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## **The Good Food Institute**

### **Blueprint v.8, October 2022**

#### **I. The Good Food Institute:** Creating a world where alternative proteins are no longer alternative

**The Good Food Institute** is a nonprofit think tank and international network of organizations accelerating alternative protein innovation to make the global food system better for people and the planet. To review some of our specific successes, please see [our 2021 annual review](#) and [2022 mid-year impact report](#). To sign up to receive GFI's various newsletters, including our monthly highlights, please visit [gfi.org/newsletters](https://gfi.org/newsletters).

#### **A. The challenges**

**Industrial animal agriculture is limited by finite resources.** We don't have enough land and water to keep up with the rising demand for meat using current production methods. We have to keep climate change under 1.5 degrees, yet current meat production is a large contributor to global carbon emissions. Antimicrobial-resistant pathogens continue to evolve, yet we don't reserve antibiotics for human medicine. The United Nations has declared that the top two drivers of zoonotic diseases are animal protein consumption and the intensification of agriculture. Global human health and global food security are in jeopardy.

**Meat consumption keeps going up,** despite many years of environmentalists and global health experts pushing for the reverse. Everywhere in the world, meat consumption tracks with income. According to the UN FAO, meat production and consumption are expected to increase by more than 50% by 2050.

## B. Our theory of change

If the world is to achieve its climate, global health, food security, and biodiversity goals, making meat differently via alternative proteins—meat made from plants or cultivated from cells—will be as essential as the global transition to renewable energy. When compared to conventional meat, alternative proteins dramatically reduce emissions, require far less land, eliminate the need for antibiotics in our food system, and feed more people with fewer resources. At scale, these alternative meats offer tremendous climate and environmental benefits.

Given that taste and price determine what most people eat, GFI works around the world to make alternative proteins as delicious, affordable, and accessible as conventional meat. We identify the most effective solutions, mobilize resources and talent, and empower partners across the food system to make alternative proteins accessible, affordable, and delicious.

To maximize our impact and the effectiveness of our supporters' contributions, the GFI team relies on three pillars:

- **System-level solutions.** We will make the greatest impact by shifting the broader foodscape rather than placing the onus for change on individual consumers.
- **Big-picture perspective.** Our approach crosses the plant-based and cellular agriculture industries, the supply chain, a variety of key market sectors, international boundaries, and the coming decades. This allows us to help spot and address industry-wide challenges today and forecast and avert future obstacles.
- **Free knowledge sharing.** In a field where many innovators are seeking novel solutions to the same set of problems, GFI's work is not hampered by IP laws or trade secrets. Our research, data, and insights are open-access and support the advancement of every innovator in this space.

As an international network of organizations powered by philanthropy, GFI is uniquely positioned to accelerate alternative proteins by catalyzing and growing the entire field, creating a world where alternative proteins are no longer alternative.

## II. GFI's programmatic departments: SciTech, Policy, and Corporate Engagement

GFI has three programmatic departments to accomplish this task: Science and Technology, Policy, and Corporate Engagement. Our Communications department serves as a force multiplier, taking the work of these programmatic departments into key spheres of influence. Our international affiliates (Asia-Pacific, Brazil, Europe, India, and Israel) work closely with the team in the U.S. to scale our programs globally.

## A. Science and technology

*GFI has really put cultivated meat on the map for us. We're grateful to have GFI's team of scientists analyzing the areas of need in this burgeoning industry and driving conversations about how existing players can become partners in progress.*

—Lavanya Anandan, head of innovation field, cultivated meat & future foods; Merck KGaA, Darmstadt, Germany

**The mission of GFI's Science and Technology (SciTech) department** is to catalyze scientific advances to accelerate alternative proteins' path toward sensory, price, and scale parity with conventional meat. GFI's scientists and research ecosystem-builders are the global experts on plant-based proteins, microbial fermentation, and cultivated meat and work to ensure that (1) a roadmap exists for each, (2) the best scientists and entrepreneurs are engaged in R&D and innovation, and (3) significant funds are dedicated to accelerating the transition of the global food system.

Our SciTech department accomplishes these tasks through three principal activities:

### **Analysis: identifying and forecasting knowledge gaps to direct research efforts and resources toward the most critical solutions**

GFI's SciTech team conducts detailed technical analyses of the alternative protein sector, including identifying and articulating major technical challenges, forecasting growth bottlenecks, and evaluating the major drivers for cost and environmental impact. GFI shares the findings in the form of white papers, peer-reviewed journal articles, public webinars, and stakeholder-targeted factsheets with actionable recommendations. All these analyses are published through our website as open-access resources, heavily publicized, and continually updated.

They seek to reveal research and commercialization opportunities that address knowledge gaps or white space in the commercial landscape. GFI identifies researchers and entrepreneurs in academia and industry with the skill sets and expertise to address these opportunities and supports their exploration by launching new research projects or commercial ventures.

Recent publications by GFI scientists in scientific journals include "[Scaffolding Biomaterials for 3D Cultivated Meat: Prospects and Challenges](#)," published in November 2021 in the multidisciplinary open-access scientific journal, *Advanced Science*; "[The Business of Cultured Meat](#)," the cover article of *Trends in Biotechnology's* June 2020 issue; as well as "[Meeting the Needs of the Cell-Based Meat Industry](#)" featured in *Chemical Engineering* in October 2019. GFI [was profiled](#) in and published an article on [Trends and Opportunities in the Global Plant-Based Meat Industry](#) for the July/August 2020 issue of *Cereal Foods World* (CFW), the industry publication of the Cereal & Grains Association. *Food Technology Magazine*, the flagship publication of the Institute of Food Technologists (the world's largest society for food science

professionals), published SciTech VP Liz Specht's [article](#) in December 2020 on the emergence of fermentation-derived meat as a third pillar of the alternative meat industry. The magazine also recently published a seven-page spread on [formulating with animal-free ingredients](#) written by GFI. Finally, the team continues to expand engagement to new audiences. *New Food magazine*, with an estimated readership of 34,000 food industry professionals, spotlighted a GFI scientist in an interview on the future of cultivated meat.

With the launch of our new [website](#) in early 2021, we significantly expanded our detailed technical explainers on the science behind the alternative protein production platforms of plant-based proteins, fermentation, and cultivated meat. The [Alternative Protein Literature Library](#) contains all of the most relevant publications, patents, and theses in the alternative protein field. Our [report on production requirements](#) for a successful plant-based meat industry underscores the vast level of investment needed in open access R&D to avoid future supply constraints and estimates the infrastructure and raw material targets the plant-based meat industry must meet in order to satisfy anticipated global market demand by 2030.

Through our [Solutions Database](#) initiative, our SciTech team, in partnership with our Corporate Engagement team, canvasses insights from top industry experts to identify crucial challenges and develop solutions. We implement these solutions with leading individuals and organizations to systematically advance the industry. Key deliverables include an overview of the [major challenges at each stage of the alt protein supply chain](#); a [database of solutions](#) that could radically accelerate industry growth; an overview of the [key growth accelerators for the alternative meat industry](#), our rudimentary root cause analysis of how to drive taste/price improvements; and [Future-Proofing Alternative Proteins](#), a listing of the top risks to the alternative meat industry. Since launching the initiative, we've shared portfolios of suggested solutions with multiple external organizations, including Breakthrough Energy (which used our work in their "corporate playbook"), Wageningen University & Research, the world's top agricultural university (which used our work for seminars and in a multi-million euro proposal to the Dutch government), and a leading meat and agriculture company. GFI also works with expert venture studios, offering them our unique expertise through a prioritized list of high-impact commercial ideas. The venture studios use GFI's "idea flow" to decide among company concepts and then capitalize on their own company formation and operational expertise to build the concepts into fully-fledged companies.

GFI's [cultivated meat research tools directory](#) is a central location for species-specific research tools, reagents, assays, protocols, genome sequences, and service providers. In 2021, GFI released the first-ever [LCA and TEA of cultivated meat](#) that leveraged models built using NDA-protected data from over a dozen industry partners. Our open-access [plant-based meat manufacturing guide](#) provides an in-depth review of extrusion for the production of plant-based meat, as well as a directory for ingredients, pilot facilities, and co-manufacturers. We've published critically-important plant-based

deep dives on crop development, ingredient optimization, and end-product formulation and manufacturing that play an important role for academics and industry professionals looking to accelerate the plant-based protein landscape. Additionally, our analysis of culture medium costs and production volumes includes an in-depth cost reduction analysis for cell culture media, and our cultivated meat deep dive series is an exhaustively cited collection of articles delving into the technical advances and considerations of all aspects of cultivated meat.

To support alternative seafood innovation, we maintain and continually improve the open-access resource PISCES/ATLAS, which contains two interlinked databases. The first database, PISCES (Phylogenetic Index of Seafood CharactEriStics), contains detailed species-level characterization data to assist alternative seafood makers in the quest to make products that match their conventional counterparts. The second database, ATLAS (ArcheType Library for Alternative Seafood), is a prioritization tool for alternative seafood archetypes, containing data on sustainability, human health, animal welfare, and market size. We also fund key projects in cell line development, characterization, and cell culture media GFI partnered with Kerafast to establish a repository of cell lines relevant to cultivated meat, including seafood, to streamline the process of sharing cells and reduce duplicated efforts.

GFI also performs literature reviews and industry interviews on an ongoing basis to remain current with advances in the field and in related but distinct disciplines with relevance to alternative proteins, such as advances in biomedicine that are translatable to cultivated meat. In 2022, we have started curating these technological advances every four months in the form of a State of the Science webinar and blog. The SciTech team works with our Communications department to disseminate our findings through webinars, blogs, interviews, and other relevant channels. Our goal is to generate awareness in the scientific community and foster a better understanding of the technological challenges and opportunities within the alternative protein field.

Finally, the SciTech team has created a scientific advisory board composed of industry and academic experts in alternative protein research and adjacent disciplines to evaluate these fields, identify novel opportunities for research, and provide guidance on the SciTech team's strategy and goals.

These efforts enable both GFI and scientists around the globe to understand the state of the science and engineering involved in innovative alternatives to animal products and to direct further R&D accordingly. Our activities are global by nature because scientific knowledge transcends political boundaries, so we work closely with our international affiliates to ensure that our programs reach talent and ideas anywhere in the world. This work is designed to inspire more scientists to devote their vocational lives to these fields and to minimize duplicative work.

