helm of one of the leading food science associations in the world, the Institute of Food Technologists, she's steered it from a more traditional scientific association to be innovation and future-focused – a necessity in staying relevant. We sat down with her on everything from building an excellent board, to what needs to change to build trust in food technology and science, and why peer groups are a game-changer in good leadership.

From a bird's eye view, what stood out most to you and your team from this year's IFT FIRST? What should people be paying attention to?

A number of things. The GLP-1 wave is reshaping product development, with suppliers showcasing protein formats optimized for smaller portions and companies rethinking satiety and nutritional density. Reformulation has also become intertwined with risk management as brands transition from artificial colors to natural colors in alignment with recent policy and customer preference. Healthier foods and ingredients were also seen throughout our expo floor with new products featuring the latest in fat, salt, and sugar reduction technologies. AI is also continuing to gain traction in early-stage R&D, with a lot of buzz around the launch of CoDeveloper, IFT's proprietary AI-powered R&D platform.

CoDeveloper seems like a line in the sand you're drawing – that the space needs to change now and move faster. How do you see these kinds of tools changing how food technologists operate?

The core is delivering science into the product development process, accelerating formula development and then overcoming technical roadblocks. We think our right to win is that it's science backed, and the need to understand the scientific impacts of decisions you're making around formulation or reformulation. We have so much information in our organization – 85 plus years of scientific research. Technical teams need to be able to convey the scientific reasoning and rationale behind their work and recommendations to other parts of the organization - and do it quickly. This platform harnesses the computing speed of AI and connects users to IFT's peer-reviewed and published content to ensure they're developing market-competitive products backed by science.

Over all your years leading IFT, is there a shift you've seen in the interplay between FoodTech entrepreneurs and the major food corporates?

I think there's a real interest from the bigger companies in what startups are doing; since we've started tracking attendee movement on the IFT FIRST show floor and understand where people are interested in being, the startup area has been number one. The average R&D professional and members of our academic community – that's where they're spending a lot of their time. There's this interest in learning but with an eye on acquisition, as larger organizations have struggled to have the funding for long term innovation projects.

"Technical teams need to be able to convey the scientific reasoning and rationale behind their work and recommendations to other parts of the organization - and do it quickly."

On that note, food companies spend a small fraction of their revenue on R&D compared to pharma for example. What's your take on that investment gap?

I'm not the expert on this, but I think it's about margins and shareholder satisfaction. Historically, companies had larger teams that would work for years on something before it would come to market. Now it's about speed, innovation, consumer preferences. There is such a demand to move faster to meet changing consumer needs and do it in a way that's cost effective and can build returns on that investment. And there's a lot which ties into why we launched CoDeveloper – that need to have speed and have the scientific expertise behind these products.

Having a strong board is one thing that's not a particularly hot topic – but can make a world of difference for a company. You have a lot of experience on that front. What have you learned about constructing the best possible group to steer a company?

I think first and foremost, you have to be very thoughtful and intentional about how you build out your board. Organizations like IFT historically focused on members who have the most experience in the organization, which is not necessarily a bad thing. However, you might get a lot of people with similar points of view. In 2020 we recognized that the needs of the organization were changing rapidly and shifted to be incredibly intentional about ensuring we had the right diversity of skill sets, experience, points of view, regions of the world, and more to the best of our ability. We want to make sure we aren't an echo chamber. We're an 85-year-old organization and we recognize that we don't want to look and act like one.

How dramatically did that change both the conversations you're having and how IFT actually functions as an organization?

Very dramatically, but the ecosystem we operate in has also changed.

Our process is designed to be rigorous and identify a diverse set of candidates to help inform the future of IFT and how we should align with the future of the food system. We now have board members who bring different expertise and can discuss and debate the challenges being faced across the food system and how IFT needs to change, adapt or invest to ensure we provide tools to help our members and customers address those challenges.

We can't ignore the buzz over the U.S. administration's plans for the food industry – the focus on phasing out artificial food dyes and promises to tackle additives, which obviously has a lot of significance for many of your members, whether big CPGs or innovators. There's also the uncertainty over regulation of things like cultivated meat. How are people responding?

First of all, our position is that IFT must have a seat at the table. For example, The FDA just released a call to define ultra processed foods. IFT is very engaged in trying to ensure that science is at the heart of any regulatory or policy decisions. At the end of the day, we all have the same goal: making our food healthier. But we cannot be making emotionally based policy decisions that confuse consumers even more. There was this defensiveness around the science when I first got to IFT, which can be concerning and scary to people when it comes to their food. We're still speaking in very scientific terms, but we've shifted our approach to provide more transparency and understanding around the science and engaging the mainstream media to try to help educate. So being at the table does not mean just criticizing other people's points of view. It's being part of that conversation to hopefully bring more awareness and impact these policy decisions.

Beyond the still undefined ultra-processed foods, the issue of food processing itself has generated confusion among consumers and policymakers.

These shelf-stable foods help people who aren't able or can't afford to make fresh meals for their family every single night. Food processing has done a lot to fortify milk, to fortify golden rice and help prevent malnourishment and disease among other things. So it's about considering the full scientific perspective and not making broad decisions based on limited evidence that will potentially have worse health consequences for people.

Do you find it to be a tough environment right now in terms of making sure science is at the forefront versus emotion or perception not rooted in fact?

It is hard. I would not minimize that. But what we're finding both through the media and through some of our work in Washington, D.C., is more people just want to understand the facts. We're getting more requests to provide scientific information in an understandable way so that they can try to make the best possible policy decisions. But it's challenging because there's so much information and misinformation out there, it can be hard to cut through the noise.

How do you address that trust deficit with consumers in terms of being skeptical of food science and technology?

I think our community has not over time done the best job of talking about the benefits that science has brought to people and to their food. We have to recognize we can't be so protective and criticize those who don't understand. That actually creates more fear and distrust. Until I came to IFT, I had no idea what went into trying to make my food safe, and our community has to be more understanding about that lack of knowledge if we want to continue building trust in science among consumers. So how do we peel back the curtain, so to speak, and invite those reporters in who are covering food into our world so they can see all of the good and understand to some extent why food companies are doing what they're doing; or the purpose-driven work that's happening in all of these startups around sustainability. We have to be better communicators, not just scientists.

Let's talk leadership, because it takes a lot of skill and lessons learned along the way to lead such massive organizations across different fields. What are some of your biggest takeaways on leading effectively?

I am not a perfect leader. I think that is a big thing, to be able to admit when you don't know something. And one of the things that I've really learned over the years is to surround myself with people who will tell me the truth or show me my blind spots, which we all have. Developing that network of trusted advisors, both in your space and out of your space, is huge. I started developing that group very early in my career. A peer group I think is so important, because you don't just get into the seat and you know it all. We have to continuously learn. Another point is to realize you just can't make everybody happy and you have to learn to live with that. We're in challenging times, and so how do we make those hard decisions with compassion, and just do the best that we can to support our teams when there's so much uncertainty.

Do you have any tips on how to develop that kind of mentorship or peer group? Because it's undeniably tougher today in an online world.

I don't think people always appreciate the value of a peer group until they need it, and then it's too late to develop it. I think it's showing up and that's the challenge we have now. I saw this in 2008 and 2009 in my last job, where we had a lot of layoffs going on, and then people suddenly want to build a network that they had not worked to develop. And now even more so when we're in a much more virtual environment, showing up at meetings like IFT FIRST or others, that's where you meet those people The best mentor relationships I've had were not people I asked to be my mentor. I had a conversation with them at an event. They took an interest in me. I was curious. We started a relationship and we followed up after the event. The value is being in person and developing those relationships.

ARE FUNCTIONAL MUSHROOMS READY FOR PRIME TIME?

Science is finally catching up to ancient tradition - and investors are watching.

By Gali Artzi, PhD

EXECUTIVE SUMMARY

Sifting through wellness and functional ingredient hype can baffle consumers, and also challenge investors looking to find winners in the noise. One category stands out for its ancient history and modern scientific potential: functional mushrooms, with centuries of traditional use and over 150 identified bioactive compounds. Today scientific credibility is steadily building behind species like reishi, lion's mane, cordyceps, and turkey tail for their potential benefits in cognition, immunity, energy, and metabolic health. **With continued rigorous study, functional mushrooms aren't headed for 15 minutes of superfood fame, but towards a credible, scalable wellness category.**

The market opportunity is compelling. In the U.S. alone the market for mushroom supplements and enhanced functional food and beverages was worth about $1.1 billion in 2023, and continues to display 11-13% CAGR. Behind that are a number of factors.

