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Janix Environmental Sciences, Inc.

Product Development and  
Market Assessment Report  
(excerpts)



*Defining JanixES Best Opportunity to  
Extend UltraGlue™ Product Line into  
the Marketplace*

Prepared by:  
IND Research Group, Inc.  
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# Product Development and Marketing Assessment Report (excerpts)

## Defining JanixES Best Opportunity to Extend UltraGlue™ Product Line into the Marketplace

### I. Introduction

#### JanixES™ – Summary of Company and Current Product Offering

Janix Enzyme Systems is a division of Janix Environmental Sciences, Inc. Its products and services have been developed in support of researchers and manufacturers who deal with the production and recovery of recombinant proteins. Janix' staff brings specific scientific expertise in the areas of: molecular biology, protein biochemistry, microbiology, enzymology, immunochemistry, toxicology, analytical chemistry, materials chemistry, and biotech manufacturing.

#### Purpose of Report and Report Summary

IND Research Group (IND) was selected by Janix Environmental Sciences, and commissioned by Burke Management Consulting, LLC to perform market research for JanixES™ ULtraGlue™ technology and estimate the potential size of the U.S. commercial market for specific technical and/or product applications. The specific effort for IND Research Group includes:

1. Establish marketplace selection criteria and clarify identification of pertinent industry and market segments to research with Janix Environmental Sciences staff. Identify and use industry standard definitions of the glue and adhesive/sealant terminology to segment markets.
2. Obtain general information on the U. S. marketplace regarding Janix Environmental Sciences UltraGlue™ technology. Develop technical description and identify wide-ranging examples of applications for the product, including where it is applicable and where it is not. Perform a preliminary strength/weakness analysis for each selected market segment. Present this information to Janix Environmental Sciences staff at a scheduled meeting. The objective of this meeting is mutually defining specific market applications for additional marketing research.
3. Conduct an analysis of those technical applications having the largest potential market segment consistent with Janix Environmental Sciences competitiveness and benefits. The Scope of research in these segments will include traditional secondary descriptions of size, market dynamics, industry concentration, rate of

change and/or forecasted growth, including if possible the use of similar products like UltraGlue™ in these markets.

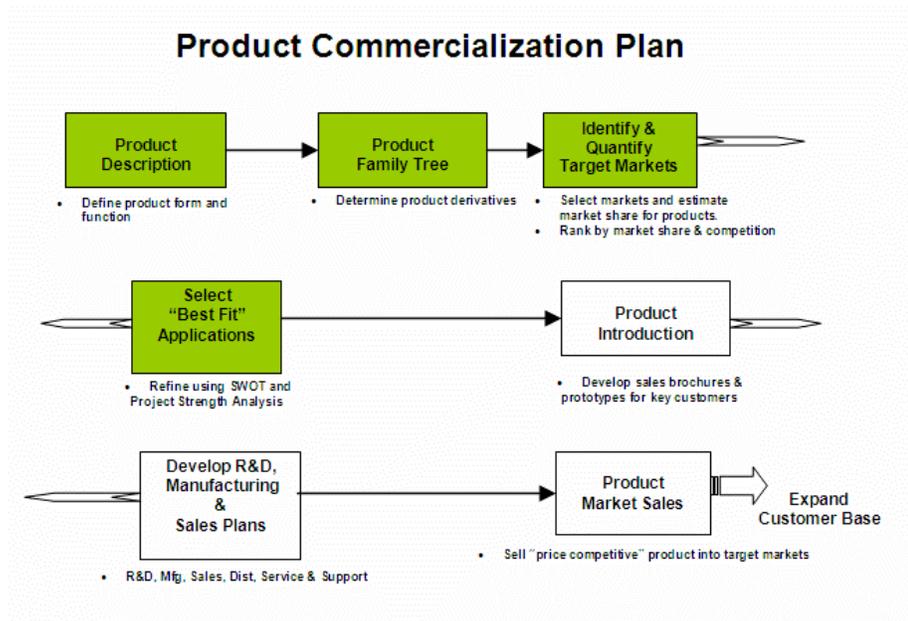
4. Prepare SWOT analysis (strength, weakness, opportunity, threat) for specific technical applications approved by Janix Environmental Sciences. Establish additional market selection criteria and obtain additional market information on the specific applications. Get list of known competitors and products with identification of opportunities for UltraGlue™ (Cost, Quality, etc.) Present this information to Janix Environmental Sciences at a subsequent meeting.
5. Janix Environmental Sciences and IND Research Group mutually select two to three specific markets at this subsequent meeting based on the information gathered in three above. estimate of size of markets and estimate of glue/adhesive component of those markets along with a growth rate of forecasted sales for those markets
6. IND perform a detailed analysis of the specific markets using secondary data collected from public domain sources. Include vulnerability to alternative or substitute products.
7. Compile and organize market research data, prepare and deliver a report containing data, preliminary analysis.

