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The Good Food Institute

Strategic Plan v.7, September 2021

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

The Good Food Institute harnesses the power of markets and food technology to make alternative proteins the new normal. What follows is a description of our programs and plans and why we feel they represent humanity's best hope for transforming agriculture away from the industrial use of animals. To review some of our specific successes, please see [our 2020 annual review](#) and [2021 mid-year impact report](#). To sign up to receive GFI's various newsletters, including our monthly highlights, please visit gfi.org/newsletters.

A. The challenges

Industrial animal agriculture is unsustainable: Mounting scientific evidence demonstrates that current methods of industrial meat production contribute to vast environmental degradation and waste both land and water. They are accelerating climate change and the rise in antibiotic-resistant infections. Plus, the United Nations has declared that the top two drivers of zoonotic diseases are animal protein consumption and the intensification of agriculture. These effects jeopardize human health and global food security.

Information alone does not drive behavior change: Despite the increasing acknowledgment of these facts, per capita meat consumption continues to rise in the United States and around the world. The Food and Agriculture Organization of the United Nations predicts that meat consumption will increase globally by 73 percent between 2010 and 2050.

B. Our theory of change

Taste and price are consistently shown to be the most salient drivers of consumer choice. By producing meat from plants and cultivating actual animal meat from cells, we can create products that taste the same or better and cost the same or less. 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.

We will make a sustainable, secure, and just food system the status quo.

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 our programmatic departments into key spheres of influence. And our international affiliates (Brazil, Europe, India, Israel, and Asia-Pacific) work closely with GFI's Executive department to scale GFI's 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

Little scientific R&D has been conducted on plant-based or cultivated meat outside the private industry. Before GFI, no one had mapped the science of producing either type of meat, and all work happened at the corporate (and thus IP-protected) level.

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 innovation specialists are the global experts on plant-based and cellular agriculture 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 plant-based and cultivated meat sectors, including identifying and articulating major technical challenges, forecasting growth bottlenecks, and evaluating the cross-applicability of technologies. GFI shares the findings in the form of white papers, peer-reviewed journal articles, and industry reports. 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 include “[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 our new [website](#) launched in early 2021, we significantly expanded our three main technical explainers on the science behind the alternative protein production platforms of plant-based proteins, fermentation, and cultivated meat. GFI released the

first-ever LCA and TEA of cultivated meat that involved NDA-protected information from the industry.

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. 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. Additionally, our analysis of culture medium costs and production volumes and includes an in-depth analysis of bioengineering and cell culture media to our Cultivated Meat 301 series, an exhaustively cited collection of articles delving into the technical advances and considerations of all aspects of cultivated meat.

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 plant-based and cultivated meat, such as advances in biomedicine that are translatable to cultivated meat. 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 excitement in the scientific community and foster a better understanding of the need to develop alternatives to conventional meat.

Finally, the SciTech team has created a scientific advisory board composed of industry and academic experts in plant-based and cultivated meat 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 vs. advising existing funds

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, research director, Institute for the Future

The SciTech team generates additional scientific research by facilitating funding opportunities. We identify opportunities from top governmental grant-making agencies, such as the National Science Foundation, European Commission, U.S. Department of Agriculture, and U.S. Department of Energy, and private foundations, including the Bill & Melinda Gates Foundation, David and Lucile Packard Foundation, and Foundation for Food and Agriculture Research. Because they are immersed in analyzing the state of the plant-based and cultivated meat sectors and identifying critical technical barriers, our scientists are well-positioned to handpick the best possible researchers to apply for these opportunities.

The SciTech team also identifies public and private funding organizations from around the world whose missions align with one or more of GFI's goals to reduce global poverty, combat climate change, and improve human and farm animal health and well-being. We develop relationships with these organizations to provide education on the direct positive impacts of alternatives to animal agriculture and the critical need for additional R&D in this field. We've also provided individual support to 40+ researchers on alternative protein research-focused grant proposals, including two 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.

[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.

Due to the overall shortage of open-access plant-based and cultivated meat research and the urgent need to catalyze this research, we have also launched our own research grant program. Since its inception in 2018, we have funded approximately twelve million dollars worth of research toward over 60 projects from 13 countries across five continents. We catalyze grantee collaborations through organized online grantee events and expand the alternative protein scientific knowledge base through amplification of research results, talks, and publications from GFI grantees.

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

- Our funded researchers will publish 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.
- Startups and established companies will use 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 will create plant-based and cultivated meat training programs and research institutes.