A surge in clinical research is catching up to centuries of traditional, reputable use – a potent combination of East meets West. Those health benefits are well aligned with consumers' modern wellness priorities, from energy support to mental health and metabolic health. Cultural shifts are moving towards optimizing health and biohacking, along with increasing consumer focus on clinical effectiveness. And functional mushrooms hit one more important nerve: resonating as *real food* amid a push against all things artificial.

But the sector does face headwinds, including complex growth protocols and regulations. There's also a structural vulnerability: China produces an astounding 94% of the world's cultivated mushrooms, creating supply chain risks amplified by recent geopolitical tensions. This extreme concentration exposes brands to pricing volatility, authenticity concerns, and contamination risks. Yet like familiar crops under supply chain stress, it's also an opportunity for innovators to step in, with some already adopting vertically integrated models to control quality and supply chains.

Innovation and smart capital are responding. Investments in the sector are still limited but evolving through diverse funding mechanisms, with strategic partnerships complementing traditional private equity and specialized VC funds. Major CPGs and nutrition players, along with ingredient giants, represent likely acquirers: these companies often swap internal R&D for partnerships or acquisitions with proven innovators, paving scaling and exit routes for sector leaders.

Winners will be those who successfully navigate key differentiators, including clinical validation, IP, regulatory compliance, supply chain integrity, and consumer trust. That operational excellence coupled with a grasp of the market will position companies to scale, as the functional mushroom sector moves beyond niche to rapidly industrialize - with meaningful implications for wellness, nutrition, and global health ecosystems.

WHAT’S DRIVING THE MARKET?

In the U.S. alone the market for mushroom supplements and enhanced functional food and beverages was worth about $1.1 billion in 2023, and continues to display 11-13% CAGR. Sales of mushroom supplements in the U.S. in particular saw a 75.8% increase over 2023, the biggest gain of any top 40 ingredient in mainstream retail channels. Behind it are several factors transforming functional mushrooms into a credible, scalable wellness category that taps into many of consumers’ biggest health priorities. First and foremost is the science - a bedrock of any health category with long-term legs. Clinical research around functional mushrooms is now catching up to centuries of use in Chinese medicine and Ayurveda, a compelling story of East meets West. That includes a surge in published studies on immunity, cognition, gut health, and even metabolic support. But there’s more to it: mushrooms are unusual in that many species have overlapping benefits. Lion’s mane for example can offer a trifecta of support as a mood stabilizer, gut health enhancer and nootropic. That notion of one-stop-shop wellness solutions is something few other natural ingredients can claim.

Then there’s consumer demand. A convergence of cultural and demographic shifts is pushing functional mushrooms into the mainstream. Their benefits are strongly aligned with growing priorities in health and wellness, including energy support, mental health, cognitive function, better sleep and metabolic health. Take the booming popularity of nootropics (cognitive enhancers) and adaptogens (for stress-management). Species like cordyceps and lion’s mane are gaining attention as natural brain boosters and energy enhancers, with the market for lion’s mane extract products forecast to grow by $181 million at a CAGR of 23.4% by 2029.

If we go one step deeper, underlying those consumer priorities is what appears to be a tangible cultural shift: a mainstreaming of holistic health and biohacker culture, with people actively looking to optimize their health, rather than just treating illness when it strikes.

Consumers are also seeking out clinical effectiveness. Americans in particular are prioritizing clinically-proven efficacy over clean ingredients across a range of categories, from nutrition and consumer goods to over-the-counter products. Finally, amid growing awareness (and wariness) around ultra-processed and artificial ingredients, functional mushrooms also have a distinct advantage in resonating as real food.

Taken together, those factors are positioning the sector for long-term growth, and not short-term hype. In the next 2–3 years, we're likely to see continued rapid expansion, with companies branching into more innovative formats like gummies, chocolates, skincare, and hot and cold beverages. Brands like Four Sigmatic, DIRTEA, and SuperMush already have offerings that go beyond traditional mushroom coffees, incorporating adaptogenic ingredients into products designed for improved focus, stress relief, and overall wellness. Growing consumer interest and investment in research are expected to lead to more scientifically validated formulations and standardized dosing – both crucial for boosting consumer confidence.

FUNCTION BEYOND FLAVOR

"Functional mushrooms" refer to those that are both edible and possess medicinal properties, and indeed many species have a long history of therapeutic use in traditional practices like Chinese medicine. Yet it wasn't until the mid-to-late 19th century that scientific research gained traction. These fungi stand apart from the wellness crowd with some of nature's most powerful bioactive compounds: over 150 identified, each linked in research and traditional knowledge to various health benefits. While the scientific evidence is still developing, early studies and clinical observations suggest promising effects that continue to attract interest from both researchers and consumers.

Common Types

Reishi (Ganoderma lucidum): Traditionally valued in Asian medicine and recognized as an adaptogen, reishi has been used to help manage physical and emotional stress while supporting immune function and overall wellbeing. Modern studies highlight its potential to enhance immune response, support metabolic balance including healthy blood sugar levels, and contribute to general resilience, making it a key focus in integrative health research.

Lion's mane (Hericium erinaceus): Recognizable by its distinctive white, shaggy appearance, lion's mane has a long history in traditional Chinese medicine, particularly for neurological and digestive health. It's now widely available in grocery stores, with research suggesting it may support brain and nerve function, promote cognitive health and neuroprotection, and enhance gastrointestinal wellness.

Turkey tail (Trametes versicolor): Distinguished by colorful, fan-shaped rings, turkey tail has had a longstanding role in East Asian healing practices, and is now recognized for its ability to support immune function and promote gut health. Rich in polysaccharides, antioxidants, and prebiotic fibers, it helps nourish beneficial gut flora while contributing to overall resilience. It has also been widely researched for its role in oncology, studied as a complementary approach to support patients undergoing conventional cancer therapies.

Cordyceps (Cordyceps sinensis / Cordyceps militaris): Naturally rare and historically harvested from high-altitude regions, cultivated strains like Cordyceps militaris have enabled broader commercial production. Traditionally regarded as a vitality tonic, cordyceps is being studied for its potential to enhance energy and endurance, support sexual health, improve kidney function, and provide immunomodulatory benefits, which has attracted interest in integrative wellness research.

Chaga (Inonotus obliquus): Known for its powerful antioxidant activity and its role in supporting immune function, chaga has been traditionally consumed as a bitter tea. Beyond its historical use, research suggests it may also help reduce oxidative stress, support gastrointestinal health, and contribute to overall resilience and vitality.

Shiitake (Lentinula edodes): Shiitake has been widely enjoyed both for its culinary appeal and traditional use in medicine. It contains a range of valuable compounds, including beta-glucans, polysaccharides, lentinan, and eritadenine, which contribute to its ability to enhance immune health and promote overall resilience.

A Star Bioactive: Beta-Glucan

One bioactive compound stands out from the crowd and merits deeper understanding. Beta-glucans are a type of dietary fiber belonging to the class of polysaccharides: they occur naturally in the cell walls of functional mushrooms and foods like oats, wheat, and barley, and provide energy storage and powerful health benefits. So what makes them so prominent?

- **Abundance and consistency:** Beta-glucans are a major, naturally abundant component in many edible and medicinal mushrooms, consistently found across species (e.g., shiitake, reishi, and maitake). That makes them easier and more cost-effective to extract and standardize, suited to manufacturing and quality control.

- **Well-documented health benefits:** Extensive scientific studies have validated beta-glucans for their immunomodulatory, anti-inflammatory, and antioxidant effects. Those have made them a go-to bioactive marker for product efficacy in dietary supplements and functional foods.

- **Standardization and regulatory acceptance:** Relative chemical stability and well-established quantification methods allow manufacturers to create standardized extracts. In many markets, labelling based on beta-glucan content is common and provides a reliable benchmark for quality and potency.

