

REQUEST RFP_2019_0175(0176) Recycling Technology for Mixed Plastic Waste

RESPONSE DUE DATE: **October 25, 2019**

Contact:

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Opportunity

Joint research, joint development, licensing and equipment installation

Timeline

Partner selection: Within 6 months
Start of collaboration: Within 1 year

Financials

Required budget guaranteed
(negotiable depending on the proposal)



DESCRIPTION

Nine Sigma, representing **Suntory Beverage & Food Limited**, seeks **technologies for recycling plastic waste that include various types of plastic**.

The technologies do not necessarily have to include all processes related to recycling, and any organization regardless of form, such as corporation, university, or research institution, is widely welcomed if the organization has partial technologies related to such recycling technologies.

KEY SUCCESS CRITERIA

Not only technologies that already satisfy the following requirements but also technologies that are expected to meet the requirements through joint development with clients are also welcomed.

Requirements

- It must be possible to recycle plastic waste that include some of the following plastic materials, or plastic waste that contain materials other than plastic such as paper and metal.
 - Polypropylene (PP)
 - Polyethylene (PE)
 - Polyethylene terephthalate (PET)
 - Polyamide (PA)
 - Polystyrene (PS)

- In addition to the above, plastics that are used as food packaging are eligible.
- It must be possible to recycle mixed plastic waste as food packaging material at a low cost and with safety guaranteed (Assuming application to cup beverage).

POSSIBLE APPROACHES

For example, the following technologies related to recycling are expected, but are not limited to the following, and various technical approaches are welcomed.

- Chemical recycling technology
 - Plastic liquidation technology
- Manufacturing technology for food packaging made from liquidated material
- Technology to separate single and highly pure plastic materials from mixed plastic waste
 - Separation by specific gravity
 - Separation by spectroscopy imaging
- Technology to separate only plastic from waste plastic mixed with materials other than plastic (paper, metal, etc.)

APPROACHES NOT OF INTEREST

The following approaches are not eligible for this request.

- Recycling technology as an energy source such as heat
 - Thermal recycling technology

BACKGROUND

The client, Suntory Beverage & Food Limited, recognizes the importance of establishing a sustainable food packaging recycling system as a corporation that has social responsibility for the environment.

A group company of the client, PT SUNTORY Garuda Beverage, is a beverage manufacturer in Indonesia. Various types of plastics are often found in plastic waste in Indonesia, and technology for recycling such mixed plastic waste is demanded by society.

This request is thus conducted for companies and researchers all over the world so as to identify partners that are willing to jointly develop key technologies in the establishment of a recycling system for mixed plastic waste.

ITEMS TO BE SUBMITTED

Please include the following items in the proposal.

- Overview of proposed technology
- Principle of the proposed technology
- Development stage (laboratory level, considering scale-up, commercialized)
- Data showing recyclability and successful deployments
- Possible challenges and future development plans related to the application of the technologies
- Prospects for mass production and cost reduction
- Status of intellectual property concerning the proposal, and hopes in handling newly occurred intellectual property
- Past achievements (additional information that show the capabilities of R&D such as research papers, patents)
- Organization overview

Your proposal history can be centrally managed by submitting proposals to [NineSights](#), NineSigma's Open Innovation Community. Please contact our help desk at phd2@ninesigma.com for any question regarding the registration and submission of proposals.

NOTES ON RESPONSE

Please describe your proposal briefly. If necessary, materials can be attached for reference. Please do not include confidential information in your proposal.

RESPONSE EVALUATION

Evaluations for all proposals received will be done by the client. The proposal will be evaluated based on the following evaluation criteria.

- Outline of proposal/organization overview
- Feasibility in achieving the target specifications
- Economic feasibility
- Potential ownership (exclusive rights, priority etc.)
- Related achievements etc.

ANTICIPATED PROJECT PROCESS

The proposing organization shall submit a proposal according to the attached proposal template.

The client will first conduct a primary document-based selection process (approximately 6–8 weeks). Later, additional questions and direct discussions will be held for the promising proposals, and candidates for the final selection will be selected. During the selection process, the proposer and client will conclude a non-disclosure agreement (NDA) if necessary and will discuss the further disclosure of information and specific development methods.

After selection, the client will conclude the necessary contracts with the proposer, verify the technology, and conduct additional development so as to establish the technology. The specific collaborative system will be determined through discussion.