

PepsiCo R&D External Innovation

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PepsiCo Overview

ABOUT PEPSICO



PepsiCo products are enjoyed by consumers more than one billion times a day in more than 200 countries and territories around the world. PepsiCo’s product portfolio includes a wide range of enjoyable convenient foods and beverages, including many iconic brands that generate more than \$1 billion each in estimated annual retail sales.

GLOBAL BEVERAGES



PERFORMANCE



More than
\$91 billion
net revenue in 2023

BRANDS



Many iconic
billion-dollar
brands

GLOBAL CONVENIENT FOODS



SCALE



More than **200**
countries
& territories

PEOPLE



Approximately
318,000
employees

OUR HISTORY



Pepsi-Cola created by Caleb Bradham 1898



Creation of Frito-Lay through the merger of the Frito Company and H.W. Lay Company 1961



be more tea
Formed Pepsi Lipton Tea Partnership, joint venture between Pepsi-Cola and Unilever 1991



Merger with Quaker Oats, which also brought sports drink Gatorade into the portfolio 2001



PepsiCo's Food for Good launches 2009

Acquisition of KeVita, a leading North American creator of fermented probiotic and kombucha beverages 2016



Acquisition of CytoSport, a leading provider of protein products, including Muscle Milk 2019



Launch of pep+ (PepsiCo Positive) 2021

1932
First recipe for Fritos Corn Chips and establishment of H.W. Lay & Company



1965
PepsiCo founded through the merger of Pepsi-Cola and Frito-Lay, creating a competitive advantage fueled by complementary snacks and beverages



1994
Partnered with Starbucks to jointly develop ready-to-drink coffee beverages



2005
Frito-Lay opens its first "Green" Distribution center

2012
Strategic beverage alliance with Master Kong Beverage, one of the leading food and beverage companies in China



2018
Acquisition of SodaStream



2020
Acquisition of Pioneer Foods, BFY Brands, Be & Cheery, and Rockstar Energy Beverages



2022
PepsiCo unveils first-ever ESG Summary, an evolution of the company's Sustainability Report

MISSION

Create more smiles with every sip and every bite

VISION

**Be the global leader in beverages and convenient foods
by winning with **

THE PEPSICO WAY

FASTER

Winning in the marketplace,
being more consumer-centric
and accelerating investment
for topline growth

STRONGER

Transforming our capabilities, cost,
and culture by operating as one
PepsiCo, leveraging technology,
winning locally and globally enabled

BETTER

Creating growth and value by
operating within planetary
boundaries and inspiring positive
change for the planet and people



**BE
CONSUMER
CENTRIC**



**ACT AS
OWNERS**



**FOCUS &
GET THINGS
DONE FAST**



**VOICE
OPINIONS
FEARLESSLY**



**RAISE THE BAR
ON TALENT
& DIVERSITY**



**CELEBRATE
SUCCESS**



**ACT
WITH
INTEGRITY**

STRONG PORTFOLIO OF ICONIC BRANDS

PEPSICO

MANY ICONIC BILLION DOLLAR BRANDS



MORE THAN 30 \$250 MILLION – BILLION DOLLAR BRANDS



These brands generated more than \$1B or \$250-\$1B in 2021 estimated annual retail sales.
*Logos shown are not all inclusive.

Introducing pep+



Strategic end-to-end transformation, with sustainability and human capital at the center of how PepsiCo will create growth and value by operating within planetary boundaries and inspiring positive change for the planet and people.



POSITIVE AGRICULTURE

SOURCE crops and ingredients in a way that accelerates regenerative agriculture and strengthens farming communities



POSITIVE VALUE CHAIN

MAKE products in a way that builds a circular, inclusive economy



POSITIVE CHOICES

INSPIRE people through our brands to make choices that create more smiles for them and the planet

pep+ KEY Pillars



POSITIVE AGRICULTURE

Spread regenerative agriculture across

7 million acres by 2030



Sustainably source*

100% of our key crops + ingredients by 2030



Improve the livelihoods of more than

250,000

people in our agricultural supply chain and communities by 2030



POSITIVE VALUE CHAIN

Achieve

NET-ZERO EMISSIONS by 2040



NET WATER POSITIVE

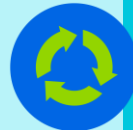
Reduce use + replenish more than we use by 2030



Cut virgin plastic per serving by

50%

across our global beverages & convenient foods portfolio by 2030 against a 2020 baseline



Execute our DE&I agenda, invest

\$570+ million by 2030



POSITIVE CHOICES

Evolve our portfolio of products so they are better for the planet + people, by:



- ✓ Diversifying ingredients
- ✓ Expanding position in nuts & seeds category
- ✓ Accelerating science-based targets
- ✓ Scaling little to no single-use packaging platforms



Leverage our iconic brands to inspire positive choices

Lay's will support farmers moving to regenerative practices



*For grower-sourced crops, sustainably sourced refers to meeting the independently verified environmental, social and economic principles of PepsiCo's Sustainable Farming Program (SFP). For supplier-sourced crops, sustainably sourced is achieved through a third-party standard that has been benchmarked as equivalent to the SFP or, in limited regions, a continuous improvement program addressing the main environmental and social risks with growing the relevant crop.