- **Market demand and consumer familiarity:** Beta-glucans are frequently mentioned on supplement labels, and consumers have grown accustomed to looking for this ingredient as proof of quality and efficacy.

PLAYERS IN THE FIELD

The sector operates through two primary business models: **ingredient manufacturers and B2B exporters** that specialize in bulk extracts and powders (often sourcing from Asia and selling via distributors), and **consumer-facing brands that retail to consumers**, focusing on wellness, immunity and cognitive health.

With China dominating upwards of 90% of global supply, companies with vertical integration models may have a distinct advantage in sidestepping challenges and hedging risk. Companies like KÄÄPÄ Biotech, M2 Ingredients, and Nammex oversee cultivation, extraction, and packaging in-house, offering superior quality control and traceability. Several players run hybrid models, combining B2B ingredient supply with B2C brands under vertically integrated operations to tighten quality control, traceability, and supply continuity, including M2 Ingredients/Om Mushrooms, Fungi Perfecti (Host Defense), Aloha Medicinals, MycoFormulas, and Cure Mushrooms. Non-integrated brands focus solely on branding and marketing, sourcing extracts from third-party growers, often in Asia, with minimal production control.

A **Framework for Competitive Assessment**

The broader functional ingredient space is increasingly crowded, often featuring marketing over substance. So how can we best assess the competitive landscape? A number of characteristics define positioning and maturity:

- **Origin of raw materials:** Companies may cultivate mushrooms indoors using certified organic substrates, mainly in the U.S./EU for quality control and traceability. Or they can source wild/field-grown varieties from China's biodiverse regions, which can introduce geopolitical, tariff, and regulatory uncertainties. Some small EU organic farms also supply limited volumes with high environmental standards.

- **Supply chain design:** Models range from vertically integrated operations (cultivation through packaging under one roof, excellent traceability, strong resilience) to single-region sourcing (e.g., China or small EU farms), which face higher risks from trade disruptions, climate, and supplier dependency.

- **Quality assurance:** Premium firms adhere to global standards with rigorous hygiene and audits. Most perform batch-level third-party testing for heavy metals, pesticides and microbes, but transparency varies.

- **Traceability and transparency:** An increasing number of companies implement batch-level tracking with digital access to CoAs, extraction data, and lab results via QR codes, enhancing consumer trust and regulatory compliance. But traceability levels remain uneven: some companies offer full visibility, others only minimal, and some none.

- **Regulatory readiness:** Functional mushrooms rely on a layered certification framework. Core market access depends on food safety and quality standards, while USDA and EU Organic certifications strengthen clean-label positioning central to consumer trust. In the U.S., GRAS approvals and in Europe, Novel Foods authorizations are pivotal for expanding into food and beverages. Regional pathways like India's FSSAI, China's NMPA, and Australia's TGA remain underutilized but are critical for long-term global expansion. Together, these certifications determine not just compliance but the ability to scale across categories and markets.

MAPPING THE CHALLENGES

Despite the compelling growth trajectory, structural challenges threaten to constrain industry development:

- **Supply chain vulnerabilities:** Over 90% of mushroom cultivation is based in China, exposing the sector to geopolitical risks, tariffs, and inconsistencies in quality control. Indoor cultivation and vertical integration offer improvements but require significant capital.

- **Standardization and trust:** Inconsistent testing methods for bioactive compounds create product variability and make efficacy claims tough to validate. Economically motivated adulteration, counterfeit products (especially on platforms like Amazon), and misleading labelling create consumer confusion, with few centralized labs.

- **Clinical validation gaps:** Limited robust, standardized human clinical trials (especially outside of Japan and China) restrict health claims and credibility in Western markets.

- **Regulatory complexity:** Divergent requirements across the U.S., EU, and Asia create friction in scaling internationally, especially for novel extracts requiring approvals. The ongoing industry debate over fruiting body vs. mycelium ingredients is slowing that clarity and consumer education.

CLINICAL VALIDATION

Clinical validation is in initial stages, with several human trials exploring therapeutic effects of species like Lion's Mane, Reishi, and Cordyceps on cognition, immunity, and metabolic health. Some randomized studies do report cognitive benefits, reductions in blood glucose, and immunomodulatory effects. Yet widespread clinical adoption is being slowed by funding limitations, inconsistent standardization, and variability in the content of bioactive compounds.

Selected Key Clinical Trials

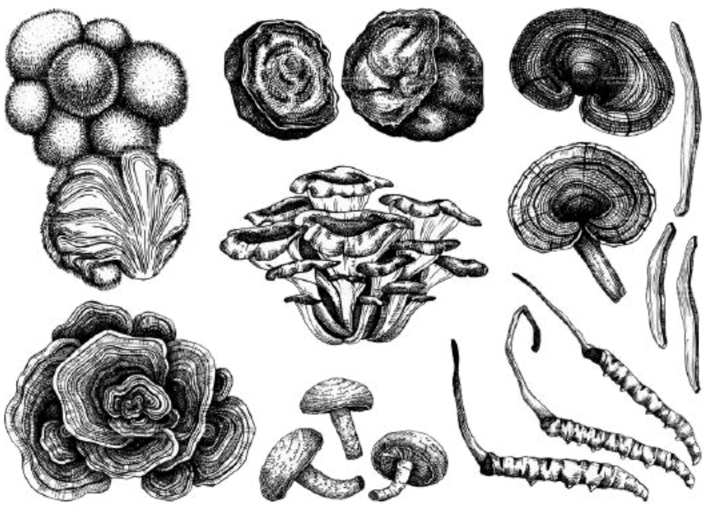
Mushroom (Species)	Study Focus	Design & Dose	Key Outcomes
Lion's mane (*H. erinaceus*)	Cognitive function in MCI	RCT; 30 older adults; 3 g/day for 16 weeks	Improved cognitive scores; benefits receded after 4-week cessation
	Mood & sleep in menopausal women	DBPC; 30 women; ~2 g/day via cookies for 4 weeks	Reduced anxiety and improved sleep
	Psychomotor dexterity (pegboard test)	Industry trial (Kaapa Mushrooms)	Enhanced pegboard performance: no other cognitive effects reported
Reishi (*G. lucidum*)	Metabolic regulation in T2DM	Crossover, 89 subjects, 50 g cooked mushrooms thrice daily	↓ fasting glucose ~11%, ↓ LDL ~8%, no liver/kidney issues
Cordyceps militaris (PeakO$_2$ blend)	Aerobic performance	RCT; healthy adults; 4 g/day; 1–3 weeks	No significant effects after 1 week; after 3 weeks, significant improvements in VO$_2$ max, ventilatory threshold, time to exhaustion, and relative peak power

Barriers to Clinical Validation

- **Funding constraints:** Unlike pharmaceuticals that attract big R&D investments, natural products lack robust funding, making it difficult to conduct large, multi-centre randomized controlled trials.

- **'Natural' complexity:** Natural products can contain hundreds of different compounds that may be synergistic, antagonistic, or interact in complex ways, meaning more complexity in pinpointing mechanisms of action and predict potential side effects or interactions.

- **Variability in raw material:** Differences in mushroom species, growing conditions, harvest timing, and extraction methods can lead to inconsistent chemical profiles. This lack of standardization makes it tough to replicate study results or establish reliable dosage guidelines. Many trials are instead conducted not on mushrooms, but on standardized extracts rich in a specific compound.



MASTERING REGULATION FOR MARKET ACCESS

Regulatory frameworks vary across the map, shaping how products are developed, marketed, and distributed. The EU prioritizes traceability, safety, and ecological compliance, while the U.S. currently offers a more commercially flexible but less standardized environment, and Asia is shifting traditional medicinal use toward evolving global standards.

European Union: Science-Based and Traceability-Driven

- **Pre-market authorization:** Novel species or extraction methods require EFSA approval under the Novel Foods Regulation. Traditional species like shiitake may be sold as food supplements, but must comply with relevant directives.

- **Labelling:** Clear, descriptive names are needed (e.g., “mushroom protein powder” or “mycelium extract”), along with legally required information for novel foods, nutrition/health claims, and organic labelling.

