



The PARAGON Perspective

PARAGON DEVELOPMENT

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For those of you not familiar with us and may have received this as a ‘forward’ from the original recipient, The PARAGON Perspective is sponsored by PARAGON Development.

First and foremost we wish you a joyful and successful 2016! It’s hard to believe that this is our 16th year. We thank all of you for making it a wonderful experience that has just flown by.

Besides our wishes for success, we want to use this newsletter to do the following:

- Share information we have learned that we consider important concerning best practices, trends, successes and failures, conferences, and other elements that will enable all of you to grow your organizations with maximum top and bottom line results.
- Share information about select client initiatives that may be of interest based on technologies, markets, or business needs that you believe could fit within the scope of those client's interests.
- Share personal observations and even humorous items given to us by others.

All issues of *The Paragon Perspective* are archived on our website, so you may easily pass along past issues to colleagues.

This month’s editorial is a client contribution entitled “**Value From Distribution Packaging**”. It should make us think about packaging even if it is not a part of our direct responsibilities. Our thanks to Kevin Howard for sending this piece and we encourage you to contact him directly with your comments or questions.

Jack T. Peregrim
Pres., PARAGON Development
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Paragon Update

Quarter 1 is off to a very strong start. Even in this uncertain economy many organizations (current and new clients) are employing us to support new growth. We believe our strong start may even be driven by the economic uncertainties rather than in spite of them. In addition, the nature of the projects are more strategic than tactical in scope with a strong interest in major new platforms and acquisitions.

Conferences

No conferences have been sent to us to post. This space is open to anyone who wants to recommend or publicize an event that may be of interest to others.

Technology Transfer/Capabilities

This section is open for clients, friends, and other newsletter recipients to spotlight technologies they have available for licensing, acquisition, development, or could be available to use. Please send a description of your technology to be posted in



this section for future newsletters. Inquiries can either be sent directly to those who have posted information, or, we could forward any/all inquiries to you. This section highlights non-client project technologies.

This newsletter has a distribution of over six thousand individuals who are in executive positions who either oversee or practice new business development, so the audience has the potential to generate legitimate interest. We do reserve the right to withhold posting any technology closely related to ones in which we have a client conflict.

Clients have expressed interest in investing, licensing, acquiring, or partnering in the following:

- Unique and specialty enzymes and also highly functionalized carbohydrates that have health benefits in food and nutritional applications. In addition to a large set of enzyme products, they have an extensive and proprietary library of wild (natural) enzymes not found elsewhere. They use protein modification to modify these enzymes to create products with very unique characteristics.
- A new design and manufacturing process for making liners that go into compressed gas cylinders cylinders (CNG, Hydrogen, etc.). This has potential to lower a significant component cost in the cylinders and has several functional benefits to manufacturers of the cylinders and liners.
- A broad range of unique, specialty surfactants oriented toward high value applications.
- New chemical & material technologies with value in treating industrial water waste across a broad variety of applications.

If interested, please direct inquiries to: Jack Peregrim, Peregrim@ParagonDevelopment.Com, (203) 288-4154

Quotes of the Month

“It is better to fail in originality than to succeed in imitation.” *Herman Melville*

“Je sais que je ne sais pas ce que je ne sais pas.” (I know that I don’t know what I don’t know) *Marguerite Youcenar*

“The world is moving so fast these days that the one who says it can’t be done is generally interrupted by someone doing it.” *Harry Emerson Fosdick*

“Judge a man by his questions rather than his answers.” *Voltaire*

“We must be willing to let go of the life we have planned, so as to have the life that is waiting for us.” *E. M. Forster*

“The most important discoveries will provide answers to questions that we do not yet know how to ask and will concern objects we have not yet imagined.” *John N. Bahcall*

“The most perfect technique is that which is not noticed at all.” *Pablo Casals*

Interesting Words

Vidimus: (VAI-di-muhs) Noun

1. An attested copy of a document.
2. An official inspection.

Quoz: (kwaz) Noun

An odd person or thing.

Torpor: (TOR-puhr) Noun

A state marked by apathy, lethargy, and inactivity.

Mittimus: (MIT-uh-muhs) Noun

An official order to commit someone to prison.

“The Value of Distribution Packaging”

Contributed by Kevin Howard, Packnomics LLC

Incorrect distribution packaging can be a significant expense to companies that ship products. Having worked for over 40 companies, many of whom are household names in a variety of product categories, I have yet to see one that didn’t have excess costs wrapped into one of the following three situations:



1. Excess damages;
2. Excess packaging, which then has a cascading cost impact upon shipping, handling, storage and pallet costs;
3. A combination of both excess damages and packaging.

All three points are often a direct result of inappropriate laboratory tests. As you can imagine, if there are excessive shipping damages, and these types of damages weren't seen in lab testing, then clearly the tests do not reflect the types of inputs found on a consistent basis in shipping. One key to good testing is to be able to replicate consistent failures found in the field, and then use these new inputs for future tests of products in similar supply chains.

Many companies don't realize that excess packaging is far more costly than damages. Most companies use something known as go/no-go tests. For instance, if drop tests call for dropping from 30", and the product passes, the company goes into production. But what if the packaged product could also pass 48" or even 60"? If the 30" drop test was supposed to be representative of actual inputs, then shouldn't the company feel confident in reducing the packaging if, indeed, it could also pass a 60" drop? On the other end, what if the company found a 31" lab drop did cause damages? Is that cutting it too close? The method used to determine such things is known as testing till failure. This is an excellent way to better understand both bare product fragility and packaged product robustness.