This report is not intended to substitute for a marketing plan. It does not detail all the marketing initiatives, research programs, and activities that Janix Environmental Sciences will undertake in the course of extending its product line, nor can it foresee changes to the underlying assumptions on which key strategic choices are based. Instead, this report will articulate what Janix Environmental Sciences must be doing today and in the future to be successful.

This work scope was addressed by IND and presented and discussed with AES staff in four separate meetings from June 6, 2005 through July 17, 2005.

All the findings generated during these interchanges including product definition, target market identification and size, SWOT Analysis and Project Strength Analysis are presented in the appendices of this report. In addition, the report format follows the flow chart of a "Product Commercialization Plan" developed specifically for the Janix Environmental Science's Bio-Adhesive product family.

It is the strong view of IND that the tasks outlined in this product flow chart must all be accomplished to ensure the successful commercialization of the Bio-Adhesive product family.



The Product Commercialization Plan flow chart is shown in Figure 1. The JanixES™ and IND team working both jointly and separately from June 6, through July 17, essentially completed the highlighted elements. The details involved in this effort are reported in sections III and IV of this report.

## VI. Summary and Recommendations

Prior to making recommendations regarding future actions, the available options for JanixES™ product line development and expansion consisted of these choices:

- Stay the course: Continue to position UltraGlue™ as a bio-adhesive market entry into the fragmented Adhesive and Sealant Industry.
- Focus on developing promotional strategy, channels of distribution, and executing the marketing plan for UltraGlue™ based on the above.
- Assess new product applications, market niches and size, based on the IND market research effort.
- Accomplish additional market research for the recommended product applications identified in this report, assess the customer value, niche and market size, develop product descriptions for each market segment, modify the present technology, and develop prototype formulations for the targeted product applications.
- Estimate budget and forecast expenses for prototype identification, development, and/or modification.

- Prepare a business plan for the selected market application, including a market plan concentrating on the business concept and model, market opportunities, and competitive niche elements.
- Use the acquisition and mergers process to align with an organization possessing bio-adhesive technology for the recommended product applications.

*This is particularly relevant with applications utilizing micro particle bio adhesive systems. These are interesting because they offer protection to surfaces during industrial processes, as well as the enhanced efficiency that results from increased contact time and the reversible non-toxic qualities provided by the bio adhesive component.*

It appears that regardless of the structure the adhesives and sealants industry takes, it will without doubt continue to look at specialty or "niche" markets for growth at a steady, if not spectacular, pace. This is borne out as the global market for adhesives and sealants is growing at about the rate of domestic GDP, with significant variations between geographic regions.

Market fragmentation is likely to continue as fresh adhesive demand is generated from a supply and demand standpoint. The demand growth is also supported by the emergence of new market applications that result from changing substrates and evolving assembly processes. On the supply side, despite ongoing industry consolidation and strategic alliances, and mergers and acquisition activities at the level of the multinational companies, new small- and medium-sized companies are beginning to serve targeted market niches and/or specialize in a specific state-of-the-art technology. Due to the large number of potential market applications for bio adhesives, many formulations will emerge for these specific purposes.

The future direction of JanixES bio adhesive technology will require additional market research to determine which of the applications discussed herein will be commercially successful. We recommend that Janix continue to pursue a market driven product development cycle by developing initial product descriptions for its bio adhesive technology, assess the "voice of the customer," and further define market niche and size.

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During the course of completing our market research task for JanixES, IND has had the opportunity to closely observe the company's management and technical staff. We found the staff to be highly competent, energetic and open to new ideas. These are the right characteristics to possess when starting a new enterprise concentrating on bringing innovative technical products to market. IND believes that the UltraGlue™ Bio-Adhesive product positions JanixES to develop and launch a family of products which will be widely accepted in the targeted markets.

Together we have identified applications for the product family in Micro Machining, Non-Invasive In-Process Manufacturing, Medical Applications, Cardboard and

Paperboard Packaging, and Personal Health and Cosmetics. The achievable share of target markets in these areas needs to be established but is believed to be significant at this point. This can represent a significant business base for JanixES but requires that a disciplined approach be followed to achieve it. Alliances with key customers and technology partners are required to expedite this process.

IND recommends that the process started and detailed in this report, the Product Commercialization Plan, be continued by JanixES and completed for at least the two high priority bio adhesive family products. The strengths and weaknesses discussed in the report need to continue to be addressed and improvements incorporated. It is necessary that all Product Descriptions be completed and that application patents are filed to protect JanixES proprietary position on these products.

A development plan for new products needs to be generated including identification of funding sources. Continued refinement of addressable and attainable market share needs to be performed to solidify estimates. A marketing and sales plan needs to be developed and periodically reviewed with company principals. Product sales (data sheets and application notes) and support documents need to be developed, key customers need to be sampled with product prototypes, and customer feedback needs to be addressed.

Product manufacturing facilities need to be identified and procured to support customer orders. Plans for product distribution service and support philosophy and implementation also need to be implemented.