

# GC3: A Year in Review

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# **What brought you here? And what do you want to get out of the roundtable?**

- Go to Sli.do (or [slido.com](http://slido.com))
- Enter event **#Q903**

# What is the GC3?

The Green Chemistry & Commerce Council (GC3) is a multi-stakeholder collaborative that drives the commercial adoption of green chemistry by catalyzing and guiding action across all industries, sectors and supply chains.



# Our Vision and Mission

**Vision:** A world where green chemistry is standard practice throughout the value chain.

**Mission:** To drive the commercial adoption of green chemistry by catalyzing and guiding action across all industries, sectors and supply chains.



# More than 120 Members Across Sectors and the Value Chain



# New corporate members since the 2017 Innovators Roundtable

- Amazon.com, Inc.
- Canberra Corporation
- Checkerspot, Inc.
- Estee Lauder Companies
- ExxonMobil Chemical Co.
- IMD Natural Solutions GmbH
- Innoverda
- Modular Genetics, Inc.
- Monahan Products LLC/UPPAbaby
- Novomer
- Poly6 Technologies
- PTI Global Solutions
- RadTech
- Remooble
- Scivera
- Tethis, Inc.
- xF Technologies Inc.



# These are interesting times....



But there is a lot moving forward and a lot of reason for hope that green chemistry is **gaining ground....**

# The drivers aren't going away...



## Chemical Management Statement

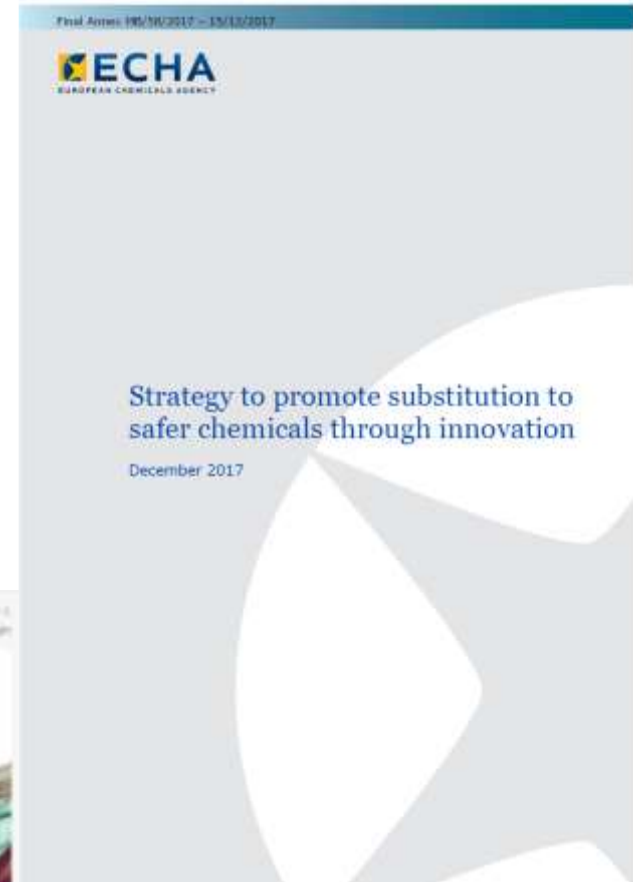
Best Buy is committed to building a thriving business, while ensuring we are a good steward of the environment and support the responsible use of chemicals in compliance with all laws and regulations.

Beyond compliance, we created a chemical management program to systematically evaluate and prioritize efforts to address chemical risks and opportunities. We seek to reduce the use of chemicals, phase out chemicals of concern and improve the general management of chemicals. Our efforts focus on where we can realize the greatest impact:

