

# Going Further Together

OPENTEAM PROGRESS REPORT 2022



Open**TEAM**

is an initiative led by



**WOLFE'S NECK CENTER**  
FOR AGRICULTURE & THE ENVIRONMENT

**DEAR COMMUNITY MEMBER,**

This past year signaled a sea change at Wolfe’s Neck Center for Agriculture & the Environment. We have a history of implementing a different approach to land stewardship – an approach that includes public engagement and education, research collaboration, on-farm training, and the development of resilient, equitable food systems.

Drawing upon our rich history of innovation and experimentation, the steady efforts of our supporters, partners, and collaborators continue this legacy through collaborative initiatives like OpenTEAM. As we transform our relationship with food and farming for a healthier planet, the work of this community could never be more important in supporting land stewards and their livelihoods.

OpenTEAM actively provides space for dialogue, connection, and education with partners, expanding important conversations across sectors. As we learn with our community and build trust, we are furthering our commitment towards equitable outcomes in agriculture and technology.

In 2023, we expanded this work with over 60 collaborators to join 70 other awardees who will be investing a combined \$3 billion with the launch of the USDA Partnerships for Climate Smart Commodities Program. Our future investments will expand our ability to support land stewards as we develop and scale the systems, tools, and expertise necessary to create transformative change and new markets that reward soil health and environmental improvement.

For us to achieve our mission, we will continue to expand our communities collective impact regionally, nationally, and globally. Through OpenTEAM and this recent USDA-funded initiative, we’re excited to see this community step into a much larger role!

Thank you for your continued collaboration,



**David Herring**  
WNC Executive Director



**Dorn Cox**  
WNC Research Director and OpenTEAM Project Lead



*Wolfe’s Neck Center operates on the historic lands of the Abenaki people of the Wabanaki Confederacy, a fact that has erroneously been excluded from our story. We also recognize that WNC’s agricultural approach of utilizing the techniques of “regenerative agriculture” uses traditional practices implemented by Indigenous peoples who have stewarded the earth for millennia.*

# Our Community

OpenTEAM comprises a diverse community of skilled problem-solvers. The farmers, ranchers, scientists, researchers, engineers, farm service providers, programmers and food companies that form this community contribute technical expertise, industry knowledge, and innovative ideas that make OpenTEAM's ongoing accomplishments possible.

**We grew our community this past year, welcoming new organizations and individuals through new programs and partnerships, working groups, and Collabathons.** We expanded further after we joined others in organizing over 60 collaborators for the Alliance to Catalyze Transition Incentives through Open Networks for Climate Smart Agriculture.

## OPENTTEAM COMMUNITY PARTICIPANTS:

- COMET-Farm
- Cool Farm Alliance
- Digital Green
- farmOS
- Foundation for Food and Agricultural Research
- Field to Market Alliance
- Foodshot Global
- General Mills
- Heartland Technology Group
- LandPKS
- LiteFarm
- Mad Agriculture
- Michigan State University
- Purdue University (NECCC)
- NORI
- OATS Center
- Open Rivers
- Organic Valley
- Our Sci
- Rhode Island School of Design
- PastureMap
- Quivira Coalition
- Regen Network
- Regen, Foundation
- Sustainability Innovation Lab at Colorado
- Stonyfield Organic
- Tech Matters
- Terra Ethics
- Terra Genesis International
- UBC Farm
- USDA Agricultural Research Service
- Wolfe's Neck Center for Agriculture & the Environment
- Zero Foodprint
- Lexicon of Sustainability
- White Buffalo Land Trust
- Paicines Ranch
- Caney Fork Farms
- Propagate Ventures
- Terran Collective
- CIBO Technologies
- LookINTO
- We Are For The Land Foundation
- Carbon A-List
- Black Farmer Fund
- California Association of Resource Conservation Districts
- Northeast Farmers of Color Landtrust
- Pasa Sustainable Agriculture