2022 Sustainability Progress Highlights



Positive Agriculture

900K+

acres farmed with regenerative farming practices toward goal of 7 million by 2030



11K+

people positively impacted in our agricultural supply chain and communities



Positive Value Chain



22%

improvement of our operational water-use efficiency in high water-risk areas (versus a 2015 baseline)

23%

reduction in Scope 1 and 2 emissions, toward our goal of 75% by 2030 (versus a 2015 baseline)



~8.7B

liters of water replenished into local watersheds in 2022

Positive Value Chain



22%

improvement of our operational water-use efficiency in high water-risk areas (versus a 2015 baseline)

Women and men continued to earn within 1% of each other, and women hold

44%

of our manager positions worldwide

In the U.S., we increased our Black managerial representation to

9.0%

making progress toward our goal of 10% by 2025

and we increased our Hispanic managerial representation to

10.1%

meeting our 2025 goal of 10% three years early

>80MM

people reached since 2006 with safe water access, toward 100 million goal by 2030



Positive Choices



75%

of our convenient foods portfolio volume in our top 23 convenient foods markets met our saturated fat reduction target, maintaining our goal of ≥75% by 2025

56%

As of 2022, of our beverages portfolio volume in our top 26 beverage markets contained no more than 100 Calories from added sugars per 12 oz. serving, progress toward our goal of ≥67% by 2025



Introduction to XI

Internal PepsiCo R&D Capabilities – Seed to Shelf



INNOVATION
MANAGEMENT



SUSTAINABILITY



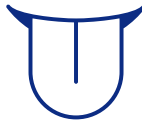
CULINARY



EQUIPMENT
DEVELOPMENT



CLINICAL SCIENCE



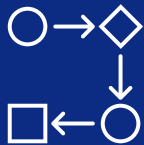
SENSORY



AGRICULTURE



FOOD SCIENCE



PROCESS
ENGINEERING



NUTRITION
SCIENCE



PACKAGING



FOOD SAFETY
& QUALITY



REGULATORY

FLAVORS



WATER
TECHNOLOGY



SPORTS SCIENCE



DATA SCIENCE



3 PepsiCo teams engage externally to solve critical needs

BRAND: PepsiCo Ventures



Beverage



Macro Snacks



Beyond the Bottle

COMMERCIAL TECHNOLOGY: PepsiCo Labs



Insights (AI)



