

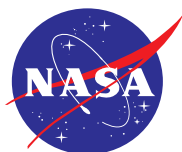
# LAUNCH

Collective Genius for a Better World

## SYSTEM CHALLENGE: Green Chemistry

LAUNCH is an open innovation platform that was founded by NASA, NIKE, The U.S. Agency for International Development (USAID) and The U.S. Department of State to identify and foster breakthrough ideas for a more sustainable world. LAUNCH aims to move beyond incremental change and make an impact at a system-wide level.

LAUNCH is currently focused on positively transforming the system of materials and manufacturing, which can have dramatic social, environmental and economic impacts on the world. In order to harness the innovation needed to advance this system, LAUNCH has issued a series of global challenges to address key barriers. Our current challenge focuses on green chemistry, a crucial component in a sustainable materials and manufacturing system. A portfolio of approximately 10 innovators will be selected for support, networking, and mentoring from influential business and government leaders.



## SUMMARY

At LAUNCH we see a future where the making of things has a positive impact on human prosperity and planetary sustainability.

With this **LAUNCH System Challenge: Green Chemistry**, LAUNCH seeks innovations that leverage or advance 'green chemistry' to transform the system of materials and manufacturing to one that advances global economic growth, drives human prosperity and replenishes the planet's resources. When referring to green chemistry we are using the 12 Principles of Green Chemistry, the definition which the Environmental Protection Agency also uses, in order to provide a common framing.

### GREEN CHEMISTRY PRINCIPLES\*

- PREVENTION
- ATOM ECONOMY
- LESS HAZARDOUS CHEMICAL SYNTHESIS
- DESIGNING SAFER CHEMICALS
- SAFER SOLVENTS AND AUXILIARIES
- DESIGN FOR ENERGY EFFICIENCY
- USE OF RENEWABLE FEEDSTOCKS
- REDUCE DERIVATIVES
- CATALYSIS
- DESIGN FOR DEGRADATION
- REAL-TIME ANALYSIS FOR POLLUTION PREVENTION
- INHERENTLY SAFER CHEMISTRY FOR ACCIDENT PREVENTION

\*Anastas, P. T.; Warner, J. C. Green Chemistry: Theory and Practice, Oxford University Press: New York, 1998, p.30. By permission of Oxford University Press

## LAUNCH SYSTEM CHALLENGE: GREEN CHEMISTRY SEEKS INNOVATIONS IN

materials and manufacturing, using the Green Chemistry Principles. This challenge is specifically focused in the following areas with preference for projects that support local, Micro, Small, and Medium Enterprise inclusion that also create equitable, empowered workforces. Innovations can be technical, processes, business models, enabling platforms, relevant data capture and assessment, and capability building.

- Solutions that reduce the use of hazardous chemicals in materials and processes.  
**EXAMPLE:** Eliminate the use of solvents in materials, green solvent replacement for precision cleaning.
- Solutions that enable the use of low environmental impact, renewable feedstocks.  
**EXAMPLE:** Drop-in chemicals or materials from biological input vs. constrained resources such as petroleum.
- Chemistry that enables end-of-life recycling or maximize the potential for closed loop systems while minimizing hazard.  
**EXAMPLE:** De-bondable adhesives, technologies that allow for disassembly after consumer use, self-healing wires.
- Solutions that increase energy, water, and raw material efficiency, minimizing the use of constrained resources.  
**EXAMPLE:** Replacement for antimony, new techniques for Polychlorinated Biphenyls (PCBs) cleanup.
- Solutions that maximize community, worker, consumer, and environmental safety from hazardous chemicals.  
**EXAMPLE:** Cost-effective effluent technologies that remove chemistries from waste water; technologies that eliminate the use or discharge of hazardous chemistries or that consume large amounts of water, Emulsified Zero-Valent Iron (EZVI) use in groundwater remediation.
- Enabling models, education, and tools to help industry and consumers select greener chemistry alternatives.  
**EXAMPLE:** Education, business processes, and business models that identify and drive the use of greener chemistry alternatives within the supply chain while protecting chemical formulator confidential business information.

Please note that innovation submissions need only match one of the points of interest described above, although submissions that match multiple points are also welcome.

## ELIGIBILITY

We are interested in proven technologies, prototypes and innovations that align with the Green Chemistry challenge statement and have the potential to scale in 2 years. Innovations can include but are not limited to business models, technologies, processes, programs and products that help transform the system of materials and manufacturing.

Responses from companies (small to large), entrepreneurs, inventors, non-profit organizations with strong program implementation capacity, academics and research institutions, national laboratories, government agencies, social enterprises and venture capitalists are welcome. Applicants poised to “go to market” and/or scale up their innovations will receive the most benefit from the LAUNCH experience.

## EVALUATION CRITERIA

The best proposals (up to 10) will be chosen by a panel of experts from our LAUNCH Network based on the following criteria:

1. Alignment with the Challenge
2. Impact
  - a) Transformative potential in the System, b) Environmental impact, c) Social impact
3. Innovation
  - a) Technical viability, b) Market fit, c) Potential for scale, d) Management capability

## AWARD

On being selected as a LAUNCH innovator, you will become part of the LAUNCH Network, not only for the duration of the current challenge cycle, but beyond. When you join LAUNCH, you will become an active participant in a growing network of the most disruptive thinkers. You will receive visibility for your own work, exposure to new ways of thinking and access to key experts and stakeholders across the materials and manufacturing system that can accelerate the trajectory of your innovation into the marketplace. Through your participation, you will expand the Network's capacity to transform the system and build a more sustainable world.

Specifically, innovators will receive:

- All expense paid travel to attend the LAUNCH Forum where we will facilitate targeted conversations with a curated subset of the LAUNCH Network of green chemistry experts, business and governmental leaders, industry partners and investors. The two day Forum will include access to green chemistry industry experts, business and governmental leaders and investors.
- Ongoing support to leverage the LAUNCH Network to refine and accelerate your innovations, secure commitments and establish new connections, all driven towards enabling high value transactions within the system to unlock opportunities to further your success.
- Assistance with articulating a compelling narrative and growth strategy to create a concise, high-impact presentation, which will be streamed live during the forum and recorded on DVD for future use.
- Media and public relations training and exposure, including a professional video of your innovation stories, which will be featured on LAUNCH.org.
- Continued engagement with and access to the LAUNCH Network beyond the challenge cycle.

No cash prize will be awarded.

As a LAUNCH innovator, significant effort will be required on your part as we work closely together to create or adapt presentations reflecting the current state of your innovation and your path to scale. During the Forum you can expect long hours and to be actively engaged in conversations with a curated subset of the LAUNCH Network. In the months following the Forum, we will continue to support you and your engagement with the LAUNCH Network as we move towards identifying collaborative problem solving opportunities.

## DEADLINE

This Challenge will be posted and open for submissions beginning June 18th, 2014, and will close September 24th, 2014.

Please visit LAUNCH.org to view former Innovators' presentations and comments about their experiences with LAUNCH.

To submit an innovation go to: [CHALLENGE.LAUNCH.ORG](http://CHALLENGE.LAUNCH.ORG)