## OPENTTEAM HUBS:

- Caney Fork Farms
- General Mills
- Mad Agriculture
- Michigan State University
- Million Acre Challenge
- Organic Valley
- Paicines Ranch
- Pasa Sustainable Agriculture
- Quivira Coalition
- Stonyfield
- UBC Farm
- Wolfe's Neck Center
- White Buffalo Land Trust
- Black Farmer Fund
- Northeast Farmers of Color Land Trust
- California Association of Resource Conservation Districts
- We Are For The Land Foundation

# 2022 At A Glance



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A high-angle photograph showing a group of white chickens gathered around a yellow bucket filled with soil. A person's legs in dark pants and boots are visible in the lower-left corner, and a shovel with an orange handle is in the lower-right corner. The ground is covered in green grass and brown autumn leaves. A green speech bubble with white text is positioned in the upper-right area of the image.

*Our goals are not simply to create better research and decision tools for all land stewards, but to demonstrate a collaborative approach to data portability & soil health research that will catalyze transformation in agriculture and global systems science.*



# Leading Together



In 2022, Wolfe’s Neck Center and its partner organizations were awarded up to \$35 million by the U.S. Department of Agriculture’s [Partnerships for Climate Smart Commodities](#) program to support the adoption of climate smart agricultural practices on farms nationwide. **With over 60 collaborators, the initiative “The Alliance to Catalyze Transition Incentives for Open Networks for Climate Smart Agriculture” (ACTION for CSA), will expand our collective leadership role in advancing agriculture’s ability to become a solution to climate change.**

Through this program, the USDA is investing over \$3 billion in [70 selected projects](#) that will lead pilots to create market opportunities for commodities produced using climate-smart production practices. Climate smart agriculture (CSA) uses an integrated approach to managing landscapes—cropland, livestock, forests and fisheries—that addresses the interlinked challenges of food security and accelerating climate change.

As a part of this program, ACTION for CSA will launch and support climate-smart agricultural pilot projects on farms and ranches in the Northeast, Mountain West, and California. This will provide land stewards with direct soil health planning and technical assistance to access financing for practice

implementation such as cover cropping, managed grazing, or no-till planting. Through this, Alliance members will train agricultural service providers, develop open-source technology, and advance a robust, accessible marketplace for climate-smart products.

**The goal of this project is to develop systems, tools, and expertise to create a sustainable marketplace for climate smart commodities in the long term.** In addition, OpenTEAM was included as a major partner on several other awarded projects. We are proudly stepping into the center of this effort, taking on a leadership role alongside our community and with the larger alliance.