Sales & Marketing



Supply Chain

PepsiCo R+D

eXternal innovation 



Agro/ ingredients



Processing



Packaging

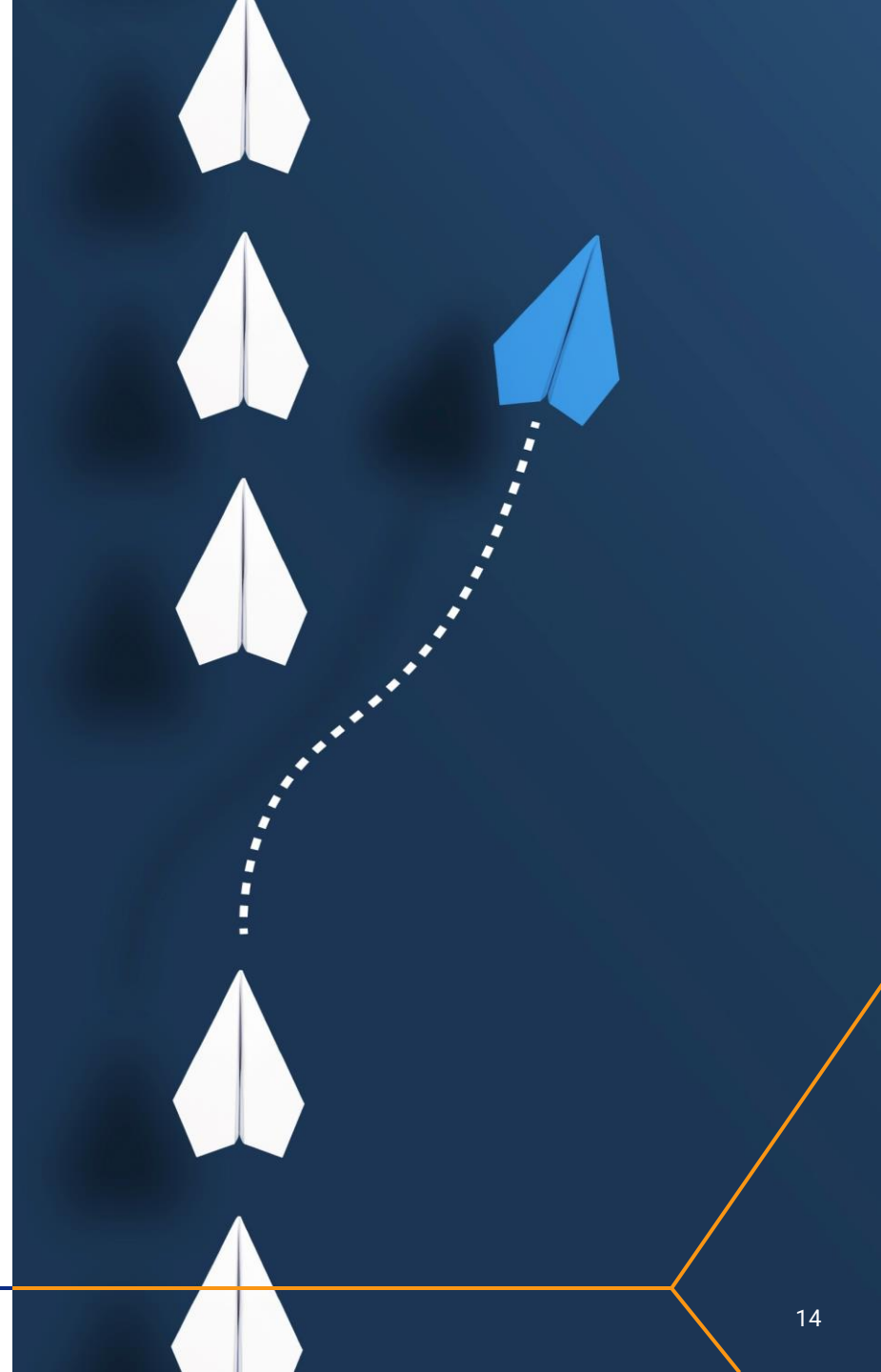
IDENTIFY | NURTURE | PARTNER

MINORITY INVESTMENTS | STRATEGIC PARTNERSHIPS

XI Mission

XI complements & augments internal R&D capabilities

We aim to drive **transformative** growth and competitive advantage by building **collaborative strategic partnerships** and integrating cutting-edge technologies that align with our **strategic goals**.