**Research funding: mobilizing funding to address knowledge gaps and recruit new investigators, with a strict counterfactual lens for direct funding**

*GFI's research grants are enabling fundamental open-access science. That, in turn, enables scalability and an ecosystem approach to accelerating this space in ways the private sector alone cannot.*

—Max Elder, co-founder and CEO, Nowadays

In November 2021, ClimateWorks Foundation and the UK Government funded a Global Innovation Needs Assessment on protein diversity that concluded we need \$4.4 billion globally in public R&D funding *every year* to unlock the full benefits of alternative proteins. Yet in 2021, global public funding for alt proteins amounted to less than 2% of this goal. Throughout 2022, the SciTech team has been mobilizing additional funding for alternative proteins through three primary activities: 1) directly seeding new research through strategic deployment of GFI's Research Grant Program; 2) catalyzing government funding of alt protein research by de-risking high-impact research topics and educating government agencies about research gaps; and 3) supporting researchers from around the world in applying for alternative protein research grants, connecting them with ideas, collaborators, and funding opportunities.

Due to the overall shortage of open-access plant-based, fermentation, and cultivated meat research and the urgent need to catalyze this research, we launched our own research grant program in 2018. To date, we have funded approximately seventeen million dollars worth of research toward over 100 projects from 18 countries across five continents. We catalyze grantee collaborations through organized online grantee events and expand the alternative protein scientific knowledge base through the amplification of research results, talks, and publications from GFI grantees.

*The GFI grant has been key to consolidating the Alt:Meat lab at UC Berkeley. GFI's generous support has allowed us not only to develop a novel solution, but to train numerous students on the intricacies of producing plant-based foods. This has resulted in the creation of at least 5 startups and over 10 former students working in plant-based companies during the grant period.*

—Dr. Ricardo San Martin, research director, UC Berkeley

Leveraging SciTech's analyses, technical expertise, and industry connections, GFI's grantees are uniquely positioned to identify critical technical barriers and white space research areas that will accelerate the plant-based, fermentation, and cultivated meat industries. The grant support provided through GFI's research program is resulting in many significant positive impacts, including:

- Our funded researchers publishing many high-quality peer-reviewed journal articles, which will establish plant-based and cellular agriculture as robust areas for further scientific inquiry, inspiring more top scientists to dedicate their labs and careers to these pursuits. There have been 55 peer-reviewed publications by GFI grantees to date: 33 publications of primary literature and 22 review articles. Of those, 48 were conducted utilizing GFI grant funding whereas 7 were published following the GFI funding period.

- Startups and established companies using the research to develop, produce, and sell high-quality products.
- As these fields become more developed and based on the concerted work of GFI's SciTech team, universities creating plant-based and cultivated meat training programs and research institutes.

The seed funding provided by GFI's Research Grant Program has enabled many GFI grantees to secure follow-on public grants due to the initial success of their grant-funded research. In 2020, UC Davis received a \$3.55 million grant from the National Science Foundation for cultivated meat research.

*GFI's grant enabled my lab to break ground in cultivated meat research and formulate a plan to address critical industry challenges. This resulted in millions of additional funds directed toward interdisciplinary research and training at UC Davis.*

—Dr. David Block, professor and chair, UC Davis

In 2021, the U.S. Department of Agriculture (USDA) invested \$10 million to create a center for excellence in cellular agriculture at Tufts University, the USDA's first significant investment into cultivated meat and the U.S. government's largest to date. Tufts Professor David Kaplan, the lead investigator on the grant, is a GFI grantee. GFI grantee Girish Ganjyal at Washington State University received a \$595,120 grant from the USDA for plant-based meat research.

In 2022, GFI grantee Amy Rowat at UCLA received a \$604,907 grant from the USDA for cultivated meat research and a 5-year \$995,498 grant from the NSF for cultivated meat research, and GFI grantees at UMass Amherst received a \$596,050 grant from the USDA for plant-based meat research.

As of spring 2022, GFI grantees who went on to secure government funding had been allocated a total of \$1.8 million from GFI with subsequent government grants totaling \$16.9 million, proving that GFI funding can set the groundwork for a nearly 10x investment in public funding. We expect this follow-on funding to grow substantially as our grant program, and our grantees, show further progress.

In addition to de-risking high-impact alt protein research topics, the SciTech team educates funding agencies about the state of alternative protein science. We advise government agencies on current technical challenges facing alternative proteins, serve as grant proposal reviewers for non-GFI funding programs, and help develop alternative protein funding priorities. We have engaged in this work with government agencies and nonprofits such as USDA; NSF; NASA; A\*STAR; the Israeli Ministry of Innovation, Science, and Technology; the Foundation for Food and Agriculture (FFAR); and the European Institute for Innovation and Technology (EIT) Food.

The SciTech team also supports the scientists and entrepreneurs who are applying for these research grant opportunities. [GFI's Research Funding Database](#) provides a range

of public and private grant opportunities for scientists seeking support for their alternative protein research. This is a global repository of grants the GFI team identifies as having a high propensity for alternative protein R&D. We also are developing and refining a [Research Grants Tracker](#) that will enable us to keep track of how the world is progressing toward securing [\\$4.4 billion in public research funding annually for alternative proteins](#). To date, we have provided direct support to more than 50 researchers on alternative protein research-focused grant proposals, including three multi-institutional, multi-million dollar research center proposals. These activities aim to increase the number of funding agencies providing grant opportunities focused on advancing plant-based and cultivated meat and the likelihood of success by researchers applying for these grants.

### **Community-building: creating a robust scientific ecosystem and talent pipeline, equipping scientists at all career levels to enter the field**

GFI is focused on moving the most successful tissue engineers, synthetic biologists, plant biologists, and others into alternative protein technologies—as founders of new and transformative startups; as employees at plant-based and cultivated meat companies; and as doctoral students, post-docs, and group leaders at top universities.

To this end, GFI reaches out to premier universities and professional associations for science and engineering across the globe. We encourage researchers at these institutions to use their expertise for innovative alternative protein research projects. Our subject matter experts deliver presentations in classes, departmental symposia, and conferences to markedly increase the number and caliber of scientists and entrepreneurs in these sectors. Online, we create community spaces and tools (such as the [GFIdeas community](#) and the [collaborative researcher directory](#)) that enable scientists and entrepreneurs to collaborate—which in turn broadens the range of innovation in both academia and the private sector. For these audiences, we curate seminars that [illuminate recent scientific advancements](#) and highlight [career pathways](#) to help them stay up-to-date on how best to meaningfully contribute to this growing field of research.

Our global student group program, the [Alt Protein Project](#), is active at 36 top research universities across 17 countries and 5 continents. The Alt Protein Project is an action-oriented program designed to help students engage their peers and faculty on the subject of alternative proteins, advocate for alternative protein research and curricula, conduct their own scientific research, and found their own businesses. In parallel to increasing the level of alternative protein activity on campus, these groups provide a steady stream of easily-identifiable talent for the alternative protein industry.

Since we started the program in 2020, GFI's Alt Protein Project has successfully seeded alternative protein research and educational programs at universities around the globe. Students have developed new courses at [Stanford](#), [UNC Chapel Hill](#), and Johns Hopkins, sparked new research projects at institutions like [Wageningen](#) and [CU](#)



Boulder, and seeded the alternative protein workforce with much-needed technical talent. Program alumni have gone on to join Upside Foods, Rebellious Foods, Beyond Meat, TurtleTree Labs, Mosa Meat, and many others.

In 2022, our team launched a new training program, a five-week curriculum designed to equip student leaders with the resources, knowledge, and inspiration they need to be effective change agents for advancing alternative protein initiatives on their campuses. We also launched our resource hub which contains detailed strategic planning resources and how-to guides for advancing each of our five programmatic objectives: education, research, innovation (in development, launching later in 2022), awareness, and community. This open-access set of resources is available to student movement-builders around the world, equipping them with the information they need to turn their universities into engines for alternative protein innovation.

In collaboration with universities and companies, we are developing on-campus and online courses to educate students, scientists, and engineers about the technical foundations of meat made from plants, animal cells, and microbes. We have helped launch over a dozen alternative protein courses at institutions like UC Berkeley, the Technion, the Federal University of Paraná, and Nanyang Technological University. Our curriculum repository and course database lower barriers to access for educators seeking to bring alternative proteins into the classroom and provide stakeholders with a global map of the alternative protein educational landscape. For a broader reach, we released a free massive open online course that has attracted participation from more than 10,000 unique registrants from at least 115 countries since January 2019. This course has now been translated into Portuguese and Mandarin and launched by our affiliate in Brazil and our partner consultancy in China.

### **Private sector consultation**

In collaboration with our Corporate Engagement department, GFI's scientists also work closely with leading food industry partners to scout technologies that address barriers to bringing alternative proteins to market. The SciTech team develops relationships with major food manufacturers and ingredient suppliers to determine their needs. Thus, the team serves as a bridge to food innovation and biotechnology incubators with unique insight into plant-based and cellular agriculture technologies.

We also work closely with entrepreneurs developing companies not directly influenced by the insights of our Solutions Database work. In this capacity, GFI provides technical and commercial consultation, introductions to industry contacts, connections to funding opportunities, and access to external experts to aid in the scientific development of their products.

## **B. Policy**

Policy decisions can be the difference between success and failure for alternative proteins. Governments can incentivize incumbent industries through funding and protectionist regulation, or they can accelerate innovation and make launching new businesses and products easier.

GFI's theory of change is based on the idea that consumers will choose alternative proteins when they are as inexpensive, delicious, and ubiquitous as animal products. **GFI's Policy department** exists to ensure that governments do not impose hurdles that drive up the costs of or prevent access to these foods and that public support is devoted to accelerating progress in alternative proteins.

Governments should support alternative proteins for many of the reasons that they support conventional agriculture and for the same reasons they support other climate and global health science and policies, from renewable energy and electric vehicles to vaccine development and pandemic prevention.

### **Leveraging government resources to accelerate progress**

We have a long way to go to achieve parity between alternative proteins and conventional meat. Public funding represents the biggest gap by far. Governments have directed very little funding to support alternative protein research. By our estimate, the U.S. government spends 100x more on research that props up industrial animal agriculture than on alternative protein research.

Our Policy department works collaboratively with our SciTech department to leverage government resources to accelerate research to advance alternative proteins. We meet with congressional offices, state legislators, federal agencies, and the White House to communicate the vital need for public research funding to speed progress for plant-based and cultivated meat.