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 entrepreneurs, 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 for science, engineering, business, and entrepreneurship across the globe. We encourage researchers at these universities to use their expertise for innovative plant-based and cultivated meat projects. Our innovation specialists and scientists deliver presentations in classes, departmental symposia, and student forums 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 research directory](#)) that enable scientists and entrepreneurs to collaborate—which in turn broadens the range of innovation in both academia and the private sector.

Our global student group program, the [Alt Protein Project](#), is active at 16 top universities around the world, and we continue to recruit new student group leaders at leading STEM schools. 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 allocation of university resources to alternative protein research and curricula, conduct their own scientific research, and found their own businesses. GFI co-crafted strategic plans with all 16 groups to maximize mission impact in the year ahead and compiles monthly reports to highlight student impact across the globe. Additional resources for these students include our [student group guide](#) and an under-construction database of all university courses about alternative proteins currently taught, including their associated slide decks and reading materials.

In collaboration with universities and companies, we are developing on-campus and online courses and workshops to educate students about the science and techniques required to develop the next generation of alternatives to animal-based foods. We helped launch (or secured faculty commitment for launching) nine alternative protein courses at UNC-Chapel Hill, Wageningen University & Research, Stanford University, UC Berkeley, Johns Hopkins University, and UC Davis; incorporated (or secured faculty commitment for incorporating) four alternative protein modules into existing courses at UC Davis and TU Berlin, and we engage hundreds of faculty members around building alternative protein courses and modules. For a broader reach, we released a [massive open online course](#) that has attracted participation from more than 8,700 participants from at least 89 different countries since January 2019.

GFI has been instrumental in the foundation of at least 14 plant-based and cultivated meat companies, and our programs and resources have helped many dozens more. 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.

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.

To assist early-stage companies as well as more established startups, we maintain a [talent database](#) to help companies quickly and more easily find mission-aligned technical and commercial job candidates. A recruiter for a large alternative protein company said of the resource (which contains nearly 1,000 candidates interested in working in alternative proteins): “GFI’s talent database is our go-to resource for finding the best candidates in our space.”

GFI also takes an active role in ensuring that the research we fund via our grant program translates into commercially viable technologies and end products. We work closely with our grantees to explore the possibility of forming companies around their research or partnering with large companies that may be interested in licensing or acquiring parts of their novel technologies. GFI is also exploring the possibility of

providing a platform for partnership opportunities with key industry players by holding dedicated pitch days for our grantees to present their research to the industry. While we encourage the commercialization of technologies developed by GFI's grantees, the bulk of the research sponsored by our grant program nonetheless remains entirely open-access.

In collaboration with our Corporate Engagement department, GFI's scientists also work closely with leading food industry partners to scout technologies that address barriers in bringing plant-based and cultivated meat 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.

B. Policy

Policy 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 every year on research that props up industrial animal agriculture than the total it has ever spent 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 five consecutive years, beginning with the fiscal year 2018, to key members of Congress, asking them to include language directing agencies to fund research on plant proteins and cellular agriculture. In 2020 and 2021, we rallied an impressive array of companies and nonprofit organizations, including Unilever, Kraft Heinz, Consumer Reports, and Greenpeace, 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.”

Our lobbying efforts have seen some success: Each year appropriations reports have incorporated language encouraging research funding for plant proteins, including as alternatives to conventional animal products. Most recently, 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.

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.

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](#). We worked with the World Economic Forum to put alternative meat onto the policy agenda for global health and climate-focused nonprofits during the Summit, which we will parlay into similar activity at COP26.

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 in 2021 approved the sale of cultivated meat from Eat Just, 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. 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. As of August 2021, we have three active 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 judge concluded that we are likely to prevail on our claim that the law violates the First Amendment by censoring free speech.

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.

GFI's Corporate Engagement team focuses on seven principal initiatives:

Investor outreach

The amount of money that has been invested in alternative proteins approximately doubled from 2019 to 2020. However, compared to other sectors like clean energy,

cannabis, and biotech, the dollars invested in alternative proteins are a drop in the bucket. Beyond Meat’s and Oatly’s IPOs have brought more attention to plant-based meat, eggs, and dairy and we aim to capitalize upon it. Indeed, 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 an 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. A GFI [blog post](#) highlights how alternative proteins can help investors achieve their ESG and corporate citizenship goals while driving positive outcomes for people and the planet.

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.

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 4000 food industry executives 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.

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 billion in sales in 2020) and its growth (27 percent in the

past year and 43 percent over the past two years ending December 2020). In early 2021, 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, and we are developing a similar report in Brazil. 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 have also commissioned consumer research specifically on alternative seafood, a significant gap in the literature. We hired the firm Kelton Global to conduct the first of these studies in the fall of 2020. The research focuses on barriers and motivations for alternative seafood consumption and key product attributes to drive consumption.