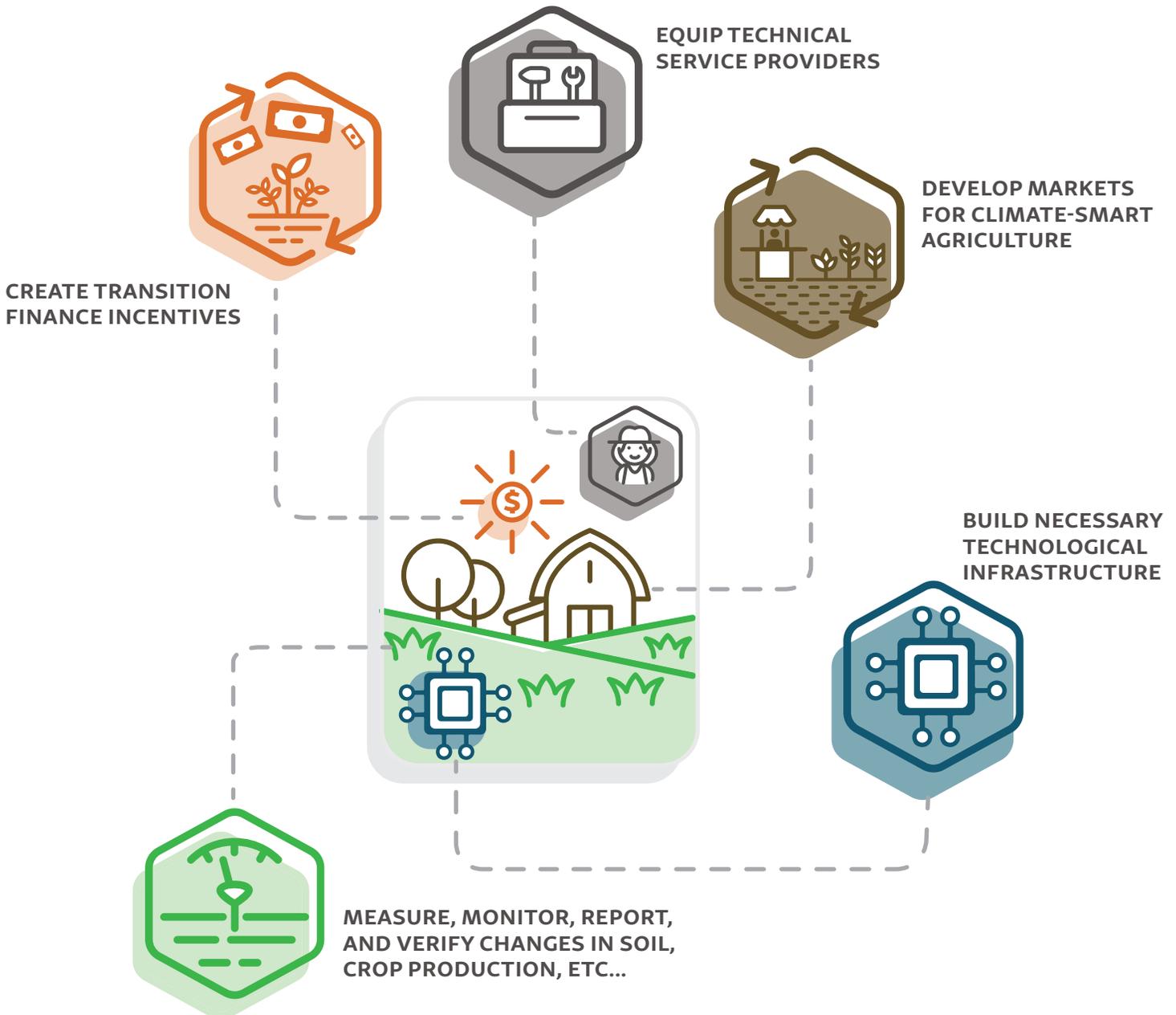


*Alex Gulachenski, Farm Networks Coordinator, talks with Wolfe’s Neck Center Collaborators.*

## SOME OF THE KEY PARTNERS ON THIS PROJECT INCLUDE:

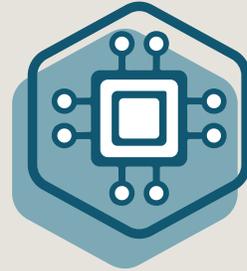
- **Open-Source Tech Development:** OpenTEAM and its community, particularly farmOS and Our Sci
- **Technical Training Program:** Point Blue Conservation Science, California Certified Organic Farmers, Oregon Tilth, Pasa Sustainable Agriculture, and Quivira Coalition.
- **Marketplace Development and Infrastructure:** Conservation Technology Information Center (CTIC), The Nature Conservancy, Digital Green, and the Regen1 Alliance
- **Innovative Transition Finance Pools:** Zero Foodprint
- **Other Key Partners:** American Farmland Trust, Field to Market, and Carbon A List

# What Will ACTION for CSA Do?





# Stewarding Innovation



## ENTER DATA ONCE, USE IT MANY TIMES

From when seeds are planted to when fields are harvested, farmers everywhere are tracking how they manage their farm. The data collected, whether on paper, in spreadsheets, or using digital tools, is used to help farmers realize benefits including (but not limited to) improved business operations, certifications, grants, or identification of farm management needs.