In 2018, we helped organize the first-ever congressional briefing on cultivated meat R&D, sponsored by the House Research and Development Caucus and its chairs Rep. Barbara Comstock (R-Va.) and Rep. Bill Foster (D-Ill.). In 2019 and 2020, we met with White House officials urging investment in alternative proteins. In 2021, we met with the Biden transition team and hosted a virtual briefing with Reps. Earl Blumenauer (D-Ore.), Ted Deutch (D-Fla.), and Susan Wild (D-Pa.) to highlight how the growing alternative meat industry can boost economic growth and spur job creation.

We submitted appropriations-report language requests for six consecutive years, beginning with the fiscal year 2018, to key members of Congress, asking them to include language that would direct agencies to fund research on plant proteins and cellular agriculture. In 2020, 2021, and 2022, we rallied an impressive array of allies,

including Unilever United States and The Kraft Heinz Company, to sign a letter of support for our legislative efforts.

In 2021, House Appropriations Chair Rosa DeLauro called for “parity in research funding for alternative proteins, a compelling option for addressing agricultural emissions.” In 2022, we briefed staff from 22 Democratic congressional offices and the House Committee on Education and Labor at the U.S. House of Representatives Sustainable Energy and Environment Coalition on alternative proteins. We asked for support for our upcoming requests for research funding and highlighted companies in the staffers’ districts to localize the issue. Additionally, we launched a Hill-facing newsletter Protein Innovation Nation to keep congressional offices informed of progress at home and in other parts of the country year-round.

Our lobbying efforts have seen much success: Each year appropriations reports have incorporated language encouraging research funding for plant proteins, including as alternatives to conventional animal products. In the past two years, this language specified a dollar amount that should be spent on alternative protein research more broadly. However, we are mindful that our success to date is not enough. We continue to lobby Congress and the agencies to ensure that alternative protein research achieves Chair DeLauro’s vision: parity with industrial animal agriculture research.

In December 2021, eleven House members requested \$50 million of American Rescue Plan Act funding for open-access alternative protein research and also asked that the White House prioritize alternative proteins in its 2023 budget request to Congress. The Members wrote that alternative proteins “can improve the sustainability and resiliency of our food systems” and that government support “will create new economic opportunities for American farmers, new benefits for consumers, and help reduce agricultural emissions.” In 2022, GFI and our lobbyists worked with California Assemblymember Ash Kalra and several California-based alternative protein companies to secure \$5 million for alternative protein R&D at three University of California campuses: Berkeley, Davis, and Los Angeles. At the time of the announcement, this was the largest amount a state legislature has ever set aside for this purpose.

Additionally, we have urged the House Committee on Science, Space, and Technology, the Senate Democrats’ Special Committee on the Climate Crisis, and the White House Office of Science and Technology Policy to establish an interagency Alternative Protein Initiative modeled after the National Nanotechnology Initiative. We worked with Breakthrough Energy, Bill Gates’ organization, to position alternative proteins as a critical strategy component to achieve net-zero emissions in their federal climate policy playbook. We also organized a letter from 15 House members to Special Presidential Envoy for the Climate John Kerry, requesting that he include alternative meat on the agenda for President Biden’s Leaders’ Climate Summit on Earth Day.

## **Removing hurdles to alternative proteins**

We advocate for a clear and efficient path to market for cultivated meat and fermented ingredients and a level playing field for plant-based meat.

First, we ensure that cultivated meat (including fish and seafood) can come to market without unnecessary regulatory burdens. We are developing the safety roadmap for regulators to ensure global harmonization and consumer safety and confidence. In coordination with the companies in this space, we testify at hearings and submit comments that respond to regulators' questions about cultivated meat's safety and fair labeling. In 2019, we arranged a tour of a cell-culturing company's lab for the U.S. Government Accountability Office, which prepared a report on federal oversight of cultivated meat that it delivered to Congress the following year. Following several years of engagement with our team, the Singapore Food Agency approved the sale of cultivated meat from Eat Just in 2021, becoming the first country in history to do so.

In a significant legislative win, we worked with Sen. Jeff Merkley (D-Ore.) to strike a harmful rider from the fiscal year 2019 agriculture appropriations bill. The rider would have required new regulations and given sole jurisdiction over cultivated meat products from livestock and poultry to the USDA. In 2021, we celebrated one of our biggest successes to date, when USDA declared that it would not promulgate any new regulations for cultivated meat safety because the current regulatory regime is sufficient. The FDA weighed in similarly.

Mindful that opposition to technology presents a challenge to innovation, we also develop relationships with other nonprofit organizations to familiarize them with cultivated meat and address their concerns. In 2019, we established a policy office in Washington, DC, which serves as our campaign headquarters and provides an ideal setting for meeting with the leaders of other nonprofit organizations. GFI is uniquely qualified to lead this initiative to engage the nonprofit community. Doing so also supports our other policy priorities.

We also work with federal food agencies, members of Congress, and state legislatures to support commonsense labeling rules to keep the playing field level for alternative proteins. For example, we proposed a regulation to explicitly allow label terms like "soy milk" and "veggie bacon." We also submitted comments on cattlemen and dairy groups' proposals and filed an amicus brief supporting Blue Diamond's almond milk labels. We regularly lobby Congress in opposition to labeling restrictions and oppose state legislation intended to censor plant-based meat and milk labels. In 2021, GFI and a handful of companies that make plant-based meat played a major role in defeating three label censorship bills, including two in Texas.

We also use strategic litigation to prevent the government from imposing unnecessary restrictions on the labels of alternative proteins. In 2021, USDA denied a 2018 petition from the U.S. Cattlemen's Association urging the agency to censor meat and beef terms on plant-based and cultivated meat product labels. The agency's reasoning echoed the

arguments that we made in a comment we filed on behalf of GFI and seven private companies. As of September 2022, we currently have three cases with co-counsel (including the American Civil Liberties Union, their local affiliates, and the Animal Legal Defense Fund) representing Tofurky in constitutional challenges to label restrictions. Our legal advocacy prompted a federal court to block Arkansas from enforcing its law because the court held that the law violates the First Amendment by censoring free speech. We subsequently prevailed in our case challenging a Louisiana label censorship law, and that ruling is currently on appeal to the U.S. Court of Appeals for the Fifth Circuit.

## **Shaping global regulatory developments**

EAT, a global nonprofit dedicated to transforming our global food system, invited GFI to lead the innovation pillar of the sustainable consumption track for the United Nations' 2021 Food Systems Summit. GFI led an alternative protein working group of more than 50 nonprofits, universities, and companies to garner support and implement ideas.

The Codex Alimentarius (“Food Code”) Commission, which sets global standards for food safety and labeling, added alternative proteins to this year’s agenda and published a submission from GFI. The submission establishes GFI as a subject matter expert and invites the United Nations Food and Agriculture Organization and World Health Organization to call on us to provide technical assistance and introduce them to companies and scientists in this sector.

A global delegation from GFI attended the 2021 COP26 summit in Glasgow, the biggest and most important climate conference of the year. GFI co-hosted an event focused on advocating government support for alternative proteins with ClimateWorks Foundation (CWF), Climate Advisers (CA), and the Atlantic Council. In November 2022, GFI will join eight other organizations in co-hosting the first-ever Food Systems Pavilion at COP27. The GFI team will be there in force to represent the transformative impact that government support for alternative proteins can have on our climate, oceans, biodiversity, and forests.

## **C. Corporate Engagement**

*Driven by a sense of urgency to mitigate the impact of animal agriculture on sustainability, climate change, and global health, [GFI's] main priority is to foster and support innovation in the alternative protein field. ... The vast majority of entrepreneurs have told us time and time again how important GFI has been in eliminating many of the challenges in establishing startups.*

—AgFunder News

*The GFI team has been amazing. ... They were instrumental in hooking us up with great partners that allowed us to jumpstart our efforts. And without GFI and the Corporate*

*Engagement team, we would be two, three years behind... Hats off and thank you very much for being such an incredible part of our success.*

—Eric Christiansen, CMO, Perdue Farms

There is no shortage of new and innovative products that have replaced their outdated counterparts—think kerosene replacing whale oil, refrigeration replacing ice blocks, cell phones replacing landlines, digital photography replacing physical film, and cars replacing horses and buggies. While corporations may have motivations for change that include environmental and health concerns, all investments have to be profitable.

**GFI’s Corporate Engagement department** works to replicate past market transformations by showing companies of all sizes, from startups to multinational corporations, how alternatives to animal products can be profitable while meeting environmental, social, and governance goals.

We analyze the market, uncover consumer insights, identify whitespace opportunities, provide advice, make industry connections, and build communities. We work with the private sector to drive investment, accelerate innovation, and scale the supply chain so alternative proteins can be as accessible, affordable, and delicious as conventional animal products. Our work enables food industry partners to develop and bring to market alternative protein products that are as accessible, affordable, and delicious as conventional meat.

### **Investor outreach**

The alternative protein industry raised \$5 billion in investments in 2021—60 percent more than the \$3.1 billion raised in 2020. However, compared to other sectors like clean energy, cannabis, and biotech, the dollars invested in alternative proteins are a drop in the bucket. Alternative proteins are “hot” right now, but converting public interest into impactful investors writing large checks to the best company requires top-of-funnel and bottom-of-funnel engagement.

The Corporate Engagement team works with investors to help them connect with startups and conduct due diligence. Our [Company and Fundraising Database](#) lists companies in the alternative protein sector, including details like product focus, location, date founded, and founders. It also lists fundraising rounds being conducted by alternative protein startups. Investors seeking to invest in the industry are able to filter by a range of company and deal characteristics, as well as review select pitch decks and video pitches. Once prospective investment opportunities are identified, investors are invited to contact their target companies via the contact information provided for further exploration and diligence. GFI’s due diligence [support resources](#) include an industry consultants list and sample questions to ask during cultivated meat technical due diligence.

Our engagements with investors provide education on the alternative protein industry, including global and regional market data, consumer insights, sales and investment

trends, technological updates, regulatory information, and more. We present to banks' wealth management divisions to educate advisors on the investment opportunities within the alternative protein industry, help investment management firms craft an agenda and source speakers for alternative protein "investor days", consulting with sell-side analysts on how best to incorporate alternative protein in their research coverage and presenting alternative proteins to institutional investors on analyst-hosted "expert calls."

