

PepsiCo R&D External Innovation

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Introduction to XI



Internal PepsiCo R&D Capabilities – Seed to Shelf



SUSTAINABILITY



CULINARY



EQUIPMENT
DEVELOPMENT



SENSORY



INNOVATION
MANAGEMENT



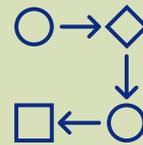
AGRICULTURE



FOOD SCIENCE



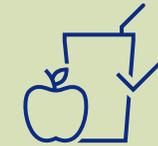
NUTRITION SCIENCE



PROCESS
ENGINEERING



PACKAGING



FOOD SAFETY
& QUALITY



DATA SCIENCE



FLAVORS



SPORTS SCIENCE



WATER
TECHNOLOGY



CLINICAL SCIENCE



REGULATORY

3 PepsiCo teams engage externally to solve critical needs

BRAND



Beverage



Macro Snacks



Beyond the Bottle

COMMERCIAL TECHNOLOGY



Insights (AI)



Sales & Marketing



Supply Chain



EXTERNAL INNOVATION



Agro / Ingredients



Processing



Packaging

IDENTIFY | NURTURE | PARTNER

MINORITY INVESTMENTS | STRATEGIC PARTNERSHIPS

XI complements & augments internal R&D capabilities



EXTERNAL INNOVATION (XI)

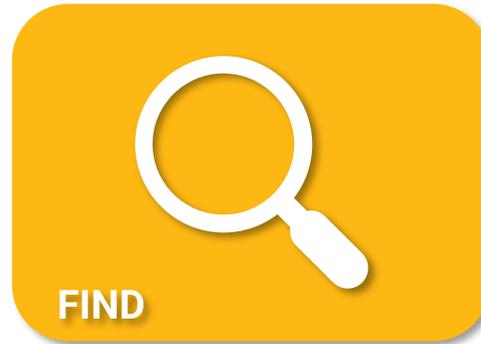
XI Mission:

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

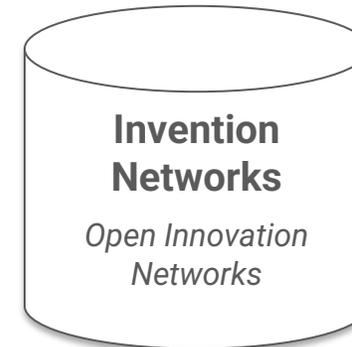
XI is part of PepsiCo R&D



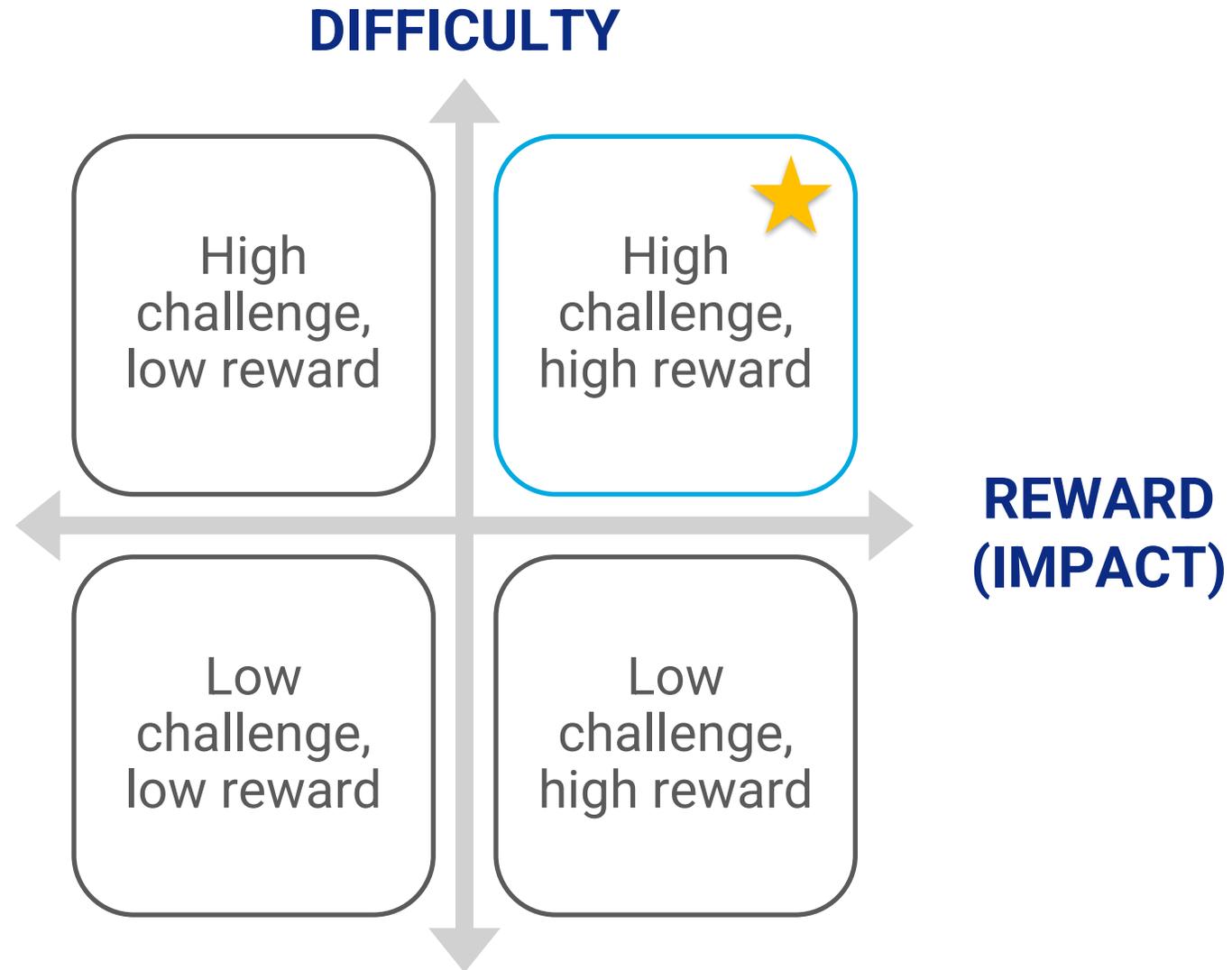
- **WHO:** 15-person **Global** team comprised of Technology Scouts & Analysts
- **HOW:** XI leverages the Want/Find/Get/Manage open innovation framework