Our community is co-creating a connected technology ecosystem that will enable land stewards to share their data across technologies, tools, and organizations, encouraging collaboration and ensuring access to multiple opportunities without compromising their control. **This past year, OpenTEAM collaborators have expanded this vision through the continued development of the Ag Data Wallet.** The Ag Data Wallet is a system that will return data control to producers while also maximizing the value of that data through efficient, secure and cost-effective data management at the producer's discretion. With producer control and consent management, land stewards can enter data once and use it many times to contribute to research, support farmer-focused supply chain initiatives, connect to new markets, and develop relationships with peers to share successes, challenges, and new findings.

## COLLABORATIVELY BUILDING INTEROPERABILITY

**As necessary prerequisites to an interoperable Ag Data Wallet, our Technology Working Group has been focusing on identity services and agricultural data terms-of-use projects.** We have held a series of collaborative sessions to dive into the complexities of data rights and permissioning for land stewards, which identified the need for a set of shared definitions and social contracts. Our end goal is to create a set of concise and icon-based app notifications so that land stewards maintain knowledgeable control of their data with an understanding of where their data is going, who has access, and how it's being used.

**In a complementary workstream, we have been building consensus across our tech ecosystem for a single sign-on process.** This will allow users to utilize a single set of credentials to log in to a number of integrated platforms, reducing friction around the creation of multiple accounts. These work streams continue to move us toward our collective vision of an accessible and interoperable technology ecosystem.

## CREATING THE COMMON ENROLLMENT FORM FOR THE COMMON PROFILE

Transparent data collection methodologies are crucial to sharing data and building aggregated datasets. In

2021, community participant Our Sci developed a Question Set feature in the SurveyStack software to help users who have similar research or monitoring goals build a shared, but customizable question list. **This feature is now being exemplified through the [Common Profile Question Set](#), which will allow farmers and ranchers to enter the minimum amount of data required to benefit from various OpenTEAM tools and the larger OpenTEAM community.** Through a Collabathon, we gathered multiple stakeholders who onboard farmers to different projects and initiatives to gauge the questions they ask and thus the questions that would be needed in a common enrollment form. This process produced the first iteration of the common profile question set, now being used across the community and by OpenTEAM Fellows. This form will go through continuous revision and improvement with future Collabathons planned for 2023.

## DEVELOPING NEW TECH INTEROPERABILITY

OpenTEAM continued to steward new integrations as a community. For example, **users can now access community-building features on Hylo, benchmarking through the Digital CoffeeShop (beta), and measuring and monitoring capabilities of greenhouse gas emissions, water usage, and biodiversity measures through COMET or Cool Farm Tool (beta)** using the Common Enrollment Form. This allows land stewards to connect their farms to the technology ecosystem with a single enrollment form in SurveyStack, giving them access to the various benefits of these tools. For example, The Digital CoffeeShop is a visual benchmarking tool for better strategic decision making on farms. Designed to be a space where producers can visually see information about their farm management practices, field tests, and lab tests, land stewards can compare their data to fellow stewards to help identify best practices for their operation.

## BUILDING NEW PARTNERSHIPS

OpenTEAM has also expanded its relationship with the USDA through several cooperative agreements. Two agreements focus on the Producer Operational Data System (PODS). **OpenTEAM will continue to work closely with the Natural Resources Conservation Service (NRCS) and provide expertise to facilitate**

**FAIR in practice standards and promote open data, open source tools, and data interoperability across the agency.** This will assist with modernizing data integration to improve economic and ecological outcome analysis. In addition, OpenTEAM will facilitate the development of a citizen-science based conservation cost accounting system to improve local and regional conservation cost benefit analysis over time.

**OpenTEAM is also supporting the development of Food Labeling Data Standards to collaboratively reach a voluntary consensus for fresh fruits and vegetables.** While many institutions have created wholesale packing guides, they remain inconsistent and incomplete, thus a systemic approach is needed to evaluate and generate streamlined standards. This agreement will facilitate consistent naming conventions to enable greater opportunities for local food distribution nationally.