Beyond understanding the alternative protein market, we advise investors to understand how alternative proteins can contribute to ESG and/or impact investing goals. In 2022, GFI and FAIRR released first-of-their-kind [Alternative Proteins ESG Reporting Frameworks](#) that provide standardized, industry-specific ESG reporting frameworks for alternative proteins. The frameworks allow companies involved in alternative proteins to assess and report ESG impacts of their business practices and products across key areas including climate, water and land use, biodiversity, labor, and food security. This will enable comparisons between companies involved in alternative proteins and companies involved in animal products, support investor due diligence, and provide a roadmap for company best practices.

Corporate Engagement's monthly flagship [Alternative Protein Opportunity](#) is an investment newsletter with tailored insights for investors. The goal is to guide high-impact investment into alternative proteins by providing original insights, highlighting industry bottlenecks and white space opportunities, and disseminating GFI's investor resources and events. Additionally, GFI founded two venture capital funds—New Crop Capital and Clear Current Capital—to provide funding, coaching, and other resources to plant-based and cellular agriculture companies.

## **Supply chain engagement**

GFI's supply chain efforts seek to help supply keep pace with and drive demand by supporting interventions that scale the production of alternative protein products and upstream inputs as well as improve the sensory quality, variety, functionality, and price of end products.

We conduct analyses of the key challenges and whitespace opportunities within each segment of the value chain and share those insights via our open-access [Solutions Database](#) and [Innovation Priorities](#) pages. In support of those solutions, we complete research projects on high-value topics in order to support needed initiatives, including research into infrastructure capital sourcing, production volume modeling, demand modeling and forecasting, ingredient and end-product scaling, industrial B2B sales channels, facility/equipment leasing, cost analysis, techno-economic assessments, total addressable market analysis, co-product management, labor analysis, plant protein comparisons, and ingredient buyer surveys. We also conduct targeted outreach to large-scale incumbent suppliers and innovative startup challengers who provide B2B supply-side products and services to the alternative protein industry.

## **Supporting the most innovative alternative protein companies**

The Corporate Engagement department works with both startups and established companies in the meat sector made via fermentation or from plants or cultivated cells. This includes reviewing business plans and pitch decks, conducting market research and branding exercises, recruiting top talent, and mentoring on all facets of starting and running a company. The Corporate Engagement team also collaborates with other GFI departments to help startups with regulatory issues, public relations, industry connections, science, and other areas where we can add value that the companies would have trouble securing without us.

GFI creates and maintains a variety of high-impact resources to help aspiring entrepreneurs turn their ideas into high-growth, impactful companies. The first resources in this journey are the [startup manual](#), [entrepreneur resource guide](#), and the [GFIdeas community](#). The startup manual is a highly detailed step-by-step guide to creating a successful alternative protein company. The GFIdeas community is a forum for entrepreneurs, scientists, students, and subject matter experts to support one another and discuss business and technical challenges and solutions. Each month, we host an online seminar with leading experts from around the world titled The Business of Alt Protein which is geared toward an industry-focused audience on topics related to starting and scaling a good food business. Our SciTech team similarly holds a monthly Science of Alt Protein seminar for the GFIdeas community that addresses a technical audience and focuses on cutting-edge research developments that enable alternative protein innovation. In addition to our seminars, networking events, and community Slack, we also have a monthly newsletter that shares timely opportunities and developments in the sector.

The second group of resources comprises GFI's [talent database](#), [directory of accelerators and incubators](#), [investor directory](#), and [contract manufacturing database](#). The talent database helps growing startups find mission-aligned talent, the directory of accelerators and incubators offers partners in growth, the investor database helps startups identify investors active or interested in the space, and the supplier database helps companies connect with partners essential to growing their businesses.

The Corporate Engagement department cultivates relationships with all established manufacturers of plant-based meat to keep them abreast of opportunities and research that can help their businesses grow. We launched the monthly *Alternative Protein Opportunity* newsletter in July 2018 to more efficiently communicate news and opportunities to the entire plant-based business community. The newsletter goes out to more than 12,000 food industry stakeholders including retailers, manufacturers, investors, entrepreneurs, and foodservice companies, and allows CE to distribute key resources, serve as a thought leader in the food industry, and remain top-of-mind for our audiences.



We have excellent relationships with all the exclusively plant-based manufacturers, and having one central contact—GFI’s Corporate Engagement department—is exceedingly valuable.

### **Big food and meat company outreach**

GFI is encouraged by the meat industry’s response to plant-based and cultivated meat. Our Corporate Engagement department has developed excellent relationships and delivered presentations on the opportunities for alternative proteins to some of the world’s largest meat companies. We’ve also given in-depth presentations to several large food and ingredient companies that have the capacity to be notable players in the fermentation-derived protein industry. Most of this work is protected under NDA.

In 2022, a global team from GFI was in Frankfurt this month as the strategic partner for alternative proteins at IFFA 2022, the largest meat industry trade fair in the world. For the first time in its history, IFFA showcased products from the alternative protein sector, with at least 200 exhibitors falling into this category. The GFI team helped elevate alternative proteins by hosting a booth alongside ProVeg and BALPro, guiding alternative protein discovery tours, and presenting GFI’s key commercial, R&D, and supply chain insights at the conference.

### **Industry-leading market and consumer research**

GFI ensures that startups, established companies, and policy authorities are provided with objective and impactful research to aid their understanding of consumers. By both conducting our own studies and coordinating the research of academics and other NGOs, GFI makes truthful, actionable information available to support marketing and communication efforts, product and package development, and policy guidance.

GFI conducts market and industry analyses to understand the rapidly growing plant-based, fermentation, and cultivated sectors. Our state of the industry reports show a dramatic increase in investments, acquisitions, and new companies. These reports have been praised by many corporate executives and investors for helping them to more fully understand opportunities in the industry. We also conducted webinars for each report: Cultivated, Plant-Based, and Fermentation.

Our analysis of plant-based market research, informed by SPINS retail sales data and in partnership with the Plant-Based Foods Association, shows the size of the plant-based food industry (\$7.4 billion in sales in 2021) and its growth (6 percent in the past year amidst the global pandemic disruption to supply chains, and 54 percent over the past three years ending December 2021). In early 2022, GFI purchased a customized report from NPD SupplyTrack detailing wholesale sales of plant-based meat products in U.S. broad-line foodservice. GFI dissemination of this data offers the only public source of aggregated sales data for plant-based foods in the restaurant and non-commercial channels.

To provide these sectors with actionable insights, we conducted primary research on topics such as sociodemographic profiles of early adopters and effective plant-based product descriptors. In 2020 we published a peer-reviewed study of consumer perceptions of plant-based and cultivated meat in the United States, India, and China. We partner regularly with external researchers who offer pro bono work, as evidenced by our engagement with Mindlab International to test consumers' implicit preferences regarding plant-based language and product attributes. In the cultivated meat sector, our work has focused on nomenclature. We published a series of research studies on nomenclature and formed a follow-up project group with Mattson and Memphis Meats to research and develop a shared messaging strategy for reaching non-technical audiences. We also commission essential consumer research studies on alternative seafood, including a U.S.-focused study published early in 2021.

Our working papers on consumer adoption of plant-based meat lay the foundation for understanding purchase motivations and determining the best influence strategies to accelerate adoption. This informs product development and marketing for those working in plant-based meat and provides a “launching point” for actionable research to identify further strategies to promote consumer adoption. Our consumer research findings and researcher coordination efforts distinguish GFI as a go-to partner and thought leader in the plant-based and cultivated meat consumer research space. In 2022, GFI's Communications and Corporate Engagement teams published a white paper on reducing the price of alternative proteins that covers the current price landscape, consumer insights on price, and pathways to price parity.

## **Grocery outreach**

The vast majority of the more than 200 pounds of meat the average American consumes every year is bought at the grocery store. To accelerate the shift towards alternative proteins at retail, GFI works with retailers to increase their sales of alternative proteins.

Plant-based meat is where plant-based milk was 15 years ago: Most U.S. grocery chains offer plant-based meat options but place them in their own section of the store and rarely promote them. Only customers who seek these products tend to find them. This limits the market to vegetarians and vegans, yet data shows that flexitarians and meat reducers are a vastly larger market for plant-based meat. We use this information, along with primary research, sales data, test-store results, and consumer insights, to influence retailers to merchandise plant-based meat adjacent to conventional meat. Our goal is to emulate for plant-based meat the success of plant-based milk when it moved to the refrigerated case. Indeed, retailers increasingly place plant-based meat in the meat aisle. We also promote integrated merchandising across other plant-based categories, such as cheese.

Marketing language that appeals to a wider range of consumers can expand the market for plant-based products. Our Corporate Engagement department offers guidance to grocery stores to ensure that they understand how to most effectively promote plant-based products in-store, online, and in their marketing materials. We also seek greater promotion of these products to increase awareness among flexitarians and meat reducers, such as the inclusion of plant-based meat in meat-themed store flyers and cross-category plant-based promotions. Our [retail toolkit](#) offers a variety of one-page guides on these and other topics.

Encouraged by the success of the [Good Food Restaurant Scorecard](#), we released GFI's first [Good Food Retail Report](#) in 2020, which evaluates the top 15 U.S. grocery stores and their banners on their assortment, merchandising, and marketing of plant-based products. This report engages and educates retailers while benchmarking industry progress.

### **III. Communications**

**GFI's Communications department** ensures that GFI is a global thought leader and trusted source of data and insights across the field of alternative proteins and throughout the adjacent fields of climate, global health, biodiversity, and sustainable food systems. The team serves as a go-to partner for the media, mission-aligned organizations, and a wide variety of stakeholders working to accelerate and mainstream plant-based and cellular agriculture.

The department elevates the expertise of GFI staff and works across the organization to publish and disseminate original research and reports, secure high-profile media coverage, convene and promote community- and capacity-building events, and thoughtfully engage media and other influencers across the private, public, and civil society sectors to position alt proteins as a key solution for a better food future.

#### **Growing GFI's status as a publishing powerhouse**

GFI's [website](#) is the go-to resource for anyone interested in learning more about or getting involved in the success of this burgeoning field. All of the resources discussed in the programmatic sections are housed on the website, and our [blog](#) acts as the editorial heartbeat of GFI's work and a news service for developments in alternative protein innovation. GFI.org is, essentially, a very well-curated wiki for the entire alternative protein endeavor.