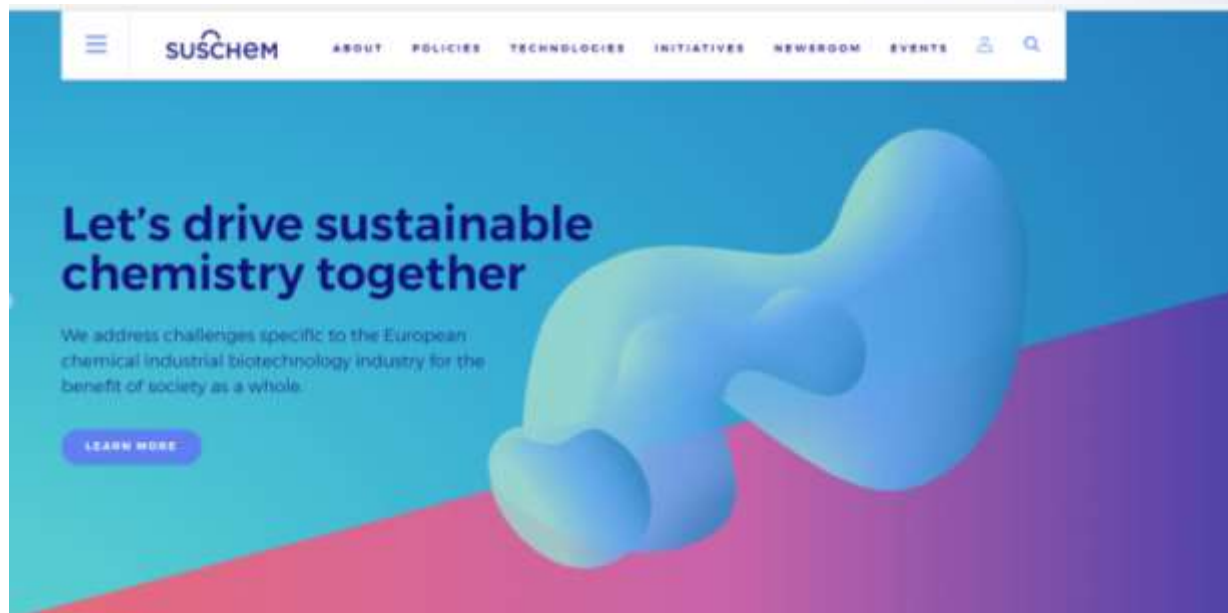
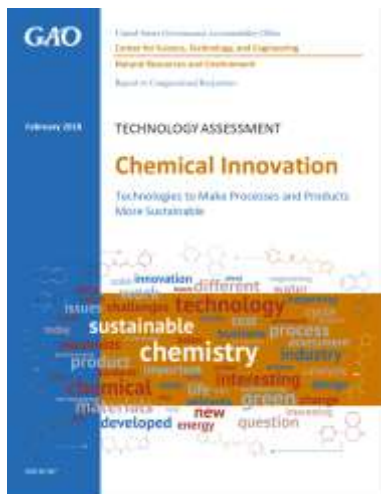
- Within our **corporate, retail, service and distribution operations**, Best Buy actively looks for opportunities to reduce the use of chemicals. Whenever possible, we work to transition to safer alternatives, with a preference for EPA Safer Choice chemicals.
- For our **private label and direct import products**, we define supplier requirements regarding the use of chemicals in products as well as those used in the manufacturing process. Best Buy maintains a detailed Restricted Substance List (RSL), which specifies chemicals restricted based upon regulations or known hazards and chemical suppliers are required to report usage to us.
  - Each of our product specification documents include chemical requirements, and increasingly rigorous assessments and testing of products are required based upon the level of risk. Further, we partner with suppliers to identify opportunities to transition to preferred chemicals.
  - As part of our regular audit program, we monitor factories to ensure adherence to our RSL as well as our Supplier Code of Conduct, which specifies safe chemical procedures, and we require improvements when we find gaps. Best Buy also provides trainings to help factories improve their chemical management processes, including understanding of risk and the importance of taking proper precautions.
- We provide our **vendor partners** easy access to our chemical management documents and tools via our vendor website, [echem.buy.com](http://echem.buy.com). We recognize the interdependence of the electronics supply chain and by sharing these resources, we hope to support greater awareness and alignment within the industry on voluntary actions to manage chemicals.
- Through our **recycling program**, we partner with the most qualified electronics and appliance recyclers and hold them to the highest industry standards to ensure products and components are reused, recycled, or disposed of properly at end of life and that chemical risks are managed properly. Our recycling standards are publicly available on our corporate website.