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. We've developed a comprehensive set of priority questions to guide the consumer research of both GFI and external researchers. 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.

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.

Because price is a key driver of consumer choice, we will undertake a price elasticity study to understand price thresholds for the plant-based meat category and optimal promotional strategy to drive trial (e.g., EDLP vs. high-low). As part of our increasing investor engagement, we will target retailers with venture arms to encourage mutually beneficial partnerships and investment in alternative protein companies.

Sustainable Seafood Initiative

GFI's [Sustainable Seafood Initiative](#) (SSI), a cross-functional initiative across all GFI departments, accelerates the development and commercialization of scalable plant-based and cultivated seafood products that compete on taste, price, accessibility, and nutritional quality with their wild-caught and farmed counterparts. The team creates open-access tools to lower the barrier to entry for alternative seafood companies and ensure that researchers and industry have the resources to succeed. The SSI also conducts market and consumer research so that alternative seafood meets consumer needs and expectations and product benefits are appropriately messaged. The SSI policy working group identifies opportunities in federal and subnational policymaking to expand and accelerate alternative seafood around the world. SSI also convenes diverse stakeholders across industry, academia, policy, and nonprofits by hosting webinars and networking events, speaking at conferences, and publishing an alternative seafood newsletter, *Turning the Tide*.

Our focus has been on advancing cultivated seafood science, fostering innovation, and identifying opportunities for policy advocacy to support the industry. Our full-time

scientist focused on cultivated seafood has enabled us to launch new resources and partnerships. We commission essential consumer research studies on alternative seafood, including a [U.S.-focused study](#) published early in 2021. 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. IndieBio founder Ryan Bethencourt opined: “Soon companies will be able to order meat and seafood cell lines to start developing new products based on different cell-based meat lines. ... This new capability shifts the technological arms race to a new stage very similar to the early PC [personal computer] era.” Additionally, we hold alternative protein networking events to accelerate innovation into this relatively nascent vertical of the alternative protein sector.

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.

GFI’s Communications team’s focus areas are as follows:

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 build trustworthy relationships with key media voices. In all cases, the team leverages earned media across GFI's owned media channels as well.

In 2020, GFI's media presence continued to accelerate, reaching over 5,000 media hits, including stories by the *New York Times*, the *Wall Street Journal*, the *Washington Post*, *Wired*, CNN, the BBC, and *The Guardian*.

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. GFI executive director Bruce Friedrich's [TED Talk](#) was TED's most viewed talk the week it went live in May 2019. Views now total 2.4 million, with translation into dozens of languages. 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.

Leveraging social media for maximum influence

Our social media has become increasingly sophisticated and targeted, with a presence on Twitter, Facebook, LinkedIn, Reddit, 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 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. In 2019, the conference debut drew more than 50 world-class speakers and almost 1,000 attendees, selling out three weeks early.

Entrepreneurs, scientists, venture capitalists, technologists, engineers, and foodies alike gathered for two days to talk about the future of alternative proteins and how to make them better, safer, faster, more affordable, and more sustainably through emerging technologies. It was an amazing experience.

—Tom Mastrobuoni, CFO, Tyson Ventures

The Good Food Conference, a meeting of more than 800 plant-based and cell-based protein entrepreneurs, scientists, investors, and marketers, was the most upbeat, joyful, and youthful American agriculture gathering in years.

—Jerry Hagstrom, *National Journal*

The 2019 agenda included the key players in plant-based and cultivated meat plus leading food and meat companies, including ADM, Tyson Foods, JBS, and Perdue Farms; major meat customers, such as Kroger, Bon Appétit, and CKE Restaurants (Carl's Jr); top investors, such as Obvious Ventures, ADM Ventures, and Tyson Ventures; key suppliers to the plant-based and cultivated sectors, including Dupont, Benson Hill Biosciences, Wenger, and Merck KGaA, Darmstadt, Germany; critical NGOs, including FAIRR, the Institute for the Future, and the Center for Biological Diversity; and other important supporting entities from the Culinary Institute of America to the market research firm SPINS. Reporters for the *New York Times*, the *Wall Street Journal*, *Wired*, the BBC, and additional outlets moderated the panels. Attendees enjoyed meals courtesy of MorningStar Farms, Impossible Foods, Beyond Meat, and JUST.