- **WHERE:** XI manages the partner ecosystem across the following pillars:



Focus on BIG Ideas



XI – A Successful Story: New Packaging Technology



ADVANTAGE SUSTAINABLE RESINS FOR FLEX BAGS

PepsiCo R&D & Danimer
Co-Develop
and Tests Solutions

2017

PepsiCo Conducts First
in Market Test

2018

2016

Partnered with Danimer

Partnership with PEP R&D to
dramatically accelerate timeline for
market solution

Danimer went public in Dec 2020 (DNMR)





Needs and Opportunities

Focus Areas for PepsiCo R&D



Process & Equipment	Ingredients & Flavors	Packaging & Materials	Sustainability & Agriculture	Digital Transformation
Process Digitalization	Sugar/Salt/Fat Reduction	Biodegradable & Other Disruptive Materials	Regenerative Agriculture	Consumer-based Product Insights
Novel Food Manufacturing Processes	Flavor Technology	Bio-based, Reduced-carbon Plastics	GHG Reduction Technologies	Automated Sensory Analysis
Rapid Food Safety & Quality Testing	Functional Ingredients	Advanced Recycling	Water Footprint Reduction	Connected & Smart Technology
Biotransformation	Label Simplification (e.g. flavor, color)	Enhanced Consumer Experience	Manufacturing Efficiency (speed, water, energy, etc.)	Health Management & Monitoring
Retail Equipment (dispensers, coolers, vending)	New Substrates	Gas/Moisture Barrier	Zero Waste/ Circular Economy	Provenance/ Traceability

2022 Technology Needs



- **Zero sugar tools** (new ingredients, aftertaste mitigation, mouthfeel modification, etc.)
 - New **natural preservatives, colors, flavors, and functional ingredients**
 - **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 compostability
 - **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 understanding/improvement and other **wellness & health management** technologies
 - Solutions to **reduce GHG emissions** across the value chain (e.g. agriculture, processing, packaging)
 - Technologies to enable **process digitalization** (e.g. sensors, controls, AI platforms, etc.)
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PepsiCo Open Innovation Portal

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



Welcome to the Open Innovation Submission Portal

PepsiCo products are enjoyed by consumers more than one billion times a day in more than 200 countries and territories around the world. PepsiCo generated more than \$70 billion in net revenue in 2020, driven by a complementary food and beverage portfolio that includes Frito-Lay, Gatorade, Pepsi-Cola, Quaker, Tropicana and SodaStream. PepsiCo's product portfolio includes a wide range of enjoyable foods and beverages, including 23 brands that generate more than \$1 billion each in estimated annual retail sales.

Continue to Submission Form

In just a few easy steps, submit your innovation.

[Submit Your Idea](#)

<https://pepsico.yet2.com>

"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."

RENÉ LAMMERS

Executive Vice President and Chief Science Officer at PepsiCo

THANK YOU