Collaboration among stakeholders is critical to improving the complex issue of managing chemicals in the electronics industry. To this end, we will continue to participate in chemical management work groups with organizations such as the Electronic Industry Citizenship Coalition and the Green Chemistry and Commerce Council.

A systematic and transparent approach will result in the greatest value for our leverage our ISO 14001 certified Environmental Management System to govern and will provide updates on our progress in our annual Corporate Responsibility



# And the focus on chemistry innovation as a solution is increasing



# Evolving landscape

- Increased focus on chemistry as a solution to sustainability challenges
- Increased value chain collaboration to solve chemistry challenges
- Increased focus on commercialization as key to the success of green chemistry
- Increased integration of green chemistry into circular economy and product policy discussions

# Discussion with value chain c-suite leaders

- Unlike CO<sub>2</sub>, metrics for green chemistry vary at different levels in firms/supply chain
- **What are the conditions that create the “must-haves”** that drive collaborative innovation? Align value chains around those.
- There are guidelines needed for partnerships between smaller and larger companies to ensure success.
- Need to cultivate future talent pool with knowledge of green chemistry.
- Many of the foundations exist to accelerate commercialization, just need to move forward with them.

# How can we best grow and increase the impact of the GC3?

- Strengthen programs – unique niche in innovation and commercialization
- Strengthen the membership – new members, new sectors
- Strengthen the organization
  - Staffing
  - Advisory Committee
- **Help us to think through this in the next couple of days.**

# Bridging the Supply Chain to Advance Green Chemistry Innovation

**GC3**



Green chemistry ideas  
& technology options



Green chemistry market  
requirements & desires



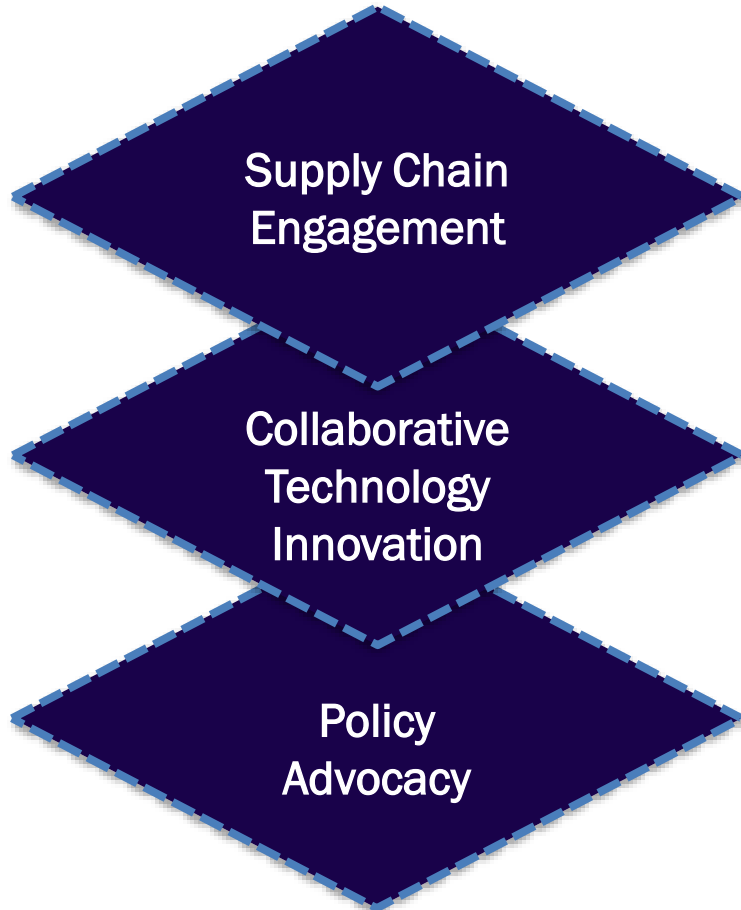
\* Established  
companies &  
startups

**GC3**



# Major GC3 Platforms & Projects

## Platforms



## Projects





# GC3 Green & Bio-Based Chemistry Startup Network

## ***Creating an innovation ecosystem for green and bio-based chemistry technologies***

### **Goals**

- Support green and bio-based chemistry start-ups
- Introduce GC3 members to new chemical technologies, partnership and investment opportunities