#### **Establishing GFI as a thought leader in earned media channels**

Traditional media coverage is vital to all GFI goals, as it creates excitement among key target communities, reaches potential donors, and influences investors to put more money into critical technologies. It also pressures legislators and regulators to take action, influences corporations to add and promote plant-based products, and

provides meaningful social media content. In short, one impactful story in the media may be worth hundreds of thousands of dollars in earned media value.

The media team within our Communications department works strategically to develop and enhance the reputation of GFI representatives as thought leaders and subject matter experts and to build GFI's presence in key science and top-tier media through a variety of tactics. These include issuing media statements in response to breaking news, creating press advisories and releases to promote GFI's programmatic work, and pitching op-eds written by our experts to top science and general media outlets.

In addition, the media team responds to dozens of inquiries weekly and takes a targeted approach to building trustworthy relationships with key media voices. In all cases, the team leverages earned media across GFI's owned media channels as well.

In 2021, GFI's media presence continued to accelerate, reaching over 6,000 media hits, including stories by the *New York Times*, CNN, CNBC, the BBC, the Economist, and TIME. CNN published an op-ed co-authored by CEO Bruce Friedrich that argued that the climate community should go all-in on government policy to support alternative proteins. The piece remained on CNN's home page for multiple days and was shared at least four times with CNN's 54.9M Twitter followers. TIME Magazine quoted Bruce extensively in an 8-page spread on the potential of the cultivated meat industry to feed a growing global population sustainably in the publication's climate-focused double-issue.

The Communications team also manages GFI speaker invitations, from the *Wall Street Journal's* Global Food Forum to Future Food Tech to SxSW to TED. Bruce's TED Talk was TED's most viewed talk the week it went live in May 2019. Views now total 2.4 million, with translations into dozens of languages. The highly-ranked Making Sense podcast, which boasts one million downloads per episode and is hosted by philosopher and author Sam Harris, hosted Bruce for an in-depth discussion. More impactful still, the TED Radio Hour, one of the top 10 U.S. podcasts, extended our reach to millions more when it featured Bruce and his talk on the climate episode, which aired on more than 600 radio stations. In December 2021, Bruce and VP of Science & Technology Liz Specht, Ph.D., spoke at the 7th annual Financial Times Global Food Systems Summit, which had approximately 500 live viewers from over 60 countries.

### **Leveraging social media for maximum influence**

Our social media has become increasingly sophisticated and targeted, with a presence on Twitter, LinkedIn, Facebook, and Instagram. Each channel has a unique audience, and we curate and promote content and calls to action accordingly. In particular, GFI leverages its social media platforms to reach and engage journalists and influencers, the academic/researcher community, policy staffers, entrepreneurs, and corporate food executives.

## Convening industry leaders, innovators, and facilitators

GFI fosters collaboration across the alternative protein sector and builds bridges to stakeholders who are critical to propelling the sector forward. We host and attend conferences around the world where our leadership and guidance can accelerate progress.

GFI's Good Food Conference (GFC) has brought together scientists, entrepreneurs, investors, policymakers, and companies working on plant-based and cultivated meat and supporting technologies. The program presents cutting-edge research, strategies and insights for industry growth, and perspectives on regulatory issues.

More than 1,500 people attended GFC in 2021, held remotely due to the global pandemic, with registrants hailing from 67 countries. Representatives from the U.S. Department of Agriculture (USDA), National Science Foundation (NSF), World Economic Forum, Cargill, Walmart, Hormel, UPSIDE Foods, Mosa Meat, Impossible Foods, McKinsey, Schmidt Futures, Breakthrough Energy Ventures, and others highlighted the innovations and conditions needed to quickly scale the industry. Moderators included journalists from the Washington Post, Wall Street Journal, New York Times, Economist, Financial Times, CNN Business, CNBC, and National Geographic, among others.

*Even though we're deep into the field of alternative protein investment, the Good Food Conference 2021 surfaced insights and concepts that help inform and propel our work. The in-depth science sessions, policy panels, and pitch slam presentations especially energized us, equipping our team with increased optimism around the innovations and practical pathways that are getting us to a better food future. Kudos to the GFI team for convening and catalyzing the field!*

—Lisa Feria, managing partner and CEO, Stray Dog Capital

## IV. Global presence & impact: The Good Food Institute is six different high-impact organizations united around one global mission.

GFI operates affiliate organizations in five key countries and regions: Asia-Pacific, Brazil, Europe, India, and Israel. These affiliates have built their national and regional teams by hiring experienced food scientists, policy experts, food industry veterans, and communications professionals.

GFI's Executive department works closely with GFI's affiliates to ensure coordination across regions. This enables each affiliate to leverage the most successful efforts of all teams. Affiliates and GFI U.S. focus on the same three strategic areas: science and technology, policy, and corporate engagement. Below are some recent highlights from each affiliate.

## A. Asia-Pacific (APAC)

*No organization is doing more to build out the scientific ecosystem in Asia than GFI. I have seen first-hand how their collaborative work with the Singapore government has accelerated support for vital research and guided investments toward the highest-impact areas. Reimagining Asia's protein supply is a colossal project, but GFI's work puts it within our grasp.*

—Professor William Chen, director, Singapore Agri-food Innovation Lab

### Creating resources that fill crucial knowledge gaps

GFI Asia-Pacific (APAC)'s new website launched in 2022 and represents the broad range of work conducted by our growing APAC program teams. GFI APAC released a first-of-its-kind webpage that documents the support available to alt protein startups from the Singapore government. This important new tool allows startups to find relevant resources with the option to search by “need” (e.g., bringing in foreign talent, upstream R&D funding) or by “development stage” (pilot stage, internationally commercialized, etc.).

Opportunities to advance alternative proteins are greater and more diverse across the Asia-Pacific region than anywhere else. Widely sharing useful information is key to our strategy. Our report *Asian Croppportunities: Supplying Raw Materials for Plant-Based Meat* lays out the untapped potential across the continent on the supply side. Several op-eds highlighting insights from the report were published in leading publications across the continent, including China, Vietnam, Thailand, and Myanmar. In 2019, GFI APAC launched *The Good Food Startup Manual: Hong Kong Edition* and *The Good Food Startup Manual: Singapore Edition*, comprehensive 100-page guides to navigating all aspects of starting an alternative protein company in Hong Kong and Singapore. We also published the *China Plant-Based Meat Industry Report*, a first-of-its-kind report that outlines the state of the plant-based meat industry in China. To leverage GFI's broader work, in 2020 we released various GFI reports translated into Chinese: *Plant-Based Meat for a Growing World*, *Growing Meat Sustainably: The Cultivated Meat Revolution*, and *An Ocean of Opportunity* (our alternative seafood guide).

In 2022, GFI APAC held its first-ever SciTech Seminar, which featured a presentation on extrusion texturization and plant protein functionality by Raffael Osen, Ph.D., from the Singapore Institute of Food and Biotechnology Innovation. The seminar drew more than 400 registrants, including representatives from A\*STAR, CSIRO (Australia's national science research agency), Asian alternative protein startups, and food scientists from as far away as Nigeria and Brazil.

GFI APAC's relationship with Nanyang Technological University and the Government of Singapore has led to the launch of a new undergraduate alternative protein course designed to build the industry's talent pipeline - the first of its kind in Asia. GFI APAC also helped launch the first graduate-level alternative protein module in Southeast

Asia at the National University of Singapore—often ranked the top university in all of Asia. The module is offered by the university’s prestigious Department of Food Science and Technology and GFI scientists provide guest lectures.

### **Building an alternative protein ecosystem**

Asia-Pacific holds wide-ranging comparative advantages in the alternative protein space. Our team focuses on stimulating significant infrastructure investment and installation to ensure that global cost-competitiveness and supply of major ingredients and end products across all categories of alternative proteins are benefiting from Asian countries’ capabilities for scale.

Our team is building, deepening, and leveraging networks and collaborative partnerships with major institutions including government agencies (such as A\*STAR), multilateral institutions (such as WHO and WEF), and funders (such as Temasek) to achieve our goals in a vast geography.

- In 2022, GFI APAC’s team participated in a meeting with Singapore's national science agency to propose and align on collaborative projects for 2022 and allowed us to introduce opportunities for A\*STAR to focus more on industry-enabling work. We are pursuing opportunities to bring A\*STAR onboard as support for our open-access plant protein database initiative and a cell line development and banking industry survey. Similarly, FRESH has indicated an interest in collaborating on developing an appropriate framework for a nutritional analysis of cultivated meat and commissioning a nutritional/microbiological comparison of commercially available cultivated meat products and prototypes compared to conventional meat.
- GFI APAC began membership in government entity Enterprise Singapore's (ESG) plant-based standards working group, also known as the National Mirror Committee. GFI APAC will now be empowered to provide expertise to national standards-related documents and discussions that will support Singapore representatives who are participating in international forums on plant-based standards. Shuli and Mirte will also join ESG's task force focused on novel/hybrid foods standards once it has been set up.
- GFI APAC formalized engagement with the Singapore Food Agency (SFA), which covers alternative proteins and aquaculture, to discuss opportunities for future collaboration. As a result, SFA and GFI APAC will now work together to facilitate a more open dialogue between SFA, Singapore’s Future Ready Food Safety Hub (FRESH), and startups about the challenges of scaling up local alt protein businesses. They will also join forces to compile a one-stop toolkit for businesses in Singapore to ease their setup processes.
- The Singapore prime minister’s office invited GFI APAC to co-create the city-state’s COP27 pavilion on food and innovation after a government representative said that the close working relationship between NGOs like GFI

APAC and the Singapore government in tackling climate change is what he wants to highlight in Singapore's pavilion narrative.

## **Raising the alternative protein industry's profile**

Across Asia-Pacific, awareness of the burgeoning opportunities in alternative proteins is building. Team members frequently conduct media interviews and speak at high-profile events. These include the [Global Plant-Based Food Summit Asia 2019](#) in Shanghai, the second annual [Future Food Forum](#) in Beijing, the [Asia-Pacific Agri-Food Innovation Week](#) in Singapore, the Temasek-PwC-Rabobank *Asia Food Challenge Report* launch event in Singapore, the first [Alt Protein Meetup](#) in Hong Kong, and a full-day private event in Shanghai focused on plant-based and cultivated meat organized by [Ecolab](#) and Seven Star Convention Alliance.