- **Safety controls:** Strict thresholds for mycotoxins, heavy metals, and microbial pathogens. DNA barcoding is mandated in markets like Italy and Spain for species authentication.

- **Sustainability:** Biodiversity is protected through PEFC-certified wild harvesting, habitat restrictions, and gene bank preservation of medicinal strains. Invasive species are tightly regulated.

- **Traceability:** Products must meet batch-level traceability and map cultivation areas to ensure deforestation-free sourcing.

United States: Flexible and Fast-to-Market

- **DSHEA framework:** Functional mushrooms are regulated as dietary supplements, not drugs. No pre-market approval is needed unless products involve novel extracts (triggering NDI filings).

- **GRAS pathway:** Ingredients can be self-affirmed as GRAS (Generally Recognized as Safe) through a company-led expert panel, without requiring FDA review or oversight. This enables faster market entry but lacks the validation and transparency of the FDA-notified GRAS pathway. The U.S. administration has however signalled a desire to close the self-affirmed pathway, which could make it a riskier route.

- **Claims & labelling:** Disease treatment claims are prohibited; structure/function claims are allowed, but must be substantiated by clinical data to withstand regulatory scrutiny and build consumer trust.

- **Safety controls:** Manufacturers must follow GMP standards, but there is no mandatory federal contaminant testing or traceability requirement.

Asia: Traditional Use Meets Global Standards

- **Global alignment:** As export ambitions grow, these markets are adapting regulatory structures to better align with international standards on clinical validation, product safety, and labelling.

- **Integrated traditional systems:** Countries like China and South Korea incorporate functional mushrooms into national pharmacopeias, supported by centuries of traditional medicinal use.

- **Variability:** Frameworks differ between countries, with some adopting China's rigor (e.g., CFDA) while others remain relatively underdeveloped.

FOLLOWING THE MONEY

Venture capital, private equity, and strategic investors have all given growing attention to the sector, driven by rising consumer demand for natural health. Investment activity is now concentrated in early-stage companies with strong technical capabilities, wellness positioning, and defensible IP. **Corporate acquisitions and strategic partnerships are also paving the way for scalable exits, supply chain integration, and commercialization of mushroom-derived therapeutics and supplements.**

Within venture capital specialized investors are leading the charge, with Five Seasons Ventures and PeakBridge's FoodSparks backing flagship brands like Spacegoods (lion's mane & adaptogen powders) and KÄÄPÄ Biotech (European functional mushroom extracts). Celebrity endorsements are driving mainstream attention, with Alice's mushroom chocolates securing seed funding from L Catterton, Mandi Ventures, and Fourward Ventures, backed by names like Zac Efron and Pedro Pascal. Other popular categories are also attracting capital: Clevr Blends raised €2.52M for mushroom lattes, while Mushröm closed €2.13M for protein powders.

Deal flow spans the funding spectrum, revealing distinct investment theses at each stage:

Testing the waters early ($0.1M-$1M): Companies like French Mush (€0.14M), Everystate (€0.35M), BRĒZ (€0.24M), Alice Foods (undisclosed), and Below Farm (undisclosed) represent entrepreneurs testing format innovation and consumer adoption, often through angel rounds or small seed checks.

Proven traction ($1M-$5M): Barcode's €4.32M, Kaapa Biotech's $3.6M, Clevr Blends' €2.52M, and Mushröm's €2.13M seed rounds, along with similar deals from Dirtea (undisclosed), B.T.R. NATION (undisclosed), and ZOOZ Drinks (€1.47M) show investors backing companies with demonstrated market fit.

Expansion capital ($10M+): M2 Ingredients exemplifies the capital intensity required for vertical integration, having raised $33M across three rounds. Most recently was a $25.8M Series B to build its vertically integrated mycelium/fruiting-body facility while supporting clinical trials.

Beyond the traditional VC, hybrid funding models are emerging that combine investment with operational support. Applied Food Sciences invested $2.5M in KÄÄPÄ Biotech while simultaneously integrating them into their supply chain - a model that provides both capital and market access. Meanwhile traditional PE players like Paine Schwartz Partners and British Columbia Investment Management Corporation have taken minority stakes in established players like Monterey Mushrooms, reflecting institutional confidence in the sector's long-term prospects.

For companies looking beyond investment, the most likely end game involves large CPGs and nutrition players. Among those are Nestlé Health Science, Unilever, Abbott Nutrition, Herbalife, Amway, and Danone, alongside global ingredient and specialty nutrition companies like Kerry Group, IFF, DSM-Firmenich, and ADM. Large corporates have traditionally low R&D spend (compared to pharma or software, for example), along with a lower tolerance for risk in innovation. One option often pursued is partnerships with proven innovators or acquisitions, which can in turn provide a strong route for sector leaders to scale or exit.

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THE TAKEAWAYS: WHAT IT TAKES TO WIN

Functional mushrooms represent a convergence of scalable ingredient innovation and tangible health outcomes, aligning with PeakBridge's mission to back technologies that deliver long-term positive impact across nutrition and wellness. That success depends on a combination of operational excellence and scientific credibility. Winners will be those who master key differentiators:

- **Clinical validation:** Build trust through robust studies and efficacy claims
- **IP as a strategic asset:** Strengthen efficacy claims and create barriers to entry via patents on strains, formulations, cultivation systems, and dosing methods
- **Bioactive potency:** Secure competitive edge through consistent, measurable active compounds
- **Regulatory compliance:** Meet global standards for quality and market access
- **Supply chain control:** Hedge against risk with strong contamination prevention and traceability

The market remains dominated by seed and series A rounds, suggesting that while consumer adoption is accelerating, the industry is still early in its commercial lifecycle. The presence of experienced global funds indicates growing belief in risk-adjusted returns, especially for companies pairing product-market fit with clinical evidence and IP defensibility. Companies that successfully integrate those key differentiators – navigating the intersection of traditional wellness wisdom and modern commercial requirements - will be best positioned to scale and capture the significant market opportunity ahead.

INVESTING AT THE INTERSECTION OF FOOD, HEALTH, RESILIENCE, AND INNOVATION

First published in Food Technology Magazine by Mary Ellen Kuhn

For Thomas van den Boezem, a junior partner with Luxembourg-based venture capital firm PeakBridge, professional responsibilities and personal passion are well aligned. Having been trained as a public health scientist, van den Boezem appreciates the growing investor interest in startups focused on improving health outcomes. “It’s great to see that this area is becoming such an investor focus. Improving the health of people around the world has been a passion and a sort of thread throughout everything I’ve done,” he says. It’s also an important focus for PeakBridge. Through scalable, proprietary technologies, the VC firm aims to “move the needle” across five of the United Nations’ Sustainable Development Goals: zero hunger, good health and well-being, gender equality, decent work and economic growth, and responsible consumption and production.

The portfolio of 30-plus companies PeakBridge invests in is diversified, ranging from startups focused on artificial intelligence applications to alternative protein technologies. But the companies have some clear commonalities. “We’ve always been disciplined in investing in companies that solve real industry and consumer needs,” van den Boezem says. Although that may sound obvious, “it’s much harder in practice,” he adds. “We’re laser-focused on avoiding trends and hype, and instead looking at the technologies that can make a real difference, long term.”

Van den Boezem recently offered his thoughts on entrepreneurship, promising investment opportunities, and the benefits of pitch competition participation.

What areas of ag tech and food tech are currently getting the most attention from investors?

There is clearly a lot of attention right now on the GLP-1 Ozempic movement and what that means for the food industry. There is a lot of research around how we can use food and diet to reduce the dependency on these drugs, which are still expensive and carry side effects. FoodTech has a lot to offer in those spaces, whether we're talking about prebiotic fibers, the healthy snacking category, specific categories of functional foods, or highly personalized advice related to lifestyles and diets.

Food security is also finally becoming an area with a lot of investor interest. It's a wide-scale, growing problem that simply requires Agri-FoodTech. This carries into things related to upstream agriculture, the use of natural pesticides, natural growth enhancers, and the like. But this also relates to finding ways to shorten supply chains and grow high-value crops and other food ingredients and inputs in more sustainable ways. So those would be two I would highlight—health and resilience.

In addition to your interest in healthy lifestyle innovators, what are some of the investment opportunities that you're most excited about?

