

TechConnect Ventures
Sprint Challenge Brief:

Improved Dispensing of Food-Grade Gels

ABSTRACT

A Fortune 500 food company requires innovative technologies for dispensing a high viscosity liquid mixture into molds. The client is interested in all approaches that minimize or eliminate tailings.

BACKGROUND

Food manufacturers utilize a variety of dispensing equipment based on the material involved. TechConnect's client, a global food and snack brand, needs technologies suitable for handling a high viscosity food mixture. This sticky & viscous blend is comprised of water, sweeteners, and texturizing ingredients. It can be difficult to dispense the slurry accurately into molds for further processing. Molds can be under- or over-filled or exhibit tailings - narrow streams of excess material outside the mold.

Consequently, the client is interested in technologies for dispensing high viscosity liquids. All approaches that deliver improved dispensing performance are of interest. Innovations in nozzle technology are of particular interest but other approaches, such as food-safe coatings or surface modifications, are also in scope. Furthermore, solutions currently used outside of the food industry are of interest, if they can be adapted for use in food. Responses from corporate and academic innovators are also welcome.

All proposed approaches or technologies must support the accurate and precise dispensing of material into an awaiting mold. The material dispensed:

- Temperature: 80° – 130°C
- Viscosity: 20 – 100 Pascal-seconds at typical shear rates while depositing
 - Highly dependent on shear rate
- Exhibits shear thinning behavior

All proposed technologies must be safe for food contact and avoid use of potentially toxic or undesirable chemicals like PFAS. At minimum, proposed technologies should already be at pilot-scale and ready for production-level deployment within 24 months at most.

Once identified, select respondents will demonstrate their technology by dispensing samples of the viscous material. The client and respondent will determine trial location jointly.

The goal of this sprint is to facilitate contact and interactions between the Sprint sponsor and commercial entities (including Start-ups), technology developers or research organization/university in this space. Submissions from all viable subject matter experts are of interest including those from academia and commercial entities.

REQUIREMENTS

Solvers submitting an Entry are encouraged to highlight capabilities in their Submission that meet criteria including:

- Description of technology
 - Applicability for high viscosity liquids
 - Anticipated performance:
 - Temperature range
 - Viscosity range
 - Ability to accurately dispense thixotropic liquids
 - Occurrence of tailings versus alternative dispensing technologies
 - Prior usage for a food application, and/or ability to adapt technology for food application
 - Commercialization timeline
 - Technical maturity
-

BUSINESS OPPORTUNITY FOR SOLVERS

All complete and eligible Entries will be included in an exclusive Innovation Opportunity Report that will be presented to our client. Solvers with well-matched capabilities may be contacted directly by either TechConnect Ventures or the client to discuss potential partnership opportunities, including – but not limited to – demonstrations, consulting, contract research, licensing, and more. Top-rated Entries may also be invited to register or participate in an upcoming TechConnect Ventures event or pitch program.

PARTICIPATION RULES & GUIDELINES

Solvers are encouraged to review the [Rules](#) and [Guidelines](#) provided on the Sprint page for details about participation, including submission criteria, eligibility information, and more.

QUESTIONS? Contact challenge@techconnectventures.com