# GC3 Green & Bio-Based Chemistry Startup Network

## ***Creating an innovation ecosystem for green and bio-based chemistry technologies***

### **Main Activities**

- Technology Showcases
- Strategic Connections Program
- Webinars
- **Coming:** Expansion into South America and further expansion into Canada
- **Coming:** Workshop for startups on targeting applications and readiness



# Members of the GC3 Startup Network Include:



# GC3 Collaborative Technology Innovation

**For areas of common, strategically important green chemistry technology need, we run collaborative efforts to:**

1. Raise awareness globally, and increase interest, activity and funding in industry, academia, and government for R&D, commercialization and scale of new GC technologies
2. Identify novel, green chemistry technologies and accelerate their development, commercialization, scale-up, wide availability and use



# GC3 Preservatives Project

## GC3 Preservative Challenge Sponsors

### CPG Companies

Babyanics

Beautycounter

Beiersdorf

Colgate-Palmolive

J&J

### Retailers

Target

Walmart

### Preservative Suppliers

Dow

Lonza

	GENERAL CRITERIA (For Personal Care, Household, and Natural/Organic Products)	ADDITIONAL WANTS
<b>1. Performance</b>		
<b>Activity</b>	Broad spectrum activity: gram-positive & gram-negative bacteria, yeast & mold	Not likely to build microbial resistance
	In formulation, at use levels, meets preservative challenge test acceptance criteria (e.g., USP 51, CTFA M-3, or similar)	
	Low number of ingredients needed to get broad spectrum activity (ideally 1 - 3 ingredients)	
<b>pH Activity</b>	pH 5 - 8	pH 5 - 10, best is pH 2 - 11
<b>Shelf Life in Formulated</b>	Shelf life of 2 years	Shelf life of 3 years



INNOCENTIVE®
Solvers   Our Offering   Challenge Center   Resources

### GC3 Challenge: Developing New Preservatives for Personal Care & Household Products

**TAGS:** Chemistry Environment Life Sciences Physical Sciences Public Good Requests for Partners and Suppliers

**RTP:**

**AWARD: \$175,000 USD**  
**ACTIVE SOLVERS: 40**  
**SOURCE: InnoCentive**

Preservatives are substances that are added to products to prevent them from preventing product degradation. In addition to being used in foods, preservatives about the safety of some preservatives that have been in wide use, and the desire new and effective preservatives or preservative boosters with improved household products.

The Seekers are looking for submissions on:

- Broad spectrum or single action chemical agents on gram-positive
- Preservative boosters (optimizers or potentiators) multi-functional antimicrobial efficacy.

The Seekers expect to award 3 - 5 cash prizes from a prize pool of \$175,000, unless the submissions meet or exceed the criteria.



# Choosing Targets for New Collaborative Innovation Projects

## Factors for success, based on our experience:

- Significant pain point → motivation!
- Critical mass of companies with common interest in new technologies
- Pre-competitive space for companies to work in
- For a challenge (competition): critical mass of R&D that our members don't already know about

# RLC Activities

**RLC Mission:** Promote safer chemicals, materials and products throughout retail supply and value chains.

The RLC is an active learning community within GC3. RLC members meet on a monthly basis to:

- Hear from experts about tools and resources for safer chemistries
- Share best practices, challenges, and lessons learned in implementing chemical policies and strategies



# RLC members are guided by Joint Statement published in 2016

**JOINT STATEMENT ON USING GREEN CHEMISTRY AND SAFER ALTERNATIVES TO ADVANCE SUSTAINABLE PRODUCTS**

Retailers are on the front lines of consumer concerns about the health and environmental impacts of chemicals in products. In response, retailers want to leverage their ability to help catalyze innovation and new solutions. Since spring 2014, thought leaders from seven major retailers<sup>1,2</sup> and five major chemical manufacturers<sup>3</sup> have been in dialogue about improving product sustainability and finding ways to accelerate the development and scale up of green chemistry solutions as well as increase transparency in the value chain. Green chemistry, focused on the design and application of safer chemical products and processes, is a core element

of many firm's sustainability and/or sustainable chemistry programs. Retailers have shared feedback from their customers, their concerns about hazardous chemicals in products, and their priorities for safer products. Chemical manufacturers have shared publicly available information on their research, development, and commercialization processes, their processes for evaluating product safety and sustainability, the types of information they need to make the business case for pursuing green chemistry solutions, and their challenges in bringing these alternatives to market.