One that I'm personally passionate about is the domain of industrial software. So how do we bring data, AI (artificial intelligence), and smart robotics into the food supply chain and the food industry to ultimately improve decision-making for everybody working in it—from consumers making better decisions about their food choices, to growers making better crop treatment and harvesting decisions, to traders making better decisions on pricing and quality assurance.

Are there many startups working in that industrial software space?

It's not, I would say, as established as some other areas, but that's also our job—to be early in some of the bets we make on where the market is headed and what the needs of the industry are in the future.

What are some investment sectors that you see cooling off?

There is, of course, the obvious one: From an investor appetite point of view, the plant-based sector looks very different today than it did a few years ago after the Beyond Meat IPO (initial public offering) and some of the early successes that followed. I would say this is a bit of a blessing in disguise. If we look at the typical hype cycle, the Gartner Hype Cycle, then clearly we're at the point where the industry is figuring itself out. This new technology is finding its place in the wider food industry. And that allows us to make more realistic assumptions about market size, growth rates, profitability, margin levels, and more broadly to make better decisions.

In addition, it's probably a good thing to see FoodTech investors less focused on quick, last-mile delivery. Not that food delivery isn't important, but to see that money flow into areas that are a bit higher in impact is a good thing for consumers and for the industry. And that's exactly what's happening.

"The plant-based sector looks very different today than it did a few years ago...I would say this is a bit of a blessing in disguise...This new technology is finding its place in the wider food industry. And that allows us to make more realistic assumptions about market size, growth rates, profitability, margin levels, and more broadly to make better decisions."

Let's talk about founders. What are the top traits that you look for in a founder as you're evaluating companies for investment potential?

One of the top traits for sure is a relentless focus on solving real problems, meaning [the willingness] to do whatever it takes and obsess about the problem they're solving. And not to fall in love with the solution too early because ultimately, it's about solving the specific problem, and the solution will change and evolve over time. More specifically to our industry, another key factor is some level of commercial business [experience] and also a sort of emotional maturity, meaning founders who have gone through a few things in their lives and their careers. Founders who have experienced firsthand what it means to build companies, run companies, or own P&Ls (profit and loss statements), or transform parts of a business in this industry—which is complex, fragmented, and traditional in certain ways. [Also], it sounds basic, but the ability to sell and communicate is crucial—founders who can convince cofounders, employees, investors, and customers of the relevance and urgency of what they're building. And then to understand how to manage stakeholders, how to deliver both good and bad news. Those are all fundamental to success.

I've heard discussion recently that it may be more important than ever for startups to forge partnerships. What are your thoughts on that?

This whole idea of disrupting for the sake of disrupting may sound nice, but in practice it's very difficult to really grow a business in an established industry where you need manufacturing resources, sourcing efficiencies, access to customers, and to consumers. All those things require multiple types of partnerships, from strategic investment to joint development agreements, and in some cases, indeed, joint ventures. So they are vitally important to scale in this industry. The challenge, of course, is really knowing where to start, who to partner with, how to approach them, and how to manage potential conflicts of interest. That's something we're always focused on when working with companies.

IN CONVERSATION WITH EX-ALPRO CEO SUE GARFITT

On nutrition, going up against the milk lobby, and the next disruptor

By Nurit Ben

Sue Garfitt knows the food sector inside and out, and the plant-based space in particular. **After roles at PepsiCo and New York Bakery, she spent 8 years as CEO of Alpro, starting out back when plant-based milk was decidedly not a thing. Garfitt turned out to be a force in changing that – establishing the brand as a plant-based leader, driving year-on-year double-digit growth, and going up against dairy lobbies who'd rather not have tough competition on the shelves.**

She left Alpro in 2022 to bring that touch to the The Protein Brewery, a Dutch developer of fermented fungi proteins. We sat down with her on the environment around food stateside, the state of the plant-based industry, and her bet on the next big disruptor in the space.

Let's start with what's all around us – what's your view on what's happening stateside, from tariffs to the pressure on artificial flavors?

Geopolitical challenges come all the time. Let's face it, inflation rises or falls and we still have to manage our way as business leaders through those challenges. That is not to belittle the impact of the tariff war that has recently broken out, which given the magnitude will adversely impact global economic growth. What I would say about the food and ag business is: we still have to eat. There could be some technologies that might not actually thrive or even survive, but the fact is we've all got to eat and drink.

When you're in a high inflation economy you pay more attention to volume than revenue because as consumers, we adjust our position according to our disposable income. But generally speaking, we don't ostensibly change what we're doing. I think the food industry is actually very agile at being able to adjust to those changes because it's had to be agile. And as food industry leaders, we need to see a medium/longer-term picture. Because otherwise we would stop innovating, and the industry and consumers seek that innovation.

What's your take on where the plant-based industry stands right now?

If you look at the market stats, it's globally worth $29 billion. It's clear that plant-based beverages are globally more established than plant-based meat and meat alternatives. But it was developed in the market earlier, so it's not surprising. You can see there's been some turbulence over the course of the last few years, in the meat alternative space in particular which was felt first in the States. It's such a huge market and a great market to scale in, but the minute a trend happens – if it's positive, of course it has a massive impact because of its scale. If it's negative, it also has the same kind of impact in terms of the decline. Europe is very different, because the culture and eating norms are different from one European market to another, so even if there's a trend across Europe, it doesn't happen so rapidly.

On trends, you've seen plant-based go from non-existent to a phrase every consumer knows.

I've been in the plant-based industry for a long time and pioneered to bring plant based to the mainstream, because that term didn't even exist when I started at Alpro. People talked about a dietary issue, an allergy to dairy, usually a lactose intolerance. Now people talk about 'plant based' and it has become a lifestyle choice. The plant-based industry in milk did a lot of work in mimicking the dairy analogue, and that work is still ongoing. There's also the question of price parity between plant-based alternatives versus the animal equivalent. There's no point shying away from it. People are very focused on what they're paying, in particular for the protein they're consuming as their main meal. If you look at plant-based milk in Europe, the growth is still a pretty solid 7 or 8% growth per year. Most food industry leaders would be very happy with that growth. And I think we're in a period of evolution and correction, but that doesn't change the long-term landscape, because fundamentally, we need some different protein options.

Beyond taste and price parity, where does nutrition fit in? How big a factor is it to be competitive in the market?

I'll take that in two parts. First, what do consumers think? And second, what do the dairy and meat industries think? Currently it's not a level playing field, and it was never a level playing field between plant-based alternatives and animal protein, where there is a lot more government support and subsidy for animal farming. But we must start to level that playing field. Even while I was at Alpro, we lobbied politicians and the EU Commission to secure a more level playing field. Otherwise, getting to price parity becomes a lot more difficult, when you've got an uneven position to begin with.

The principle of nutrition was always one of the other questions the animal protein lobby would throw at the plant-based alternatives. And yet, it's very clear now from a World Health perspective that consuming more plants in our diet – full stop – has genuine health benefits. Much literature has now been recorded and written about it, and I think generally consumers recognize that. The next question is to ensure that what's labelled on a pack does not resemble a chemistry set, which raises questions from consumers. *What's in this? I don't recognize it.* And the minute that starts to become more of a question, it puts consumers off. And you see a lot of new technology and new ingredients providing a cleaner label and better taste through improvements in processing.

A bigger opportunity for improving nutrition is in the products we wouldn't automatically associate with alternative protein – snacks and baked goods that are carbohydrate heavy and low in nutritional value. We see the trend in 'better for you' versions where protein and fiber have been added, to improve the product's nutritional value with no organoleptic trade off – that has to be part of the story going forward to engage consumers.

So don't neglect snacking.

Definitely not, because snacking is on the rise, and if we want to positively impact health and well-being we cannot ignore our snacking habits. We are governed a lot by convenience. You don't suddenly stop a generation from eating things that taste good. Multinationals and CPG branded businesses have a huge responsibility because they are part of the opportunity to be able to bring new products to market. Because let's face it, as consumers every time we choose to eat or drink something, we choose the world we want to live in, not just in terms of our health, but the health of the planet.

On the note of industry responsibility, you've been on both the corporate and scale up sides - and corporates usually aren't the ones pioneering innovation. What's the best recipe for working together successfully?