To generate friendly competition, we created [#AsiaAlt100](#), an inaugural list of the top 100 protein disruptors in Asia. The list includes consumer-facing companies but also highlights the major players in raw material supply and food production. It has proved effective in generating media and public recognition of the alternative protein industry's strong potential and presence in Asia. A number of companies have already reached out to learn what they can do to get on next year's top 100 list. GFI APAC's inaugural [Asia Summit on Alternative Proteins](#) in August 2020 brought together 1500+ attendees from across the world to listen to intimate conversations involving key government and industry leaders from across the region.

GFI Consultancy (GFIC), GFI APAC's independent strategic partner that does mission-aligned work in mainland China, provides crucial sources of information and inspiration. GFI Consultancy launched its own [website](#) for mainland China. GFIC has recently co-hosted the second installment of their quarterly roundtable series on cultivated meat with the Merck China Innovation Hub, launched the first-ever Chinese-language [alternative protein online course](#) through the popular online learning platform Xiao-E-Tech, co-authored an article titled "[Recent progress of cultivated meat in Asia](#)," published in the open-access journal Food Materials Research, and co-authored an article with Chinese professor Thomas David DuBois titled "[China's Quest for Alternative Proteins](#)," for the Asia Global Institute at the University of Hong Kong.

In 2022, in collaboration with the Japan Association for Cellular Agriculture, GFI APAC hosted a high-profile [webinar](#) on Japan's potential to accelerate cultivated meat technologies. The event was attended by more than 400 live participants, including representatives from Japan's largest meat companies, governmental agencies, and top global media outlets.

## **B. Brazil**

*I was born and raised in the animal protein industry and could see from the inside out that there are much more sustainable ways to feed the world. GFI has been very*



*important to connect me with plant-based companies and show me alternative ways of producing food. I am very proud to be part of this revolution.*

—Amanda Pinto, innovation manager, Grupo Mantiqueira,  
South America’s largest egg producer

## **Shifting Brazil’s research ecosystem to alternative proteins**

Brazil’s robust scientific ecosystem focuses on agricultural R&D. Instead of building infrastructure from scratch, GFI Brazil prioritizes informing and exciting scientists and producers about alternative proteins within the existing infrastructure. In 2021, our team initiated a project funded by the Climate and Land Use Alliance to develop the alternative protein market by utilizing products from the native Amazon and Cerrado biomes, and we signed a Cooperation Agreement with the State of Amazonas. After this, our work was expanded by another grant from Good Energies and will evolve for a third grant with resources from JBS's Amazon Fund.

In 2022, one of the top research universities in Latin America signed an agreement with GFI Brazil to collaborate on a broad research initiative focused on domestic crops to catalog the crops’ protein structures and evaluate their potential application in plant-based meat products.

GFI Brazil also promotes GFI’s competitive research grant program across the entire plant-based research sector. In 2021, 34 Brazilian research teams submitted proposals to the program. Three projects from two institutions, Embrapa and Unicamp, were selected. Additionally, GFI Brazil has partnered with the Federal University of Paraná to offer the country’s first university course on cultivated meat, “Introduction to Cellular Animal Science.”

## **Reinforcing relationships with Brazilian ministries**

Brazil’s government is deeply involved in agricultural sciences, so another of GFI Brazil’s top priorities is to develop relationships with the country’s executive departments of science, technology, and agriculture, as well as the agricultural research arm of the Ministry of Agriculture. The team has repeatedly met with these agencies and will work with high-level contacts to secure public funding for alternative proteins and create an advantageous regulatory environment for the industry. In 2021, GFI hosted a series of workshops on cultivated meat for Brazilian regulators and scientists, which included sessions with officials from the USDA and FDA to share the U.S. regulatory process and with officials from the European Food Safety Authority officials to discuss novel foods regulation in the EU.

*GFI has been essential in helping us understand the alternative proteins market. The Ministry of Science has been working closely with GFI for three years. Based on this, we are inserting alternative proteins into public policies.*

—Amanda Pinto, general coordinator of Science for Bioeconomy  
at the Ministry of Science, Technology and Innovation

Our team also designed the first regulatory study on alternative proteins for the Brazilian market, to be conducted by the Institute of Food Technology. In addition, we formed a strategic partnership with ABBI, the Brazilian Association of Bioinnovation (a trade organization), which further boosts our lobbying activities and provides us with direct access to a large group of representatives and senators.

In 2022, after nearly two years of advocacy by GFI Brazil and our partners at the Brazilian Association of Bioinnovation, Brazil's federal government updated its Industrialized Products Tax (IPI) to remove taxes levied on plant-based milks. This removed a key barrier to achieving price parity with animal-based dairy.

### **Building the alternative protein industry**

Brazil is home to the largest meat company and the largest ground beef company in the world. It also has a robust entrepreneurial ecosystem and significant venture capital. Tapping into this meat industry expertise and strong venture capital environment is another pillar of our strategic plan.

GFI Brazil advises both incumbent food and meat companies and pioneering startups, helping them launch their first plant-based meat products. We are the principal alternative protein advisors on product plans, suppliers, and general strategy for some of the world's largest food and meat companies. We supported the creation of Brazil's first plant-based meat company, Fazenda Futuro, and helped them launch the fantastically popular Futuro Burger. Within five months of operation, Fazenda Futuro was valued at \$100 million. Following our engagement with BRF, a world leader in meat production, the company announced an investment of \$100 million into acquiring a cultivated meat company in Spain and building a cultivated meat research center in Brazil, in partnership with Israeli company Aleph Farms. JBS went on to publish an article in Brazil's largest financial newspaper stating that alternative proteins are among the company's key strategies for the future of food.

In 2020, GFI Brazil launched two important publications: the Naming Study will translate the expressions "cultivated meat" and "plant-based" to Portuguese, and the Consumer Survey will develop an understanding of the profile of Brazilians in relation to plant-based products.

In 2022, GFI team members presented on alternative protein research opportunities and regulatory considerations at Brazil's government agricultural sciences agency for an audience primarily composed of scientists working in conventional meat production.

### **Expanding our startup and investor network**

Although the Brazilian innovation ecosystem is not as developed as those of the United States or other advanced industrialized countries, our work with startups,

entrepreneurs, and investors has greatly accelerated Brazil's alternative protein market. We began 2019 with fewer than 15 startups in our network and fewer than three influential investors. In 2022, we connected and supported 62 startups or entrepreneurs and collaborated with 38 investors interested in the sector.

We maintain our partnership with Inspira, Latin America's highest-profile business university, having collaborated on several projects, including adapting the guide for GFI startups in Brazil, which boasted 750 downloads within two months of publication.

In addition to these initiatives, GFI was the first organization to involve Brazilian investors in the sector. A significant achievement was our help in setting up ENFINI fund with PWR Group, which invested in companies such as Fazenda Futuro, Blue Nalu, Memphis Meats, and others.

### **C. Europe**

*The first UK parliamentary reception dedicated to cultivated meat - which I sponsored and which was co-hosted by GFI Europe - served to inform and inspire a significant number of MPs, from across all parties, about the potential of alternative proteins for this country and wider society. GFI Europe has a rational, clear, expert voice in calling for government action to advance alternative protein policy, and the type of collaborative, practical approach that policymakers welcome and appreciate.*

—Anthony Browne, Member of Parliament (UK)

### **Driving millions of euros into alternative protein R&D**

The European Union and its constituent governments spend tens of billions of euros on research every year. Almost none goes to alternative protein R&D. Smart, targeted lobbying for more government funding could deliver an enormous impact. Therefore, a top strategic priority for GFI Europe is driving more public funding into alternative protein research. Already, we have been key in persuading EIT Food, an EU funding agency, to choose alternative proteins as a focus area for 2021. We achieved this by building relationships and providing technical advice to decision-makers. In 2022, GFI and EIT Food launched a €100K Cultivated Meat Challenge to find innovative approaches to reducing the cost of cell culture media (and thus bringing down the cost of cultivated meat). GFI Europe intends to build on this in the coming years, urging that dramatically more of the forthcoming €80 billion Horizon Europe R&D program be spent on alternative proteins.

In 2021, GFI Europe scientists and policy experts convened a session on cultivated meat with eleven officials from the European Commission, including representatives from the Joint Research Centre (JRC), and the European Food Safety Authority who were keen to learn about cultivated meat's potential impact on jobs, farmers, consumers, electricity demand, and the market for conventional meat. We're confident that our work to improve officials' understanding of cultivated meat will result in additional R&D funding under Horizon Europe and additional studies by the JRC.

GFI Europe engaged with the UK's National Food Strategy Team through a series of meetings, technical conversations, recommendations, and a tailor-made roundtable ahead of their 2021 publication of The Plan, the first wide-ranging review of the UK's food system in 75 years. In their report, the Food Strategy Team recommended £50m for an alternative protein 'cluster' for scientists and entrepreneurs and £75m in startup funding. A follow-on 2022 UK government report included three references to "ensuring the UK is at the forefront" of alternative proteins after GFI Europe presented policy recommendations to members of the UK Cabinet Office's Brexit Opportunities Unit. GFI Europe then co-hosted a parliamentary reception dedicated to cultivated meat at the UK Parliament with Ivy Farm to call for greater investment in cultivated meat research and a more collaborative regulatory process. In attendance were 39 parliamentarians, two senior officials from the Food Standards Agency, and a range of government officials.

GFI Europe also played a key role in embedding alternative proteins in the European Union's Farm to Fork Strategy, its policy roadmap for creating a more sustainable European food system by 2050. In the leadup to its release, GFI Europe engaged extensively with a broad group of stakeholders; met with officials; offered public feedback; and submitted a letter from NGOs, companies, and academics to the EU president. The Farm to Fork Strategy now explicitly mentions plant-based meat, microbe-based meat, and other alternatives to conventional meat as a research focus area under its Horizon Europe program.

### **Leading the opposition to label censorship**

GFI Europe has been instrumental in organizing efforts to fight restrictive labeling proposals for plant-based meat and dairy products. Coordinated lobbying by GFI Europe, like-minded nonprofits, and a plant-based industry association prompted the European Parliament's agriculture committee to revisit its proposals. After nearly 12 months of work, the European Parliament voted in October 2020 to reject an amendment that would have banned terms such as "burger" or "sausage" on the labels of non-animal products and thus severely undermine producers' ability to market plant-based meat across Europe.

We also coordinated a joint letter against proposals to expand EU labeling restrictions on plant-based dairy, collecting signatures from 21 nongovernmental organizations, including Greenpeace and World Wildlife Fund. We used the letter to secure meetings with contacts from the 27 European Union governments who remain undecided or are in favor of the new restrictions, supported targeted activities to put pressure on their governments, and signed the multistakeholder letter coordinated by the European Alliance for Plant-based Food. EU leaders eventually abandoned plans to introduce these unprecedented restrictions.