XI is part of PepsiCo R&D

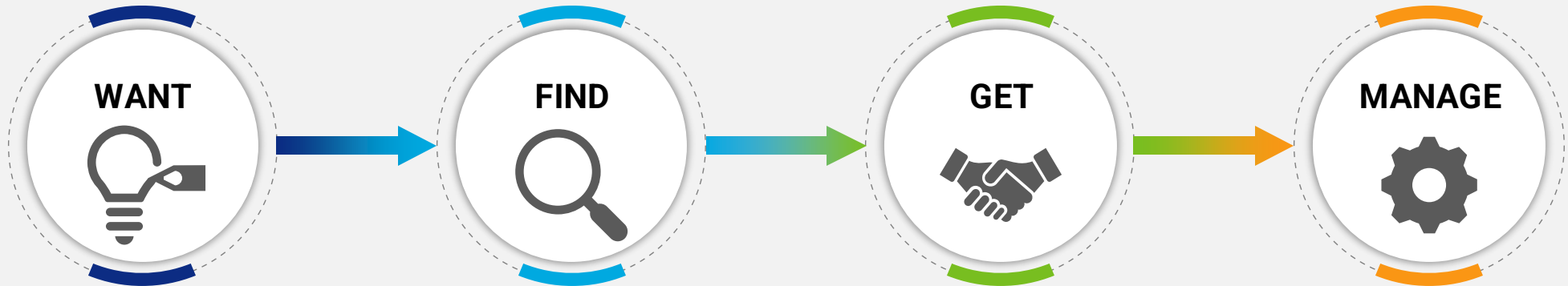


WHO

Global presence with Diverse backgrounds

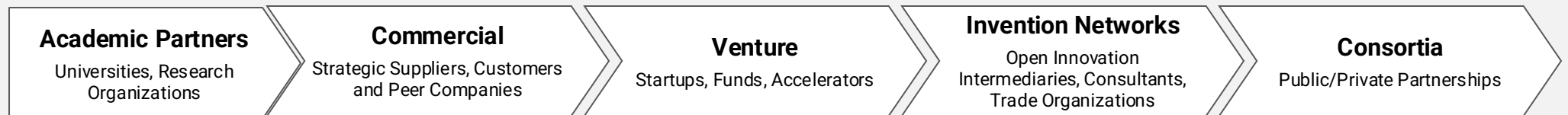
How

XI leverages the Want/Find/Get/Manage open innovation framework



Where





XI manages the partner ecosystem across the following pillars





Needs and Opportunities

Focus Areas for PepsiCo R&D

Process & Equipment 	Ingredients & Flavors 	Packaging & Materials 	Sustainability & Agriculture 
Process Digitalization	Sugar/Salt/Fat Reduction	Biodegradable & Other Disruptive Materials	Regenerative Agriculture
Novel Food Manufacturing Processes	Flavor Technology	Bio-based, Reduced-carbon Plastics	GHG Reduction Technologies
Rapid Food Safety & Quality Testing	Protein and Performance related Ingredients	Advanced Recycling	Water Footprint Reduction
Biotransformation	Label Simplification (e.g., flavor, color)	Enhanced Consumer Experience	Manufacturing Efficiency (speed, water, energy, etc.)
Retail Equipment (dispensers, coolers, vending)	New Substrates	Gas/Moisture Barrier	Zero Waste/ Circular Economy

2023/2024 PepsiCo Global R&D Technology Needs



❖ Process and Equipment

- High efficiency heating; gentle dehydration; novel biotransformation (e.g., enzymatic modification)
- Circular water, minimal liquid discharge; Atmospheric water generation; Improved water efficiency
- Economical and/or advantaged cooler/vending solutions
- Rapid allergen or pathogen detection
- Microbiome improvement and other wellness & health management technologies
- Novel delivery system (encapsulation)

❖ Ingredients and Flavors:

- Zero sugar tools (natural sweetener, aftertaste mitigation, mouthfeel modification)
- New natural preservatives, colors, flavors, and functional ingredients

❖ Packaging and Materials:

- Differentiated packaging (e.g., multi-sensory, connected, functional)
- Advanced recycling (e.g., non-bottle PET, multi-layer films)
- Biodegradable polymers for food and beverage packaging
- Economical gas/moisture barrier for PET, paper & films while maintaining recyclability or composability

❖ Sustainability and Agriculture:

- Solutions to reduce GHG emissions across the value chain (e.g., agriculture, processing, packaging)

Submit your solutions to PepsiCo R&D's technology needs

<https://externalinnovation.pepsico.com/>

PepsiCo Open Innovation Portal

The **External Innovation (XI)** team within PepsiCo R&D provides seamless **external partnering** capability to accelerate PepsiCo's **innovation** agenda, **mitigates development risk**, and uncovers unique **new business opportunities**.



SPOTLIGHT



External Innovation (XI) is part of PepsiCo R&D comprised of 15-person **Global** team of Technology Scouts and Analysts that leverages the **Want/Find/Get/Manage** open innovation Framework



WAYS OF WORKING



Want

XI works with internal R&D stakeholders to define high priority technology needs.



Find

Leveraging our vast external partner network, XI determines the best method to source solutions.



Get

XI works with R&D and potential partners to plan, structure,



Manage

From start to finish, XI remains an integral part of the team

PARTNER ECOSYSTEM



Academic

Universities, Research Organizations



Commercial

Strategic Suppliers, Customers and Peer Companies



Venture

Startups, Funds, Accelerators, etc.

About XI

PepsiCo's External Innovation (XI) team, part of the company's Global Research & Development (R&D) organization, actively scouts for, identifies and develops strategic partnerships with external collaborators. The goal is to locate key external insights, business models, technical unlocks and new capabilities that, when partnered with our robust R&D expertise, will yield disruptive innovation in our core products and new and emerging products. We are currently exploring novel technologies that have the potential to dramatically impact our food and beverage portfolio. We are interested in improving all facets of our value chain - from raw material inputs all the way to the consumer experience - and identifying global efficiencies in areas including crop science, ingredients, processing, packaging, equipment, distribution/fleet, retail and eCommerce.

MISSION

Provide a seamless external partnering capability to accelerate PepsiCo's innovation agenda, mitigate development risk and uncover unique new business opportunities



"PepsiCo R&D is committed to being at the forefront of innovation, which is why we created the Open Innovation Portal to be a central hub for R&D's external innovation efforts. By unlocking new capabilities and leveraging the value of external partnerships, the portal allows the R&D organization to become Faster, Stronger and Better and deliver breakthrough innovation for PepsiCo."

Rene Lammers

Executive Vice President and Chief Medical Officer, PepsiCo



Submit your solutions to PepsiCo R&D's technology needs
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THANK YOU