OpenTEAM Fellow Jeanne Lurvey in the field!

*OpenTEAM is working towards the integration of not just an open access digital tech ecosystem, but also the promotion of the flexible but interconnected network we all need.*

– Jennifer Wood, California Association of Resource Conservation Districts



# Learning From Others



## HOW WE WORK

OpenTEAM continues to build trust with collaborators, improve interoperability among systems, and adapt universal tools to local needs. Our Collabathons, In-Depth Learning Series, and Working Groups serve as platforms for discourse where collaborators can learn from each other's work, tackle specific work streams and projects, and find unique solutions. This illustrates the dynamic nature of our community, inspiring and sharing concepts and technologies that enable the emergence of new collaborations and approaches.

## EXPANDING OUR KNOWLEDGE THROUGH CONFERENCES

As COVID restrictions slowed, OpenTEAM staff and community members were able to participate in many in-person conferences all across the United States and the world. **With these convenings came the opportunity to engage with new and existing collaborators.**

At Minorities in Agriculture, Natural Resources, and Related Sciences ([MANRRS](#)) Regional I Cluster Conference in Philadelphia, our staff were able to connect with students, MANRRS leadership, and other professionals to exchange information on the work happening in our respective communities. We

are excited to continue to build a relationship with MANRRS as many of their values are in line with our own!

At the 2022 Gathering for Open Agricultural Technology ([GOAT](#)) in New York, **many in our community and beyond participated in an 'unconference', where the schedule and activities are determined on-site by participants**, following the group's unique mix of interests. Topics ranged from trust-building with farmers, to systems to aggregate data, to discussions around NFTs and blockchain. We look forward to expanding on the relationships we built at this week-long conference, finding ways we can collectively address the problems which prevent the creation of advanced, high quality open technology and its adoption in agriculture.

**OpenTEAM Fellows also participated and facilitated roundtable discussions at the [REGENERATE Conference](#)** hosted by Quivira Coalition, and conferences hosted by The American Grassfed Association, and Holistic Management International. There, Fellows Genna Fudin and Sara Legg also discussed OpenTEAM projects and tools with attendees and attended plenary sessions.

Our staff and larger community participated in and presented at the Gathering for Open Science

Hardware ([GOSH](#)), [AgGateway](#), and the [Sustainable Agriculture Summit](#).

## INTEGRATING EQUITY WITHIN OUR COMMUNITY AND BEYOND

At the beginning of 2022, we created the first draft of the [OpenTEAM Equity Collabathon Resource Guide](#). The materials in this guide are the compilation of resources used during the first ever **Equity in Regenerative Agriculture Collabathon** held in 2021. The purpose of the Collabathon was to create a community of practitioners in the field of regenerative agriculture and related sectors who focus on

principles of equity and driving forward positive change through their projects and organizations. We welcome collaboration and continue to share, change, and test this resource. Our equity huddle, a small group of collaborators who meet biweekly to discuss equity issues and progress, have been working to launch the [‘Growing Equity in Ag’ Newsletter](#). **The intention of this quarterly newsletter is to invite more partners into this community, foster dialogue, and create a space to discuss what is working, explore what is not, celebrate successes, and share resources that will enable a spectrum of progress: from incremental change to disruptive innovation. You can sign up for this collaborative newsletter [here!](#)**

*Joining the OpenTEAM community through my role with Stonyfield has benefitted me personally through the connections and educational resources I've been exposed to via hub, in-depth and equity meetings....I feel that the OpenTEAM community keeps me very up to date on the work in the private, public, and non-profit sectors to help farmers engage in so-called climate smart management and to track associated benefits.*