We also factored heavily in persuading a UK House of Lords committee to urge the UK government to formally oppose label censorship for alternative protein products. The committee explicitly cited evidence from GFI Europe in its recommendations.

### **Rallying allies by co-founding the European Alliance for Plant-Based Foods**

To increase the power of plant-based foods in Brussels, GFI Europe co-founded the European Alliance for Plant-based Foods (EAPF), a multiple-stakeholder platform for companies, NGOs, think tanks, and academic institutions to promote plant-based-food policy at the EU level through direct political outreach and stakeholder engagement in Brussels. GFI Europe sits on the EAPF steering committee and has successfully argued for opening membership to mainstream food manufacturers who will be important allies in our engagement efforts.

### **Shaping Europe’s public conversation on alternative proteins**

GFI Europe launched its [website](#) in late 2021, tailored to inspire audiences across the continent to seize the opportunities of alternative proteins to create local jobs, tackle climate change, and feed a growing population with sustainable proteins.

GFI Europe joined the Climate Innovation Hub in 2021 and established alternative proteins as a key plank in its food and land-use area. This feeds directly into the goal of bringing agriculture into the climate change debate and positioning alternative proteins as a key solution. The Hub is a coalition of more than 18 NGOs, think tanks, consultancies, and business coalitions advocating for innovation and public R&D as a key policy area to achieve the EU climate goals.

We continue to shape opinions in favor of alternative proteins in Europe through presentations and media appearances. For instance, we helped generate a powerful *New Scientist* article and editorial making the case for public investment in cultivated meat R&D. These high-profile pieces followed a speech given by GFI Europe’s Richard Parr at a conference attended by a journalist and involved extensive conversations between the journalist and GFI team members.

#### **D. India**

*Our partnership and engagement with GFI India has been invaluable in terms of helping us to better understand the alternative proteins industry and making critical connections.*

—Sanjay Laud, managing director, ADM Nutrition (India)

### **Stewarding research and development**

India is home to many world-class agricultural and biotechnology universities, as well as a deep talent pool. GFI India works with scientists and universities to stimulate alternative protein R&D. In 2019, GFI India collaborated with the Centre for Cellular and Molecular Biology and the National Research Centre on Meat to write and present a proposal for cultivated meat research to the Government of India Department of Biotechnology. The project drew \$640,000 in funding, the largest grant for cultivated meat research anywhere in the world at the time. GFI India also drove the formation of the Centre of Excellence in Cellular Agriculture at the Institute of Chemical Technology

Mumbai, the world's first government-mandated research center for cultivated meat and fermentation.

GFI India began separate economic and environmental analyses of the potential of the alternative protein sector in India over the next decade and secured partnerships from key government and nonprofit organizations including the central government think tank NITI Aayog, WRI, Food and Land Use Coalition, and KPMG to participate in and amplify the results of these seminal studies.

GFI India's strategic analysis of the algal protein value chain (the first of several planned strategic analyses spanning protein sources and technologies such as extrusion) laid out more than 40 opportunities across industry, science, and policy for advancing algal protein as an input for the alternative protein sector. This research inspired a member of the Government of India's investment facilitation organization Invest India to officially recommend alternative proteins as a potential area of focus to the Government of India Department of Fisheries.

GFI India separately initiated conversations to launch coursework and research projects at 8 Indian Institutes of Technology.

In 2021, GFI India developed a cultivated meat report in partnership with Invest India, the Indian government's investment promotion agency. The report focuses on the state of technological development for cultivated meat globally and policy recommendations for India to become a bio-manufacturing hub for the industry. The report was presented to India's Ministry of Animal Husbandry.

### **Building an innovation ecosystem**

With a proven track record in scaling private industry affordably, India is key to developing the global alternative protein ecosystem. GFI India works to build partnerships, educate and inspire entrepreneurs and scientists to enter the industry, and increase pioneering companies' chances of success. We launched the annual Smart Protein Innovation Challenge, which attracted 743 registrants from academia and industry spanning 116 cities, 25 states, and 590 colleges across India in 2021, and have enlisted a slate of government and industry partners, from the Government of India's technology transfer initiative to venture capital funds Omnivore, BRINC, and many others.

In 2021, GFI India initiated conversations for a Memorandum of Understanding with the Government of India Council of Scientific and Industrial Research (CSIR), an apex body controlling 38 academic and research institutions with a 2021 budget of \$880m (similar to Brazil's EMBRAPA). Once signed, the agreement will influence coursework, research projects, and research centers at relevant labs and universities. The team separately initiated conversations to launch coursework and research projects at 8 Indian Institutes of Technology, which kicked off in the fall of 2021.

GFI India hosts the GFIdeas India online community and [webinar series](#), attracting hundreds of people from the corporate, scientific, and entrepreneurial worlds. As community members, these innovators gain access to GFI India's resources, including market reports, consumer research, and databases of vendors and collaborators. As of August 2022, the team has hosted 26 knowledge-sharing webinars featuring the likes of AAK India and Big Idea Ventures. Thousands of attendees learned key lessons on the science and business of alternative proteins. In 2022, the GFIdeas India community has held three in-person networking events, once each in Bengaluru, Mumbai, and Delhi.

In 2022, GFI India met with leadership at key research, incubation, and educational institutions at India's Centre for Cellular and Molecular Biology, the Indian Institution of Millets Research, the International Crops Research Institute for the Semi-Arid Tropics, and the National Research Centre on Meat, with a view towards advancing and formalizing relationships and conducting educational workshops at these longtime partner institutes. These meetings served to move the country further along the path toward a coordinated national plan supporting the sector.

### **Providing hands-on support for entrepreneurs**

To accelerate business activity in the alternative protein industry, GFI India's team advises and supports dozens of plant-based, cultivated, and fermentation-derived meat, egg, and dairy entrepreneurs. These include [Genelia](#) and [Riteish Deshmukh](#), a high-profile Bollywood-political couple whose new company, [Imagine Meats](#), is already generating great interest in and awareness of the industry. GFI India's team was critical to the formation and launch of this company, supporting it with key partnerships for product development, manufacturing, and distribution.

*Thank you GFI India. We couldn't have done this without you - a dream that all started at the Good Food Institute conference. Thank you for making the dream of Imagine Meats turn into a reality.*

—Genelia Deshmukh, co-founder, Imagine Meats

### **Raising the alternative protein industry's profile**

GFI India's annual three-day [Smart Protein Summit](#) pushes forward urgent action across science, business, and policy stakeholders and decision-makers within the Indian alternative protein, or "smart protein," sector. In an effort to build a National Mission for Smart Protein, GFI India has designed the Summit to serve as a novel platform that highlights the industry's untapped potential, furthers progress, and lays out how the sector is poised to become a key pillar of India's new green economy. The 2020 instance featured speakers including the Principal Scientific Adviser to the Government of India, the Secretary of the Government of India Department of Biotechnology, H.E. the Ambassador of the Netherlands, several Members of

Parliament, and international food industry leader and former PepsiCo Chairperson/CEO Indra Nooyi. The virtual November 2021 event attracted 1,100 attendees from 10 countries. In October 2022, GFI India will convene the Summit in New Delhi in person for the first time since before the global pandemic.

The GFI India podcast, *Feeding 10 Billion*, has created additional visibility for the industry, with guests from across the spectrum of business, science, policy, and innovation. The unique listenership for season one (pre-pandemic) was already more than 27,000. Apple consistently ranks *Feeding 10 Billion* as India's *second-most-listened-to* food podcast—only a celebrity chef ranks higher.

## **E. Israel**

*In close collaboration with the Good Food Institute Israel, the Israel Innovation Authority has recently opened new funding tracks tailored specifically to local start-ups and mature companies developing innovative technologies in the alternative protein space. Beyond the financial backing offered to selected companies to fund their R&D efforts, these tracks include a wide array of resources and partnerships with leading researchers in academia, and local and global food producers to help accelerate innovation.*

-The Jerusalem Post

### **Alt proteins as one of the government's top national priorities**

As Israel is renowned for its innovative spirit, the nation's government prioritizes funding for scientific research and innovation. One of GFI Israel's top priorities is to drive significant portions of this funding into alternative protein research.

In December 2020, GFI Israel and Aleph Farms organized an event for Israeli Prime Minister Benjamin Netanyahu, the first head of state to taste cultivated meat. Netanyahu was presented with GFI Israel's proposed National Policy Plan and declared that "Israel will become a powerhouse for alternative meat and alternative protein." He also committed to appointing an alternative protein coordinator to lead the government's commitment across all relevant agencies. GFI Israel delivered opening remarks at a first-of-its-kind Israeli Government Alt Protein Roundtable discussion featuring 30 senior officials across 10 different ministry offices the following month.

With support from TASC and Ernest and Young, Israel's leading consulting firms, GFI Israel has developed a national alternative protein policy plan that was reviewed with the Prime Minister's Office, Ministry of Economy, Ministry of Environmental Protection, Ministry of Agriculture, and Ministry of Foreign Affairs. The team briefed former Prime Minister Naftali Bennett ahead of his meeting with President Biden and worked closely with the Minister of Environmental Protection on Israel's position and participation in the 2021 United Nations Food System Summit.



Through our excellent relationship with the Ministry of Foreign Affairs, we increased our work with the Israeli foreign embassies and provided training for ambassadors and economic attaches in order to create opportunities for the Israeli ecosystem and make alt protein a part of Israel's value proposition in our international positioning. We created a Diplomatic GFI Toolkit with information on the issue area and concrete opportunities for bilateral cooperation.

Israel's top public figures routinely tout alternative protein as an advantageous strategic priority. Ahead of COP26, Israeli President Isaac Herzog hosted a reception for the Israeli delegation to COP26, which included a presentation from GFI Israel Managing Director Nir Goldstein. President Herzog tasted cultivated meat and declared alternative proteins a critical climate solution on which Israel is committed to leadership. In May 2022, GFI Israel joined forces with Israel's Ambassador to the United Nations to host an alternative protein-dedicated event in celebration of Israel's 74th Independence Day. As a nod to the common Israeli practice of an Independence Day BBQ, the event showcased leading Israeli alternative protein startups and was attended by 250 participants, including international UN ambassadors, FAO senior officials, and other VIP guests.