In my experience the one big difference when you move from a corporate environment in the food industry to one where you are scaling is the availability of resources, whether that's financial or people. The corporate environment has those resources in abundance. If I think about that as a capability – to be able to bring innovation through scale up businesses – that's where the leaning in around resources can really help. A relationship with a strategic partner can help commercialize where application capability and expertise is more available than any in startup or scale up. In addition, supporting grant and subsidy applications can also significantly increase the chance of success.

The third part is making sure there is a forum in the industry to be able to bring those parties together. Today it's very disjointed. Collaborations are often due to a food industry leader having a professional or personal interest in a specific technology which they seek out, or a scale up being able to make that connection. But we need to be better at formalizing those connection points. Investors can also play a role via the LPs they have in their portfolio. Put all that together and the industry could go faster.

What's your next big bet on a disruptor in the space?

I think a hybrid of bringing plant and animal together in combinations could be an exciting opportunity. It's not easy to commercialize or operationalize because you're bringing allergens and non-allergens together in a manufacturing environment. But consumers know they need to make healthier choices. Hybrid solutions help to bridge that opportunity, as well as the challenges around taste or price parity. And it should be possible to execute it better.

I'm sure it will take leadership from a number of companies and signposting for consumers so they can understand the proposition. Sure, if you're a plant based fanatic you probably wouldn't do it. But many of us are moving towards flexitarianism. On that basis I firmly believe it could be a big disruptor that unlocks genuine growth opportunities.

Finally, let's talk leadership. What's the most underrated skill you think a CEO needs to succeed?

The skill I think is super important is linked to resilience. It's the ability to be able to stay what I would call 'glass half full.' And that's not completely about optimism, because you need to have your feet on the ground even if your head is in the clouds. You have to be able to say, How do we make that happen? How can we execute that? And maintain a degree of positivity because as a leader you have to be able to inspire others to see the glass half full.

"The skill I think is super important is linked to resilience...you need to have your feet on the ground even if your head is in the clouds. You have to be able to say, How do we make that happen? How can we execute that?

5 QUESTIONS WITH RIVAL FOODS CEO & CO-FOUNDER BIRGIT DEKKERS

By Nurit Ben

Alternative protein is a broad (and critical) category in securing the future of our food. But no company can succeed without the fundamentals: texture, taste, and competitive prices. **Rival Foods is there, on all fronts – along with a production capacity of several hundred tons a year and a fresh round of €10 million funding to fuel that growth.** Co-Founder and CEO Birgit Dekkers joined us for 5 quick questions on what they do, why their tech stands out, and what keeps her going each day.

So...what do you do?

At Rival Foods we're producing and selling the next generation of plant-based meat alternatives that give consumers the juiciness, taste and texture they expect from animal derived, whole cut products. In 2024 we scaled up with a dedicated production facility in the Netherlands, and we can soon reach price parity even to regular meat and poultry. That's crucial.

How is Rival different than the alternative protein options many people know (and some hate)?

There are many plant-based meat alternatives, but mostly in the unhealthy processed categories. Think burgers, nuggets, sausages. Right now, consumers often feel that choosing something plant based means they have to compromise on taste, texture, juiciness.

People want a more nutritious, more sustainable product that can replace animal-derived meat, but without those compromises. We focus on whole cuts, and for our customers that's really significant. Our chicken breast, for example, can be prepared just like a regular chicken breast or even easier. So as our customers design their menus, they can use our product instead of an animal product – a clean swap. No complications.

What's the big problem you're trying to address?

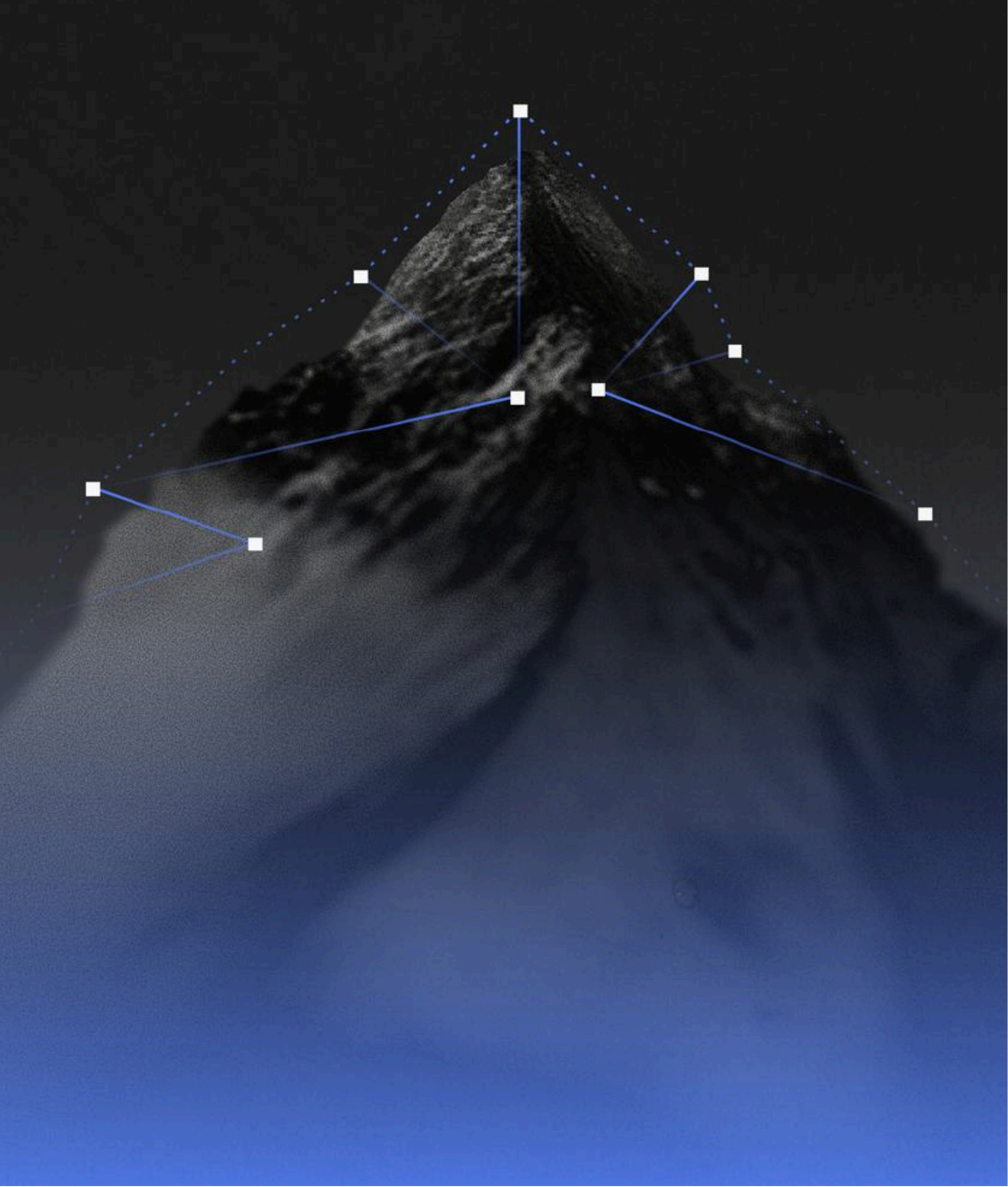
15% of greenhouse gas emissions come from livestock farming, using 78% of our agricultural lands. That's an incredible number. Food safety is also a major problem in the meat industry, including antibiotic resistance and transmissible diseases like bird flu. We're already slaughtering 80 billion animals just for our animals' food supply. And we're challenged with feeding 10 billion people in 2050. Meat production is clearly not sustainable.

Scaling a startup in any space – and maybe particularly in alt proteins – is no easy feat. What keeps you going?

We know how crucial these solutions are; it's not a question of if, it's a question of when. The food industry needs them, consumers need them, and our planet needs them. On a personal level, it's the moments when we're interacting with consumers at events, who taste our products and don't even realize they're eating something plant based. They just pass by, try it and love it, and only later find out it's not meat or poultry. And that's the goal, because without great taste none of this works.