As for the third point above, how could excessive packaging and excessive damage occur simultaneously? This happens when a company uses overly harsh inputs in some ways, but completely misses testing some aspect of the packaged product that is consistently seen in the field. For instance, no standard packaged product test in the world, such as from ISTA (International Safe Transit Association), FedEx, ASTM (American Society for Testing and Materials), JIS (Japanese Industrial Standard), nor any other international standard I've ever seen, tests all 26 orientations of a box. Yet in the real world, all orientations are dropped onto at some point. Some standards require a particularly high drop for only a bottom impact, while others require multiple drops from high heights. Both of these conditions increase packaging, and yet not testing all orientations may lead to damages in the field that never occur in the lab. I've also found that all of these standards require only a single sequence of impacts, as if they know there will be a bottom drop, followed by a side, followed by whatever. In the real world, drops occur in random sequences, even though there is some evidence that bottom orientations receive up to 70% of all impacts. In testing a variety of products, I've found that changing drop sequence can lead to damages, so testing only one set of sequences, as prescribed by all standards, can lead to field damages never seen in the lab.

The only way to arrive at appropriate testing is to conduct first hand observations of the supply chain to better understand what fails, what doesn't, and why. I've followed products all over the globe for a variety of companies to compare their test methods with real world inputs and results. In every case, the tests needed to be modified, often significantly, to allow for less packaging and lower damage rates simultaneously.

There's another important reason to better know your supply chain: it almost always leads to ways to reduce distribution costs. I had a Fortune 500 company claim they had virtually zero damages on electronic products shipping in the tens of thousands of units. My first question: can you afford that? If it were a true statement, then how did they get to that point? It turned out they dropped every product 26 times from 30", once onto every face, edge and corner. If three products survived, they went into production.

Hmm, was that reasonable? Had there ever been a study to indicate some likelihood of a product to be dropped that many times from that height? The answer: NO! In fact, it's rare to be dropped even once from a significant drop height, though there are many smaller impacts to first soften up a package. If anything, a packaged product passing 26 drops from 30" is a clear indication of excessive packaging.

I then visited their distribution center in Germany and watched air cargo cookie sheets be delivered directly from Singapore. The freight forwarder in Singapore had stripped many of the boxes off their original 84" pallets and then hand stacked them to make better use of the footprint and the overall height of upper bay cargo holds, reaching 115" on one side and curving down to 96" on the other. For some reason, few American companies realize that standard 48" x 40" pallets don't fit onto air cargo cookie sheets efficiently.

Having no material handling equipment available in Singapore, the workers used the white boxes as step stools to reach to the top of the load. Upon arrival in Germany, the workers there had no way to reach to the top of these tall stacks, so they dragged the cargo nets over the load and let these expensive products drop the entire way onto a concrete floor. As a result, about 20% of all boxes had to be replaced, both for crushing and footprints. The company, the one who said there was no damage, hadn't heard they were being charged \$400,000/year for the box replacements, let alone paying for pallets both in Singapore and then again in Germany. This kind of lack of information occurs in large corporations, but especially when there's no knowledgeable assessment occurring on a regular basis.

Some people think the workers should have been chided for their methods, but the fact is that these folks worked diligently to fill the plane, minimize wasted space, and move all of the products through the system as quickly as possible. The solution is actually fairly straightforward: designing from the outside in. In other words, allow the fixed dimensions of the supply chain to dictate the overall dimensions of both the product and package to achieve the lowest shipping costs possible. Using this methodology helps focus management on the cost implications of product design concepts that increase costs due to either size or fragility. Using this design method, in conjunction with appropriate testing, has led to well over \$100 million in savings.

Kevin Howard is a packaging and testing consultant. Kevin has both BS and MS degrees in Packaging, and started Packnomics LLC in 2005, after leaving Hewlett Packard, where he was the senior packaging engineer for 17 years. Kevin was the chairman of ASTM's task group on packaged product vibration testing for 20 years and has taken an active role in helping write many test standards. Please visit Kevin's website www.packnomics.com or LinkedIn profile www.linkedin.com/in/kevin7howard for more information.

In closing:

We will continue to focus on topics that the readers choose in almost all cases over ones we consider within our staff so please continue to send requests for topics that you want to have covered.

We want to remind our readers that this section of the newsletter is open to anyone with a development topic or an approach they would like to share or even just comments or criticisms of a past topic. We had primarily written editorials on topics based on our experience and perspective but we are grateful for the increase in items that have been sent to us over the past couple of months--Keep them coming!

Also, many of you - consultants, company managers, and academics - have very solid and profound contributions that could be presented in future newsletters as a guest contributor. We ask that your submission be from 300 to 800 words. Let us know and we will gladly distribute your topic to the thousands of people on our distribution list. We agree that the copyright and ownership be kept by the contributor and that our only right is to reproduce it in conjunction with this newsletter.

Anecdotes

Horace Greeley—Journalist, Editor, Publisher, and Politician

At one point Greeley served 3 months in Congress. In the course of conversation one day, another Congressman boasted that he was a self-made man. "That sir", replied Greeley, "relieves the almighty of a great responsibility".

We hope you learned something from this and/or stimulated an action that leads to new opportunities for you and your organizations and that you will let others who might find this newsletter useful know about our publication. Previous issues of our newsletters can be found at <http://www.paragondevelopment.com/perspective.html>. If you would rather not receive the newsletter please respond to this email and include the word REMOVE in the subject line or in the message. To subscribe to our newsletter, please send an email to contact@paragondevelopment.com and include the word SUBSCRIBE in the subject line or message. We will never sell your email address to others.

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