In July 2022, GFI Israel hosted a session dedicated to alternative proteins as a food security solution as part of the 50th Annual Conference of Science and Environment, Israel's largest environmental gathering. The session included state of the science and policy reviews by GFI Israel, a presentation titled "Alternative proteins are the only alternative" by the CEO of the Israel Innovation Authority, and panels with government officials and industry experts.

In September 2022, the Israeli government declared Footech, with a focus on Alternative Proteins, as a **top national R&D priority for the next five years**. GFI Israel believes that this milestone could lead to government investments of tens of millions of dollars in alternative protein research.

### **Increasing government funding**

GFI collaborates closely with the Israel Innovation Authority (IIA). Following a major alternative-protein hearing organized by GFI Israel, in April 2022 the Israeli government approved the establishment of a cross-sectoral Cultivated Meat Consortium supported by a new \$18 million grant from the IIA. The consortium aims to develop advanced and scalable technology for cultivated meat through the exchange of ideas between academia and the industry. Participating in the consortium are 14 of the world's leading cultivated meat companies as well as 10 top academic institutes.

GFI Israel and the IIA are collaborating to facilitate international strategic partnerships and unlock public funding opportunities for Israeli alternative protein companies. The IIA will employ its international network of affiliate organizations to scout for potential

partners for R&D and pilot projects, based on the needs specified by the companies. Qualifying partnerships will be presented with available bilateral funding opportunities.

GFI Israel partnered with the Israeli Ministries of Innovation and Agriculture to launch a \$1.2 million Alternative Protein Research Grant. The government is putting in almost \$1 million, and GFI is putting in \$250,000 (from two generous donors). GFI scientists and government scientists will select the 13 winning projects.

### **Advancing academic research**

To expedite the growth of a strong alternative protein research ecosystem in Israel, we must inspire more scientists to enter the alternative protein field and provide them with training in the sciences behind alternative proteins. As a major first step, GFI Israel opened an alternative protein academic course for undergraduate and graduate students at the Faculty of Agriculture in The Hebrew University of Jerusalem for advanced biochemistry and food sciences. Guest speakers included alternative protein celebrities, such as Prof. Mark Post and Prof. Atze Jan Van Der Goot. In March 2022, GFI Israel hosted an event at the university at which four government ministries and agencies presented their recent activities in the alternative protein arena. The officials also led round tables with some of the leading alternative protein scientists in Israel.

Our coursework expanded to two additional major Israeli universities in 2021, Tel Aviv University and Ben Gurion University. Inspired by our course, Technion University has developed its own alternative protein course with support from GFI. The course is being offered in additional universities around the world.

GFI Israel is also at the center of cutting-edge research on cultivated meat. GFI senior scientist Dr. Tom Ben-Arye is the lead author of an article on cultivated meat in one of the world's most prestigious scientific journals, *Nature Food*. The broader press covered this article, including the *New York Times*, *Inside Science*, *Science Focus*, *New Scientist*, and *Phys.org*. Dr. Ben-Arye has presented his research results to multiple academic audiences (example).

To increase the number of researchers from various disciplines engaged in alternative protein, GFI Israel piloted a small local exploratory grant and is expanding this program to an additional three institutions based on the pilot's success.

### **Supporting alternative protein startups**

More startups are established per capita in Israel, often referred to as “The Start-up Nation,” than anywhere else in the world. Unsurprisingly, Israel is becoming a global hub for alternative protein research and innovation. GFI Israel is dedicated to building on this momentum and focusing on venture creation. Already, we are greatly accelerating the field by connecting and supporting innovators (resulting in the establishment of 2 companies in 2021 alone), providing expert technical opinion to

high-impact cultivated meat startups, and providing on-demand counseling and resources to incubators, many venture capitalists, and dozens of entrepreneurs and startups in the alternative protein field.

In 2021, GFI Israel launched a [Careers Board](#) that supports building the alternative protein industry talent pipeline.

## **Creating a go-to-market for alternative protein innovation**

A go-to-market strategy is central to surpassing the pilot phase. We engage with the largest Israeli food manufacturers to make alternative proteins a key component of their strategies. We delivered workshops to the senior management of two of Israel's largest food companies, and we are working with them on their innovation strategy. One CEO praised GFI as “an eternal fountain of knowledge and connections” and directed his team to maximize the relationship with GFI. We also presented to one of Israel's largest companies, a \$10 billion multinational public manufacturer that serves the agriculture, food, and engineered materials markets. The company aims to invest \$100–\$200 million in food tech, and we are working with their investment team to build a focus on alternative proteins. We also met with Israel's leading meat companies to discuss opportunities in alternatives.

GFI Israel's annual [Israel State of Alternative Protein Innovation Report](#) reviews the nation's alternative protein ecosystem.

## **V. Culture, transparency, and strategy**

### **Setting strategy**

GFI was explicitly founded as an effective altruist organization. As such, we work exclusively on projects with a huge impact: Creating new companies and scientific centers focused on alternative proteins can, with each new company or science center, effectively double (or more) GFI's impact. Involving new NGOs, stopping bad bills and creating good regulatory structures, producing life cycle and techno-economic analyses, publishing new reports and peer review publications—all of this has massive and broad global impact, and these are the sorts of endeavors that characterize our work.

We use a custom variant of Google's OKR system to optimize goal setting. Our system defines four layers of prioritization:

- Pillars establish GFI's five strategic focal areas: the research ecosystem, the public sector, the private sector, thought leadership, and organizational strength.
- Objectives define GFI's top focus areas and are written as future outcomes.
- Key results are specific, time-bound, measurable targets that demonstrate the organization's progress toward an objective.

- Actions are the tactical projects required to achieve key results. Each department collates actions into action plans, and all actions have explicit owners and supporters.

### **Fostering a culture of happiness and support**

Of GFI’s six organizational pillars, the final and most foundational one states that GFI “maintains operational excellence and a great culture.” We take the work of Daniel Pink in his book *Drive* seriously. Pink asserts that the secret to high performance and satisfaction—at work, at school, and at home—is the fulfillment of the deeply human need to direct our own lives, to learn and create, and to do better by ourselves and our world: autonomy, mastery, and purpose. That’s what GFI strives to deliver. We encourage feedback to ensure that all team members are as happy and fulfilled vocationally as possible.

All GFI team members are encouraged to unplug:

- Everyone is urged to take “deep work” days, and block their Tuesdays and Fridays for individual work time and internal projects. Team members are encouraged to limit or turn off email during scheduled deep work times.
- Everyone who can is urged to turn off email for most of the day and instead schedule times to respond—for example, 9:00 a.m. and 5:00 p.m. Overwhelming evidence indicates that one’s productivity decreases and stress level increases with each email check and reply.
- Every four months we clear our calendars of any meetings and pause on sending emails for a full week in order to allow team members to reflect on our progress and develop workplans for the coming months.

We are a mostly remote team, so we make an extra effort to build in regular times to share updates, solicit advice, and bond:

- On Wednesdays and every other Monday, we host an all-staff video conference to go share initiative updates, go over operational best practices, discuss ways to improve our organization, and hear updates from the program areas. This gives us a chance to learn about what everyone else is working on, ask questions, and see whether we can help one another.
- To foster bonding, we have a book club, a cooking club, a culture club, a DEI discussion series, an appreciation program, a sunshine committee for team members who have suffered a loss, an anonymous reporting hotline, an onboarding buddy program for new staff, and remote office simulations.
- We have two employee resource groups that meet at least once per month. Proud at GFI, our LGBTQ+ affinity group, is a designated safe space for LGBTQ+, questioning, gender expansive, and allied employees to connect and share experiences. The Overall Well-being League (O.W.L.) is GFI’s mental health, general health, and overall well-being affinity group that provides a designated space for employees to connect, learn about, and discuss relevant health and well-being topics and challenges.

- On Fridays, we compile a weekly report that includes highlights from team members' week and an optional water cooler section for sharing a personal update or a reflection.

### **Ensuring team satisfaction**

Our April 2022 anonymous team survey drew 93% participation. 91% of respondents indicated that they are “proud to work for GFI” and 96% of respondents agreed with the statement “GFI really allows us to make a positive difference.” Responses to “what are some things we are doing great” included these direct quotes:

- “GFI is truly the best place I've ever worked. I think GFI does a good job of balancing innovation and fast-paced projects with treating the staff with respect and flexibility for personal things that come up. I also love the team connection events, and I'm always impressed by the amount of work that this team accomplishes every week.”
- “I believe deeply in GFI's mission and theory of change. GFI is well-positioned as a think tank and catalyst to advance alternative proteins via Policy, Corporate Engagement, and SciTech, which will have (and has had) positive impacts for people, animals, and the climate. I am proud to work at GFI and believe that taking a systems-level approach to advancing alt. proteins is the most scalable solution to addressing the externalities of industrial animal agriculture.”
- “Authentically focus on the highest impact work while fostering a workplace of true collaboration, respect, inquisitiveness, and a dedication to continuous process improvement.”
- “People have autonomy over their roles and the grassroots planning means that people know how their work contributes to GFI’s mission. GFI also has a funny, quirky, supportive, amazing culture where people can feel a true sense of belonging.”
- “GFI is incredibly mission-driven and clear-eyed about its purpose. The team is incredible to a person and the organizational morale is pretty unbelievable.”

### **Ensuring transparency**

GFI is committed to transparency, starting with the [FAQ](#) and [compensation policy](#) that we share with all job applicants. Additionally, much of GFI’s work is detailed on our [blog](#) and in the resources section of our website. Every GFI department creates a monthly report, and GFI’s executive team curates and distributes monthly highlights to anyone who would like to [receive them](#). By allowing free and open access to all our resources, including scientific white papers and industry data, we eliminate duplicative efforts and accelerate the work of new industry entrants.

## **VI. Conclusion**

The entire GFI team is committed to securing GFI's place among the world's most cost-effective nonprofit organizations; we strive to focus every donated dollar on maximum mission impact. As of September 2022, our team comprises 82 professionals in the United States and 74 across our five international affiliates; a SciTech advisory board of six industry experts; an advisory council of 39 high-profile, highly respected leaders in their fields; a slate of top-notch pro bono lawyers; and a constant rotation of talented interns and fellows. Meet the team at [gfi.org/our-team](https://gfi.org/our-team).

**We warmly welcome your partnership in creating a sustainable, healthy, and just food system. Please contact [philanthropy@gfi.org](mailto:philanthropy@gfi.org) to get involved.**