– Dana Bourne, Stonyfield





# Facilitating Feedback



## OPENTTEAM CONTINUES TO BUILD TRUST WITH THE HUB & NETWORK PROGRAM

OpenTEAM Hub & Network farms and ranches serve as a primary testing ground for the OpenTEAM technology ecosystem. Their experiences and observations inform OpenTEAM's user interface design and calibration of the tools that are part of the OpenTEAM platform. **As each farm is unique in their region, size, and production type, their feedback is integral to the improvement and local adaptability of the OpenTEAM technology ecosystem.**

This past year, we began to establish stronger processes for community technical support and review. We now have an OpenTEAM Tech Feedback & Support community [forum on Hylo](#), a service desk that can be accessed by emailing [tech@openteam.community](mailto:tech@openteam.community), and a weekly [community support call](#). In the coming months, we hope to build a community-governed process for prioritizing feature requests that we receive through these channels.

Furthermore, we are creating documentation to support land stewards as they test out these tools and share insights so that it can remain a long-term resource. **By creating feedback mechanisms, developing documentation, and building capacity,**

we will develop more robust systems of support that will bridge the gap that farmers and ranchers currently face within the OpenTEAM technology ecosystem.

## INTRODUCING: THE OPENTTEAM FELLOWS PROGRAM

To ensure technology tools and platforms work for land stewards of all sizes, production types, regions, and backgrounds, **we must harness the shared innovation that happens every day on every farm and in every backyard.** As a part of our commitment to this principle, we are partnering with Black Farmer Fund, the California Association of Resource Conservation Districts, General Mills, Northeast Farmers of Color Land Trust, Pasa Sustainable Agriculture, Point Blue Conservation Science, and Quivira Coalition for a Pilot Fellows Program.

In July of 2022, we launched the [OpenTEAM Fellows Program](#) to expand support and ground our work with land stewards such as farmers, ranchers, and other food system leaders. With significant support from the Walmart Foundation, five inaugural OpenTEAM Fellows and their associated pilot Hubs are providing training, community support, and technical facilitation that will equip land stewards with the best possible agricultural knowledge and

tools to lead to regenerative outcomes across the food system. **Fellows are embedded in the local farming and ranching communities they serve, working as trained community and technical facilitators** alongside local Hub staff as they support soil sampling needs, meet with land stewards, and work to gather feedback to improve the OpenTEAM technology ecosystem.

“Working with an organization that is trying to make sure that agricultural tools being developed support BIPOC farmers who are just trying to feed their communities and grow food that is culturally appropriate and culturally relevant... **Having us be part of that conversation and be part of that space felt really important,**” explained **Melanie Allen, Program Director at Black Farmer Fund.** Through the Fellows Program and their other initiatives, Black Farmer Fund and Northeast Farmers of Color Land

Trust are working to support market access and food distribution needs for BIPOC farmers and their communities in New York and the greater Northeast.

As the OpenTEAM community continues to grow through new programs like these, we ensure that developed streamlined processes allow land stewards to input and share their data on management practices, soil health measures, and other key operations, connecting them to more benefits, opportunities, economic incentives, and markets.

“I am excited to work with OpenTEAM and General Mills, my Hub, because of their commitment to producer-first development, and the opportunity **to build both technology platforms and meaningful relationships that will make scaling regenerative agriculture not only possible, but common,**” says Sara Legg, inaugural OpenTEAM Fellow.

## Where Are The Fellows?



# Looking Ahead

In 2023, we hope to build upon what we have created together this past year, accelerating our progress collectively. We are honored to continue collaborations with this community as we build out governance structures, collect feedback, and dive into upcoming initiatives, steward technology accelerate development together.

Furthermore, as we build new collaborations across the distinguished awardees of the Partnerships for Climate Smart Commodities program, we look forward to applying our open source principles to achieve shared goals. We see the coming year as an important step in a larger shared endeavor that will support urban and rural economies, regenerate our working landscapes, increase access to conservation incentives, and build the critical skills and technology infrastructure needed to transform agriculture.

**While 2022 was a year of growth, 2023 will be a year of action, and we cannot wait for the meaningful work ahead!**



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