IMPACT REPORT

2024



AT A GLANCE: THE PEAKBRIDGE ANNUAL IMPACT REPORT

In a world where our global food system faces a perfect storm of challenges, transformation is no longer optional - it's imperative. At PeakBridge, we've always believed that meaningful change in the AgriFood sector requires financial returns linked to measurable impact. We're proud to present our second Annual Impact Report, showcasing how this dual commitment is creating tangible results across our portfolio. The past year has brought the fragility of our food systems into sharp focus. **Extreme weather events, geopolitical conflict, trade wars and population growth continue to strain an outdated supply chain built for maximum calories rather than nutrition or sustainability. Food insecurity - our special focus in this year's report - affects tens of millions globally even as we waste one-third of all food produced.** These challenges demand practical AgriFood solutions: scalable technologies that simultaneously address taste, price, volume, health, and climate.

This conviction drives what we do at PeakBridge, and is precisely where our portfolio companies excel. Whether developing resource-efficient protein alternatives that can nourish more people with fewer inputs, creating technologies that slash waste across the supply chain, or pioneering personalized nutrition approaches that improve health outcomes, each company in our portfolio has impact built into its business model - not bolted on as an afterthought. Together with our partners - from leading food corporations to co-investors and knowledge institutes - we're working to build a more resilient, equitable, and sustainable food future. The entrepreneurs we support are the true stewards of food innovation, and we're prouder than ever to back their driven teams.

IMPACT CREATION

12,718 MT
CO_2e avoided

2.3M KGS
of food saved

1,261 TONS
of plastic saved

49 JOBS
created in 2024

981,526 M3
of water use avoided

12 COUNTRIES

1. Australia
2. Austria
3. Canada
4. France
5. Germany
6. Israel
7. Netherlands
8. Singapore
9. Sweden
10. Switzerland
11. United Kingdom
12. United States

IMPACT AT PEAKBRIDGE

82,386,626
Euros invested

29 ACTIVE PORTFOLIO
companies across 12 countries

10 PARTNERSHIPS
Industry/expert

45% WOMEN
Diversity and inclusion

CO2 OFFSETTING
VERRA approved projects for offsetting business travel, 1% of spend

THOUGHT LEADERSHIP

1. Beyond the Buzz: Food as Medicine
2. MFL & the Future of Flavors
3. AI's Impact on the Future of Food
4. Tastewise CEO on AI & Food
5. How GLP-1 is Transforming Food & Consumption
6. Scaling up FoodTech
7. IP in FoodTech
8. Dr. Pamela Rice on Gene Editing & Food
9. Outlook: What to Watch & Ignore

CO2e FOOTPRINT
63 TCO2e, measured since 2024

FOOD [IN]SECURITY

FOOD [IN]SECURITY IN FOCUS

In this year's report we've chosen to zoom in on a crisis of our time, that gets to the heart of the failures in our food system. That's food [in]security.

Reforming the deeply flawed global food system means ensuring people have access not only to **enough** food, but to **affordable** and **nutritious** food. The latter is a growing challenge, with lack of nutrition and poor diet contributing to a host of chronic diseases worldwide.

10B
people to feed by 2050

2.3B
people face moderate or severe food insecurity

HIDDEN HUNGER

1.2B & 372M
non-pregnant women of reproductive age & pre-school aged kids have micronutrient deficiencies

15.8%
of the adult population is obese

33%
can't afford a healthy diet

FOOD WE DO PRODUCE

$1TR
worth of edible food is wasted every year

≈40%
of all food produced is lost or wasted along the value chain

36%
of all crop calories are fed to livestock

Source: UNHCR, 2022-2023 data UN;
U. of Minnesota Institute on the Environment; WRI; The Lancet

AN OUTDATED SUPPLY CHAIN,
Hit by New Shocks

The post-WWII food supply chain was built for one key goal: **maximum calories, across maximum distances.** The 'Green Revolution' aimed to curb hunger with high-yield crops like **corn, wheat, and rice.** Government subsidies for those crops helped set it in stone, with minimal assistance for nutritionally dense foods. Then **global transport networks and new preservation technologies helped get it all around the world.**

The result? A global food system that **rewards volume and shelf life over nutrition, deprioritizes diverse crops, and wreaks havoc on our environment.** That outdated supply chain no longer fits modern needs for nutrition and sustainability – and is cracking under a host of new, powerful pressures:

CLIMATE CHANGE

Major disruptions in production of key crops like cocoa, olive oil, sugar, rice, soy, corn, vanilla

CONCENTRATED PRODUCTION OF KEY COMMODITIES

10 or less nations make up 80% of global production of: wheat, corn, soy, bananas, peaches, oranges, peppers, peanuts, cucumbers, pears, chickpeas, sweet potato, almonds

PANDEMICS

Affecting people & crops

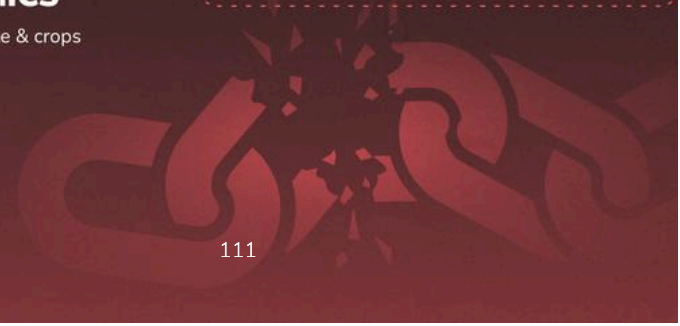
GEOPOLITICAL TENSIONS

Global trade war, Russia-Ukraine war, ME conflict & more

POPULATION GROWTH

10B people by 2050

SCALABLE AGRIFOOD TECHNOLOGIES ARE CRITICAL



IMPACTING FOOD SECURITY
through the PeakBridge Portfolio

Nourish More People, with Fewer Resources

Technologies that expand the global food supply by creating **resource-light, scalable alternatives** to conventional agriculture, without compromising on taste or nutrition. In brief: allowing us to produce **more food, for more people**, with **less land, water, and emissions.**

RIVAL FOODS · ImaginDairy · FIBER FOODS · forsea · STANDING OVATION · kern tec · Vow

Make better use of what we have: Cutting Waste & Securing the Supply Chain

A third of all food is wasted before it reaches our plates. These technologies are building smarter, tech-enabled systems to **slash waste, improve resource efficiency**, and **enable a resilient food supply chain.**

BE WTR · NEOLITHICS · Delicious Data · VANILLA VIDA · carob way · kern tec · WIN WIN · orbisk · mondra

Feed Smarter: Better Nutrition & Personalized Health

Technologies that **improve access to nutritious, functional foods**, and **improve health outcomes**, preventing and better managing costly diet-related diseases.

InsideTracker · iwi · supernutural · una · MYOTA · THE MEDITERRANEAN FOOD LAB · FoodHealth co. · N!CK'S

PORTFOLIO SPOTLIGHTS

A Closer Look at What They Do & Why it Matters

PORTFOLIO SPOTLIGHT

THE MEDITERRANEAN FOOD LAB

HEADQUARTERS	France
CATEGORY	Ingredient Innovation
TARGET MARKET	Plant-based meat, sauces & condiments
SDG ALIGNMENT	SDG 12.2 – Efficient Use of Natural Resources SDG 12.3 – Food Waste Reduction

WHAT THEY DO & WHY IT MATTERS

MFL uses proprietary solid-state fermentation to create rich, natural flavors from 100% food ingredients — with no synthetics or additives. By transforming underused raw materials like grains, legumes, and agri-waste streams into craveable umami-rich flavor compounds, MFL solves one of the biggest issues in the plant-based market: taste. MFL's flavors help plant-based foods compete with meat on flavor and satisfaction, encouraging broader adoption of low-carbon food choices.

THE MARKET

Taste remains the primary barrier to widespread adoption of plant-based products. MFL is changing that with clean-label, natural alternatives to synthetic flavor enhancers like bouillon cubes or MSG-laden seasonings. Targeting both the plant-based meat and sauces & condiments categories, the company's platform addresses two massive markets with a combined TAM of $16.4B.