The 2021 Good Food Conference will be held digitally from September 22-24 and feature speakers from the National Science Foundation, USDA, Impossible Foods, Upside Foods, Eat Just, Cargill, Hormel, McKinsey, Credit Suisse, Barclay's, the Breakthrough Institute, FAIRR, the Center for Biological Diversity, and more. Sponsors include Cargill, Givaudan, IFF, Kerry, A*STAR (Singapore's science agency), Merck, Beyond Meat, and presenting sponsor the Stray Dog Institute. Moderators include the New York Times, Financial Times, CNBC, Washington Post, National Geographic, and Nature Biotechnology.

IV. Global presence & impact: The Good Food Institute is six different high-impact organizations, united around one set of objectives.

GFI operates affiliate organizations in five key countries and regions: Brazil, Asia-Pacific, India, Europe, 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 is convinced that the only way to significantly decrease industrial animal agriculture globally is to create alternatives that taste the same or better and cost the same or less. This solution is global: cost-effective production methods developed in Brazil, India, Israel, the United States, Asia-Pacific, or Europe will be used worldwide.

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, corporate engagement, and policy. Below are some recent highlights from each affiliate.

A. 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. GFI Brazil also promotes GFI's competitive research grant program across the entire plant-based research sector. In 2020, 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.

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.

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 a partnership with Israeli company Aleph Farms to produce cultivated meat in Brazil in 2024.

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.

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, but by 2020 we had inspired more than 80 startups and 25 major investors to expand into the market.

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.

B. India

I was vocally skeptical about the potential of alternative proteins in India, but after collaborating with GFI over the past year, Omnivore is now planning to accelerate the sector's growth in the region in partnership with them.

—Mark Kahn, Omnivore (VC)

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 partnership 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, which are expected to come to fruition in fall 2021.

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 Smart Protein Innovation Challenge and 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. The Challenge inspired more than a thousand science and business students, young professionals, and entrepreneurs across India to take GFI's alternative protein massive open online course, read our materials, access mentorship, submit in-depth business or product plans, and compete for cash prizes. The 2020 Challenge resulted in the formation of at least 5 companies across plant-based foods and the addition of hundreds of qualified young professionals and students to our talent database, which is already yielding results for companies in the sector to find co-founders and early hires.

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 are expected to come to fruition in fall 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 2020, the team had hosted 15 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.

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.

Raising the alternative protein industry's profile

GFI India's Smart Protein Summit (Oct 2020) attracted 2300+ attendees from around the world, and 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, international food industry leader and former PepsiCo Chairperson/CEO Indra Nooyi, and other leaders from the alternative protein industry as well as important climate academics and philanthropic executives. In prior years, GFI India led the conception, organization, and execution of the Future of Protein Summit, the region's premier conference on the alternative protein industry.

Our 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.

C. Asia-Pacific (APAC)

GFI's Asia-Pacific team is super dedicated and highly effective in delivering results in a way that suits the regional culture. We benefit hugely from their resources, connections, publicity, and technical papers.

—Carrie Chan, co-founder of Avant Meats

Creating resources that fill crucial knowledge gaps

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 2020 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). We host all these reports on the [GFI APAC website](#).

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.

Building an alternative protein ecosystem

Asia-Pacific is vast, with wide-ranging comparative advantages in the alternative protein space. China, for example, is the world's leading soy- and pea-protein processor and thus holds tremendous potential as a raw materials supplier for plant-based meat. Raw materials are a key industry bottleneck, so we forge relationships with mainland China's largest plant-protein processors. We encourage companies to broaden their markets to include higher-value-added products. One such company, Yantai Shuangta Food, is a leading pea-protein producer. In February 2020, Yantai Shuangta signed a [pea-protein supply contract with Beyond Meat](#). In April 2020, Beyond Meat entered mainland China's market through a [partnership with Starbucks](#). GFI APAC offers on-demand advice, connections, and resources to startups and accelerators in Asia-Pacific and global investors interested in the region.

Raising the alternative protein industry's profile

Across Asia-Pacific, awareness of the burgeoning opportunities in alternative proteins is building. GFI APAC and strategic China partner GFI Consultancy are crucial sources of information and inspiration. 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.

As Covid-19 hit Asia, GFI APAC pivoted to online activities, launching the [GFI APAC website](#). GFI Consultancy launched its own [website](#) for mainland China. 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.

D. Europe

We agree with the argument put forward by The Good Food Institute Europe that this amendment [on proposed plant-based censorship laws] would undermine EU policy objectives on climate change, the environment, and public health.