**GC3 GREEN CHEMISTRY & COMMERCE COUNCIL**  
Business Mainstreaming Green Chemistry

Developed by the Green Chemistry & Commerce Council (GC3) with participation from the following companies:



Walmart, STAPLES, TARGET, BASF, THE HOME DEPOT, Chemours, BEST BUY, AkzoNobel, CVS Health, EASTMAN

- Goal setting and continuous improvement
- Communication
- Transparency
- Information on new chemicals and safer alternatives
- Green chemistry education

<http://greenchemistryandcommerce.org/projects/retail>



# GC3 Sustainable Chemistry Alliance

- Launched this spring, led by nine politically influential GC3 member companies
- Diverse business-driven advocacy voice for policies to support sustainable chemistry
- Represents GC3 member companies from entire chemistry value chain and expanding rapidly



# GC3 Sustainable Chemistry Alliance

Dual bipartisan policy agenda:

1. Protecting existing funding and other government programs from damaging cuts
2. Leveraging government focus on US innovation & manufacturing for new policies supporting sustainable chemistry

# Logistics

- Agenda
- Receptions
- Logistics
- GC3 Team/Advisory Committee
- Evaluations

# Roundtable Desired Outcomes

- Gain insights to enhance impacts and effectiveness of green chemistry projects
- Catalyze new partnerships among GC3 members
- Learn about the latest innovations in green chemistry design and commercialization
- Build connections between green chemistry and other important sustainability efforts
- Empower GC3 members as green chemistry change agents

# GC3 Team

- Joel Tickner, Director
- Monica Becker, Co-Director
- Michele Jalbert, Operations Director and SCA
- Jennifer Landry, Business Manager
- Sally Edwards, Project Lead
- Amy Perlmutter, Project Lead
- Saskia van Bergen, Project Lead
- Joy Reo, Communications Specialist
- Julie Manley, Startup Network Coordinator
- Michael Parr, SCA

# GC3 Advisory Committee

- Tammy Ayers, Steelcase
- Bob Buck, The Chemours Company
- Tess Fennelly, remooble
- John Frazier, Hohenstein Institute
- James Ewell, GreenBlue Institute
- Al Iannuzzi, Johnson & Johnson
- Al Innes, Minnesota Department of Pollution Control
- Bob Israel, Sherwin Williams
- Roger McFadden, Canberra Corporation
- Babette Petersen
- Ken Zarker, Washington State Department of Ecology

# Ground Rules

- Respectful, honest dialogue and listening
- Please keep electronic device use to a minimum (or outside)
- Chatham House Rule: Participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed



# Anti-Trust Statement

- The GC3 is committed to facilitating a robust, open and honest exchange of ideas and information among its participants on subjects relevant to this agenda. It is also committed to compliance with all applicable laws, including antitrust and competition laws.
- To avoid any possible problems, communications and exchanges of information at or attendant to any GC3-related proceeding should directly relate to the issues on the agenda.
- There should be no discussions or exchanges of information regarding (1) what price any participant has or may charge for its products or services; (2) strategic business plans or (3) whether or not to do business with any person or entity.
- Please let Joel Tickner or Michele Jalbert know immediately if you have a concern or question about a possible violation of this policy.





Join the Conversation  
on Twitter

**Green Chemistry & Commerce Council (GC3)**  
**@The\_GC3**

**GC3 Roundtable = #GC3RT**



# 14<sup>th</sup> Annual Innovators Roundtable

**Spring 2019**

Hosted by



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Cincinnati, Ohio



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# Thank you!

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