REQUEST # 50642-1
Anti-fog Technology for Polyester Films

REQUEST DUE DATE: October 3, 2008

MANAGER: Charles L. Roe, Ph.D.

SOLUTION PROVIDER HELP DESK

EMAIL: PhD@ninesigma.com PHONE: 216-283-3901

Opportunity
Proof of Concept Funding, Joint Development, Technology Licensing, Film Supply Agreement

Timeline
Phase 1 – Proof of Concept within 4 Months
Phase 2 – Pilot Plant to Commercial Scale-up <12 months

Financials
Phase 1 – Proof of Concept Funding up to US$50,000
Other Contractual Relationships to be Negotiated
Phase 2 – To be Negotiated for Scope of Work

REQUEST FOR PROPOSAL DESCRIPTION

NineSigma, representing a Global Food Packaging Manufacturer, invites proposals for technology to maintain optical clarity of polyester packaging films in high humidity environments.

The successful technology will:
• Provide surface activity to a polyester film so as to diminish water bead formation (“fog”)
• Exhibit flexibility similar to polyolefin
• Not interfere with printing steps or heat seal strength
• Not diminish optical properties of film (15–45μ) [remain colorless]
• Meet cost requirements for high volume manufacturing
• Comply with global food regulatory standards

Preferred technologies will:
• Be incorporated into the film layer as a masterbatch and migrate/bloom to the film surface
• Withstand extrusion temperatures without degradation/burning (200 – 280 Deg. C)
• Withstand the process of pasteurization and high humidity levels

BACKGROUND

Plastic packaging is seen virtually everywhere in modern developed societies. The structure of modern packages involves complex multilayer films, including flexible films and rigid trays. Polyester is one polymer family utilized in food packaging, especially for forming shaped containers or for higher temperature applications.

When a packaged food item is displayed for sale in a refrigerated cabinet, the internal atmosphere (high humidity) leads to condensation on the lower surface of the hermetically sealed package. This fine droplet formation “fogs” the film and obscures the ability to properly present the packaged item to the consumer in the sales case.

Various surface applied agents are used to address this problem, but there is no suitable means of incorporating agents into polyester film layers.

POSSIBLE APPROACHES

Possible approaches might include, but are not limited to:
• Blends, migratory additives, surface modification/patterning, etc.
APPROACHES NOT OF INTEREST
The following approaches are not of interest:
• Sprays, coatings, depositions, etc.

CRITERIA FOR MOVING FROM PHASE 1 TO PHASE 2
The solution chosen for Phase 2 must meet cost, food safety, and packaging equipment requirements. Depending on the concept, it may require surviving film extrusion temperatures without loss of efficacy.

APPROPRIATE RESPONSES TO THIS REQUEST
Responses from Academic Researchers, Research Institutes, Inventors, Companies (small to large), and Government Laboratories are welcomed.

• I am a company, academic person, or researcher with a technology that should provide a solution, but requires further development to ready it for transfer to commercial use.
• I am a company, academic person, or researcher with technology that should provide a solution ready for testing and transfer to commercial use.

RESPONDING TO THIS REQUEST

NON-CONFIDENTIAL DISCLOSURE
By submitting a Response you represent that the Response does not and will not be deemed to contain any confidential information of any kind whatsoever.

Your Response is limited to no more than 3 pages. The Response should briefly describe the technical approach and provide information on technology performance, background, and description of the responding team and their related experience.

By submitting a Response, you acknowledge that NineSigma’s client reserves the sole and absolute right and discretion to select for award all, some, or none of the Responses received in for this announcement. NineSigma’s client may also only choose to select specific tasks within a proposal for award. NineSigma’s client has the sole and absolute discretion to determine all award amounts.

RESPONSE EVALUATION
NineSigma’s client will evaluate the Response using the following criteria:

• Overall scientific and technical merit of the proposed approach
• Approach to proof of concept or performance
• Potential for proprietary position (i.e., is the technology novel or protectable)
• Economic potential of concept
• Respondent’s capabilities and related experience
• Realism of the proposed plan and cost estimates

The client will contact respondents with highly responsive proposals for next steps.