—UK Parliament House of Lords, subcommittee report 2019

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 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. We estimate that EIT will fund between €900,000 and €3,300,000 in alternative protein projects next year. 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 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 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.

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 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 opinion 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.

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, local and global food producers to help accelerate innovation.

Increasing government funding

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. With support from TASC and Ernest and Young, Israel's leading consulting firms, GFI Israel is developing a national alternative protein policy plan and is discussing it with the Prime Minister's Office, Ministry of Economy, Ministry of Environmental Protection, Ministry of Agriculture, and Ministry of Foreign Affairs. We recently briefed PM Naftali Bennett ahead of his meeting with President Biden and work closely with the Minister of Environmental Protection on Israel's position and participation in the 2021 United Nations Food System Summit.

GFI is collaborating closely with the Israeli Innovation Authority (IIA). Following GFI Israel's extensive mapping of the Israeli research infrastructure and its gaps, the IIA has committed to establishing a new research institute and invest approximately \$20M of government funds. Following a major alternative-protein hearing organized last July by GFI Israel, a cultivated meat consortium was formed and is undergoing final examination by the IIA. The IIA has appointed an external advisor, at their expense, to help the candidates with the application process. If approved, the consortium will be granted \$15M in government funding. GFI Israel is both supporting the candidates' efforts and advising the IIA during the examination process. 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.

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.

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.

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. 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 this year 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.

In 2021, our team launched the [Israel State of Alternative Protein Innovation Report](#) which reviews the nation's alternative protein ecosystem.

Establishing GFI Israel as an alternative protein thought leader

GFI Israel has established itself as the nation's thought leader in the alternative protein space. In collaboration with GFI's director of science and technology, Dr. David Welch, we held a series of events on white spaces, including an investor briefing, a crop optimization meeting, a fermentation seminar, and webinars with the agritech community and business school graduates. The events, run in partnership with The Tel Aviv University, Coller School of Management at TAU, Start-up Nation Central, the GrowingIL ag-tech community, The Israeli Fermentation Society, Weizmann Institute of Science, and others, reached over 1,000 people. GFI Israel has also spoken at multiple industry and university events, including [The OurCrowd Global Investors Summit](#), the biggest investors event in Israel, with over 10,000 attendees. We are now building scientific and business communities to further engage with and accelerate the 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. The system defines three layers of prioritization:

- 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

GFI has six organizational goals, and one is to be “a satisfying and motivating place to work.” 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 projects. We encourage people to take mornings for projects as well. 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.

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

- Every other Monday, we host an all-staff video conference to go over operational best practices, discuss ways to improve our organization, and hear updates from the program areas.
- On Wednesdays, we convene again to listen to department-specific updates. This gives us a chance to learn about what everyone else is working on, ask questions, and see whether we can help one another.
- Finally, 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.
- 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.

Ensuring team satisfaction

Our April 2021 anonymous team survey drew 90% participation. 96% of respondents indicated that they are “proud to work for GFI” and 95% 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:

- “We've convened an ambitious, brilliant group of innovators who are taking huge strides toward our goal of building a world where alternative proteins are no longer alternative. We are making it happen.”
- “I so appreciate GFI's culture of email pause, deep work Fridays, PRRR week, flexible schedules, and that emails mostly stop on the weekends. I also appreciate all the activities that focus on culture building.”
- “Every weekly report is jam-packed with tangible progress. Our work culture is wonderfully supportive, collaborative, and fun. Our team is genuinely funny and kind.”
- “GFI has established itself as a thought leader in the alt. protein space and a hub for all things future-of-food, which is highly impressive considering the organization is only 5 years old. I also believe that GFI's staff members are brilliant and driven, and it's a pleasure to work alongside them.”
- “Amazing culture, with the kindest, most intelligent, impressive, and driven colleagues I have ever worked with. Fantastic transparency and accountability. Exciting, high-impact, and challenging work, with plenty of autonomy.”
- “GFI does an exceptional job of balancing autonomy with process. GFI also hires really impressive people and has assembled a leadership team that inspires confidence. GFI is nimble without being reactive.”
- “GFI is a very supportive environment, and more than any other place I've been it feels like everyone's on the same team with the same goals.”

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. Everyone on the team 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 2021, our team comprises 70 professionals in the United States and 59 across our five international affiliates; a slate of top-notch pro bono lawyers; an advisory council of 31 high-profile, highly respected

leaders in their fields; and a constant rotation of talented interns and fellows. Meet the team at gfi.org/our-team.

We warmly welcome your partnership in creating a sustainable, healthy, and just food system. Please contact philanthropy@gfi.org to get involved.