THE TECH

MFL boasts a library of natural, clean-label flavor enhancers that are difficult to reverse-engineer and compatible across many applications, from plant-based meats to traditional savory foods.

- Solid-state fermentation using food-grade microbes
- Proprietary microorganism strains and optimized fermentation process
- IP strategy that protects product families broadly, minimizing need for multiple patents
- Real food inputs (grains, legumes, side streams)
- Fine-tuned fermentation conditions to yield hundreds of flavor compounds
- Driven by AI

THE REAL-WORLD IMPACT

MFL supports **SDG 12** through multiple channels:

- Sustainability push: Makes plant-based foods more attractive, accelerating a shift to lower-impact diets
- Clean label: Replaces synthetic additives with recognizable ingredients
- Waste valorization: Uses food waste and side streams as inputs
- Full Life Cycle Analysis (LCA) to be conducted once MFL reaches scale

PORTFOLIO SPOTLIGHT

KERN TEC

HEADQUARTERS Austria
CATEGORY Ingredient Innovation
TARGET MARKET Plant-based dairy (milk, yogurt, cheese), upcycled food ingredients
SDG ALIGNMENT SDG 12.2 – Efficient Use of Natural Resources

WHAT THEY DO & WHY IT MATTERS

Kern Tec transforms a major waste stream - stone fruit pits - into functional, sustainable ingredients that can replace traditional nuts and dairy. Using proprietary technology, they extract the seeds inside these pits (typically incinerated), then process them into oils and protein-rich flours used in a wide range of plant-based dairy products. The result: food system waste transforms into high-quality, nutrient-dense ingredients that outperform almonds and other nuts in cost, sustainability, and taste, while helping accelerate the shift to non-dairy alternatives.

THE MARKET

Kern Tec sits at the intersection of two fast-growing trends: upcycled food and plant-based dairy. Consumer and industry demand for sustainable, health-forward products is rapidly growing, with investment in health-promoting foods in Europe rising from €10M in 2014 to €164M in 2021. Their innovation unlocks a high-margin product with licensing potential and significant B2B applications.

THE TECH

Kern Tec applies their proprietary multi-step process to give new life to previously unused seeds: from each seed, roughly one-third becomes oil and two-thirds become protein flour. These are then processed into a paste that functions as a dairy analogue base.

- Exclusive access and capability to process stone fruit pits
- Proprietary multi-step process to recover & refine the seed of stone fruit pits
- Integration of oils and protein flour into a paste for non-dairy milk products
- IP-protected detoxification to make ingredients food-safe and open the door to future product and licensing expansion
- Building a company-wide ERP system to automatically track impact metrics alongside financial and operational data

THE REAL-WORLD IMPACT

With its tasty, functional dairy alternatives, Kern Tec helps reduce reliance on conventional dairy, supporting a less resource-intensive food system. Kern Tec directly contributes to **SDG 12** by upcycling agri-waste and transforming it into nutritious food.

- Prevents incineration of fruit pits, a high-volume waste stream
- Creates non-dairy products with a lower environmental footprint
- Utilizes 100% of its side streams to create value, including non-food uses

PORTFOLIO SPOTLIGHT

FIBER FOODS

HEADQUARTERS The Netherlands
CATEGORY Alternative Protein
TARGET MARKET Meat, Fish, and Vegetarian Products
SDG ALIGNMENT SDG 5 – Gender Equality
SDG 12 – Responsible Consumption & Production

WHAT THEY DO & WHY IT MATTERS

Fiber Foods invented PrimeJack®, a 100% natural, meat-like jackfruit-based ingredient that rehydrates to 8x its weight. Sourced and processed entirely in Africa, it's a sustainable, affordable, and fiber-rich filler ingredient for large food manufacturers. Their unique jackfruit helps reduce or replace meat in a wide range of products, while outperforming other plant-based alternatives on allergens, sustainability, and cost. The result: a versatile, ethical solution that appeals to modern consumers seeking health-conscious, climate-friendly foods.

THE MARKET

Fiber Foods is strategically positioned between two growing segments: the traditional meat industry and the plant-based alternative market. Both face challenges with cost, carbon, and consumer trust - particularly around complex ingredient lists, allergens, and inconsistent textures. Their transparent, solar-powered supply chain and unique raw material access create strong competitive barriers for new entrants.

THE TECH

Fiber Foods processes jackfruit at the source, using a high-efficiency dehydration method powered by **70% solar energy** and **30% hydropower**. Their circular production model uses up to **80% of the jackfruit** for food, while the peel is upcycled into black soldier fly feed — which then becomes organic fertilizer. A flexible, high-performance ingredient that's easy for manufacturers to integrate.

- A clean-label ingredient that's allergen-free and cholesterol-free
- Neutral flavor and meat-like texture
- Long shelf life and high yield
- Low cost and low carbon footprint
- Compatibility across meat, fish, and plant-based products
- No need for regulatory approval

THE REAL-WORLD IMPACT

Fiber Foods' impact spans environmental, social and economic dimensions, contributing to SDGs
5 and 12:

- **Minimal environmental footprint:** no fertilizer, irrigation, or tilling
- **Renewable energy use:** Solar and hydropower used in processing
- **Full-plant utilization:** 80% of fruit used, remainder upcycled
- **Fair employment:** Factory workers in Uganda paid 2x local average wages.
- **Strong supplier controls:** Policies on child labor, health & safety, and ethical sourcing
- **Impact validation underway:** A footprint study with Wageningen University will inform a full Life Cycle Analysis as part of an Invest International loan

CONTRIBUTORS

Gali Artzi, PhD, Partner & CTO

With a Ph.D. in cell immunology and biology, Gali Artzi brings with her a rare combination of scientific knowledge, innovation leadership in both corporates and startups, and business experience in food ingredients and nutrition. From Enzymotec, to Frutarom and IFF, she's held senior leadership roles and has a deep background scouting technologies, guiding product development, managing innovation and commercialization, and much more.

Nurit Ben, Head of Communications & Content

Nurit Ben joined PeakBridge with 16+ years of experience in global news media, across TV broadcasting, print, and podcasting, from CBS News to CNN and The New York Times. Her background ranges from anchoring live global news, to interviewing high-profile newsmakers, field reporting, running newsrooms and content, and moderating global innovation summits.

Martina Pace, Partner & COO

Prior to joining PeakBridge, Martina Pace co-established the Technology Transfer Office and business incubator at The University of Malta, focusing on commercializing a range of technologies and managing intellectual property. Her background also includes the Malta Council for Science and Technology, vetting research and innovation projects, and time at Procter & Gamble as a product engineer. She holds a master's degree in chemical engineering and a master's degree in Entrepreneurship.

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Thomas van den Boezem, Junior Partner

Thomas van den Boezem is a former Investment Manager at EIT Food and Investment Analyst at Innovation Industries. He worked as program director at StartLife and also founded BoxBites, a healthy snacking subscription company. He holds an MSc in Management, Economics, and Consumer Studies and a BSc in Public Health from Wageningen University, the Netherlands.

Eva Everloo, Associate

A nutrition scientist who transitioned into VC, Eva brings prior experience in agri-food, health, and consumer markets, having worked in business development at Dutch ingredient companies Revyve and GreenBoy Group, and gained hands-on startup experience with her own venture, for which she was recognized as a FOOD100 NL "Changemaker in Food" in 2021.

Yoni Glickman, Managing Director, FoodSparks®

Yoni Glickman served as President of Natural Solutions at Frutarom, acquired by IFF for $7.1 billion. After the acquisition he became a member of the Executive Committee at IFF. His vast experience also includes serving as CEO of Atlantium Technologies (WaterTech) and CEO of Hanita Coatings, (energy efficiency). Yoni has held multiple board positions across BioTech, food ingredients, WaterTech, and pharma as well as advising PE funds on multi-billion-dollar transactions.

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Anđela Martinović, PhD

Anđela Martinović is a scientist and researcher with a deep passion for health, wellness, and innovation. She holds a Ph.D. in Food Systems from the University of Milan, specializing in probiotics and gut health. Throughout her career, she has worked extensively on scientific projects focused at improving and optimizing human health, inc luding as a founder of the Montenegrin Science and Technology Hub epiSTEMe.