



United Nations
Global Compact

**BREAKTHROUGH
INNOVATION CHALLENGE**

PRME

an initiative of the
United Nations Global Compact

Sumitomo Chemical Case Study



Company location:

Tokyo, Japan

Website: <https://www.sumitomo-chem.co.jp/english/>

Company Description

Headquartered in Tokyo, Japan, Sumitomo Chemical Group is one of Japan's leading chemical companies, comprised of more than 160 companies operating worldwide offering a diverse range of products globally in the fields of petrochemicals, energy and functional materials, IT-related chemicals and materials, health and crop science products, and pharmaceuticals. Sumitomo Chemical was established in 1913 to solve an emissions problem from smelting operations at the Besshi copper mine in Niihama, Ehime Prefecture. Useful fertilizer was created by the application of chemistry to the smelting plant emissions solving the environmental problem while facilitating improvements in agricultural production. Our founder's precept states our basic policy: "We must not merely see business profits but must contribute broadly to society through our business activities." – Sumitomo Chemical, founded with the dual goals of eliminating pollution and helping increase crop yields, has upheld this founding principles as it has evolved in keeping with the changing times striving to address global needs and challenges.

Company Challenge

Our challenge is to develop a new product or framework to optimize food production and reduce food waste using open innovation to deliver an innovative solution that enables and promotes sustainable agriculture and food production.

We are particularly looking into biosensors in an Agriculture application. This is not only aligned with our core business strategy but also it will help big and small producers to optimize the use of natural resources and crop protection products while improving crop yield and other valuable characteristics.

Sustainable Development Goals Addressed



About the Sustainable Development Goals:

<http://www.undp.org/content/undp/en/home/sustainable-development-goals.html>



PRME Student Case Question

Context: The world population is expected to grow by 3 billion by 2050, while the arable land is expected to decrease, thus creating the necessity of increasing the food production yield to meet the new food demand. In recent decades there has been impressive growth in food production, mainly attributed to the development of improved, disease-resistant varieties of staple crops; the increased use of chemical fertilizers and pesticides; and the expansion of irrigated cropland. Nevertheless, food production per capita actually declined. Thus the importance of finding, developing and scaling new solutions is vital to sustain the growing population as the current methodologies cannot sustain the growing food demand.

From the point of view of our businesses, it has become more and more difficult to develop new crop protection or enhancement materials because of increasing regulation and huge research investment. Innovative business model changes will be very important for us to survive.

Questions: Please submit a response to one of the questions.

- What are the available business models for Sumitomo Chemical in precision agriculture? Please consider the sustainability and profitability of the different business models in the context of a growing precision agriculture market and outline the advantages and disadvantages of each for the Sumitomo Chemical group.
- The need for a new model of agriculture to sustain population growth and preserve the environment is a global issue. How can the Sumitomo Chemical group find likeminded partners to achieve its goals? How can Sumitomo Chemical group influence the mindset of the various players?
- Considering the development of a specific sensor for precision agriculture, what are the advantages of developing a product for a niche unmet market versus developing a product for a wide competitive market?
- Considering the development of a new fully integrated technological platform for precision agriculture, what are the advantages and disadvantages of using an open Application Programming Interface (API) or private API for the Sumitomo Chemical group?

About the Team



Jung Eun (Angela) Lee
Manager, CSR, Logistics and Procurement

Angela Lee is a manager overseeing CSR, Logistics and Procurement at the Regional headquarters of the Americas based in New York. She has 8 years of experience in global CSR coordination and corporate brand promotion, she is experienced in planning and execution of promoting group-wide activities based on the in-depth expertise in CSR management and internal communication.



Irene Zaccari
Scientist
Biosensor Systems

Irene Zaccari is a scientist developing biosensors for CDT. In particular, she leads the development, optimization and testing of the biological sensing interface. She is also responsible for initiating and maintaining relationships with external collaborators both from industry and academia.



Yosuke Nakashima
Manager
Planning and Business Development

Yosuke Nakashima is currently a Manager in the Global Research Coordinator and Technical division in Sumitomo Chemical America. Prior to this he was in charge of Corporate Planning and Coordination between 2014 and 2016 in Sumitomo Chemical Head Office in Tokyo. Before joining the corporate staff in Tokyo, he accumulated more than five years of research and development experience in discovery research of agrochemical in the Health & Crop Research Laboratory between 2009 and 2014.

Submission Directions

Please select one question. Submit either a 1-page response in .pdf format or a presentation deck of no more than 10 slides to BIChallenge@unglobalcompact.org, with the subject line [BIC] YourTeamName Sumitomo Chemical Response.